

ÅRSRAPPORT 2013



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OM NORCONSULT

Norconsult er Norges største og en av Nordens ledende tverrfaglige rådgiverbedrifter rettet mot samfunnsplanlegging og prosjektering, og har gjennom lang erfaring bygget opp et solid fundament som en toneangivende aktør både nasjonalt og internasjonalt.

Selskapet bidrar til et bærekraftig samfunn gjennom nyskapende og målrettede rådgivningstjenester – fra idéutvikling og overordnede planer til prosjektering og driftsstøtte. Norconsult er opptatt av at det i rådgivning og valg av løsninger vises omtanke for samfunnets sårbarhet, og har betydelig kompetanse innenfor miljø, sikkerhet/risiko og beredskap.

Norconsults rådgivning skal understøtte kundenes verdiskaping og suksess. Årlig utfører selskapet flere tusen store og små oppdrag for både offentlige og private oppdragsgivere i inn- og utland.

FORSIDEBILDE:

Norconsult var rådgivende ingeniør for Holmenkollbakken - fra rivningen av den gamle hoppbakken til ferdigstillingen av den nye. I tillegg har våre lysdesignere, i samarbeid med arkitektene, hatt ansvaret for den kunstneriske belysningen. De mottok Norsk Lyspris 2013 for dette arbeidet. **Foto:** Ketil Jacobsen

INNHold

4	Leder
7	Kort om 2013
8	Dette er Norconsult
10	Årsberetning 2013
17	Resultatregnskap
18	Balanse
20	Ny konsernsjef
22	Rekruttering
23	Norconsults ledergruppe
24	Strategi 2012-2015
25	LiVE Norconsult
26	Integritetsprogram
28	Referanseprosjekter
34	Adresser



Norconsult – din lokale rådgiver med hele organisasjonens kompetanse og erfaring i ryggen

Gjennom mer enn 80 års erfaring har Norconsultkonsernet bygget opp et solid fundament som en toneangivende aktør både nasjonalt og internasjonalt og framstår i dag som landets mest komplette og etterspurte rådgivermiljø rettet mot samfunnsplanlegging og prosjektering.

Vår virksomhet er primært basert på verdiskapning gjennom oppdrag. Årlig gjennomfører selskapet over 10 000 små og store oppdrag både nasjonalt og internasjonalt.

Vi takker våre mange kunder og samarbeidspartnere for god kontakt og fruktbar dialog i 2013, og for mange hyggelige tilbakemeldinger som bekrefter at vi har vært til nytte.

Lønnsom vekst

Gjennom en årrekke har vi lagt ned betydelige ressurser i kompetanseutvikling, og det er et tankekors at denne kompetansebasen, vår viktigste kapital, ikke kan leses direkte i balansen. En forutsetning for å skape gode resultater er også vår egen produktivitet og effektivitet. Det er derfor gledelig å konstatere at 2013 ble nok et rekordår for Norconsultkonsernet: - En omsetning på 3 586 millioner kroner, som representerer en omsetningsvekst på 384 millioner kroner sammenlignet med året før og et driftsresultat før skatt på 308 millioner kroner.

Det er med tilfredshet vi konstaterer at den kraftige veksten ikke har svekket selskapets inntjeningssevne og soliditet. Gode resultater gir motivasjon, og

økonomisk handlefrihet er avgjørende for å ha muskler til å videreutvikle selskapet i et marked med stadig tøffere konkurranse og som stadig er i endring. Gjennom organisk vekst, etablering av ny virksomhet og 5 oppkjøp har Norconsultkonsernet i 2013 målbevisst fortsatt å utvide sitt tjenestespekter, sin geografiske tilstedeværelse og kapasitet. Vi skal videreutvikle vårt ansatteide, multidisiplinerte selskap slik at vi kan konkurrere på linje med de store internasjonale aktørene. Vekst er en viktig forutsetning for et sunt selskap, for å styrke vår konkurransekraft og opprettholde vår ledende posisjon.

Internasjonal fremgang

Utenfor Norge er også konsernet i fremgang. I Sverige har våre 21 lokal-kontor hatt en omsetningsvekst på 9 prosent og i Danmark har omsetningen mer enn tredoblet seg grunnet sterk organisk vekst og oppkjøpet av Wessberg A/S.

I våre datterselskaper utenfor Norden var det samlet sett omtrent samme omsetning som året før. Vår fokus på fornybar energi i Sør-Amerika, sørlige Afrika og Sørøst Asia har gitt resultater, og vi er for tiden sterkt engasjert i betydelige vannkraftprosjekter der vår gode kompetanse og unike erfaring er

etterspurt. I disse landområdene er det et stort potensiale for utvikling av blant annet bærekraftig energi. Dette er et fagområde hvor Norconsult har mye å bidra med. I en verden der klimagassutslippene stadig øker, er det motiverende og i tråd med vårt samfunnsansvar og ønske om bærekraftig utvikling at vi som selskap arbeider tungt innen fornybar energi, og dermed aktivt mot klimagasser.

Desentralisert organisasjon - fokus på innovasjon - samme merkevare

Norconsult var ved inngangen til 2014 representert på 49 kontorsteder i Norge og 32 kontorer i utlandet. Norconsult er en flat og desentralisert organisasjon der lokal kunnskap om kunden og prosjektet er nøkkelfaktorer for suksess. Som et av de ledende rådgivermiljøene i Norden ønsker vi å tilby våre kunder noe mer når det gjelder tilgang på ressurser, fagkompetanse og erfaring. Dette gjør vi ved å dele kunnskap og samarbeide effektivt på tvers av faglige, organisatoriske og geografiske skillelinjer i en spredt organisasjon. Vi har gjennom året blant annet arbeidet med å videreutvikle våre faglige nettverk, vår IT-infrastruktur og ikke minst gjennomført en betydelig satsing på å profesjonalisere styringen av våre oppdrag. Vi arbeider hele tiden

aktivt for å bli mer effektive i vår oppdragsgjennomføring og rustet oss til å møte enda tøffere konkurranse framover.

Vårt fokus på utvikling og innovasjon skaper nye arenaer der tanker og idéer brytes i konstruktive møter med våre oppdragsgivere. Selskapet satser aktivt på opplæring av egne innovasjonsprosessledere som skal bidra som fasilitatorer i kreative prosjektfaser. I vårt selskap vil vi hele tiden være nysgjerrige for å bedre vår oppdragsgjennomføring - ikke bare gjøre tingene riktig, men også sørge for at vi gjør de riktige tingene.

Norconsult tilbyr rådgiving innen en rekke fagområder, har mange organisasjonsenheter og har lokal tilstedeværelse med kontorer i mange land.

Målet er at merkevaren Norconsult og således hele konsernet skal framstå konsistent og sterk. Slik at samarbeidspartnere og kunder har samme varige inntrykk av Norconsult, uansett hvor i landet og verden de befinner seg: ETT Norconsult.

Kort om 2013

"Gode resultater gir motivasjon, og økonomisk handlefrihet er avgjørende for å ha muskler til å videreutvikle selskapet i et marked med stadig tøffere konkurranse og som stadig er i endring".

Samfunnsansvar - firmakultur

Samfunnsansvar er viktig for oss i Norconsult og ivaretagelse av dette er en sentral del av våre etiske retningslinjer. Vi er opptatt av at vi i vår rådgivning og valg av løsninger også ivaretar samfunnets sårbarhet og bidrar til bærekraftige løsninger som hensyntar omgivelsene. Vi har gjennom flere år bygget opp betydelig kompetanse innenfor miljø, sikkerhet, risiko og beredskap og ser en økende etterspørsel etter våre tjenester innfor dette feltet. Samfunnsansvar krever en helhetsforståelse og aktivt samspill mellom kunde og rådgiver, noe vi tilstreber i ethvert oppdrag - uansett størrelse.

LiVE Norconsult er konsernets felles kulturplattform som gjennom de siste årene har blitt rullet ut i hele organisasjonen. LiVE presenterer kortfattede leveregler for Ledelse, Etikk og Verdier og er et enkelt uttrykk for de holdninger alle medarbeidere i Norconsult bærer med seg i sitt daglige arbeid for virksomheten.

Kulturen i Norconsult er solid forankret i prinsippene rundt ærlighet og respekt for andre mennesker. Skal vi makte å drive en suksessfylt og evigvarende forretning, er vi avhengig

av tillit og et godt omdømme så vel hos kunder som hos våre medarbeidere og i samfunnet for øvrig. Våre etiske retningslinjer bidrar til å sikre at alle enkeltpersoner som handler på vegne av Norconsult, opptrer etisk forsvarlig og i tråd med selskapets verdigrunnlag.

Veien videre


Norconsultkonsernets soliditet, kompetanse, markedsposisjon og ordresreserve skaper en sunn plattform for selskapet i tiden framover. En viktig utfordring framover vil være å skape sterkere vekst og utvikling for å befeste Norconsults posisjon også på den internasjonale rådgiverarenaen. Vår virksomhet i utenlandsmarkedet er dog betinget av et fortsatt levende hjemmemarked, der vi kan videreutvikle vår kompetanse på "odelsgården" Norconsult.

Evne, vilje og lyst til endring og fornyelse er våre viktigste egenskaper som selskap framover. Vi har tro på at Norconsult fortsatt vil være toneangivende gjennom vårt sterke fokus på kompetanse som er forretningsmessig relevant for våre kunder og tjenlig for samfunnet. Norconsult har aldri vært i bedre forfatning, og vi har derfor berettiget tro på at selskapet

fortsatt vil hevde seg godt i konkurransen om nye spennende oppdrag i tiden som kommer.

Etter 13 år som kaptein på Norconsultskuta overlater jeg nå roret til den påtroppende leder Per Kristian Jacobsen som kjenner virksomheten gjennom 8 år som styreformann. Per Kristian får med seg et utrolig sterkt mannskap av kunnskapsrike og engasjerte medarbeidere, med en drive som gir grunnlag for optimisme framover. Jeg ønsker ham og selskapet lykke til videre. Dere kjenner kursen som er satt – Norconsult skal videre opp og frem.

Avslutningsvis vil jeg takke for spennende utfordringer og all jobbgleden jeg selv har opplevd gjennom 35 år i et unikt og makeløst selskap. Et selskap som ikke minst har vært toneangivende i å bygge Norge og som har satt tydelige spor etter seg som en anerkjent internasjonal samfunnsbygger som planlegger av livsviktig infrastruktur i noen av verdens fattigste og mest krigsherjede land.

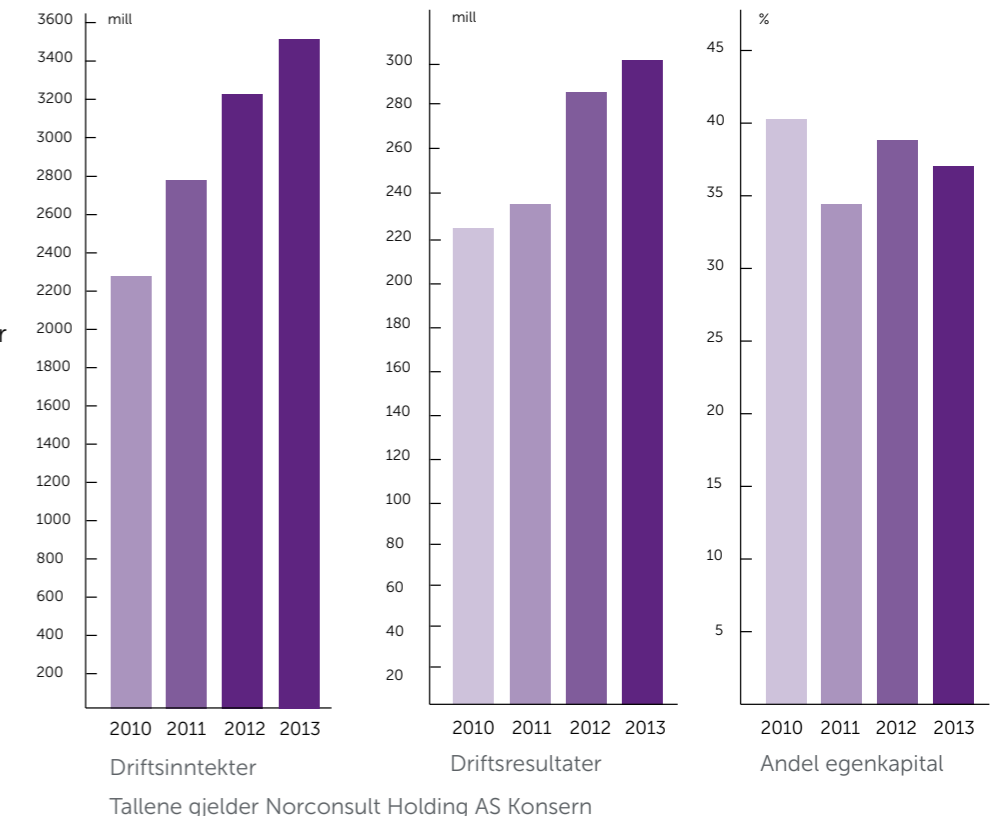

John Nyheim
Avtroppende Adm. direktør

Oppkjøpt i 2013:

- RG-prosjekt AS i Nord-Trøndelag
- Ing. Hallås Lillehammer AS på Lillehammer og Gjøvik
- Arkitektstudio AS i Bodø
- Wessberg A/S i Danmark
- Astando AB i Sverige

Oppkjøp etter 1. januar 2014

- Mjelde og Johannesen AS i Stavanger
- PlanConsult VVS AS på Namsos og Steinkjer
- Astra North AS i Stavanger
- PW Arkitekter AS i Harstad
- VA-Support AS på Kløfta



Kvinneandel %

2010	2011	2012	2013
23,9	23,9	27,0	25,8

Tallene gjelder Norconsult AS

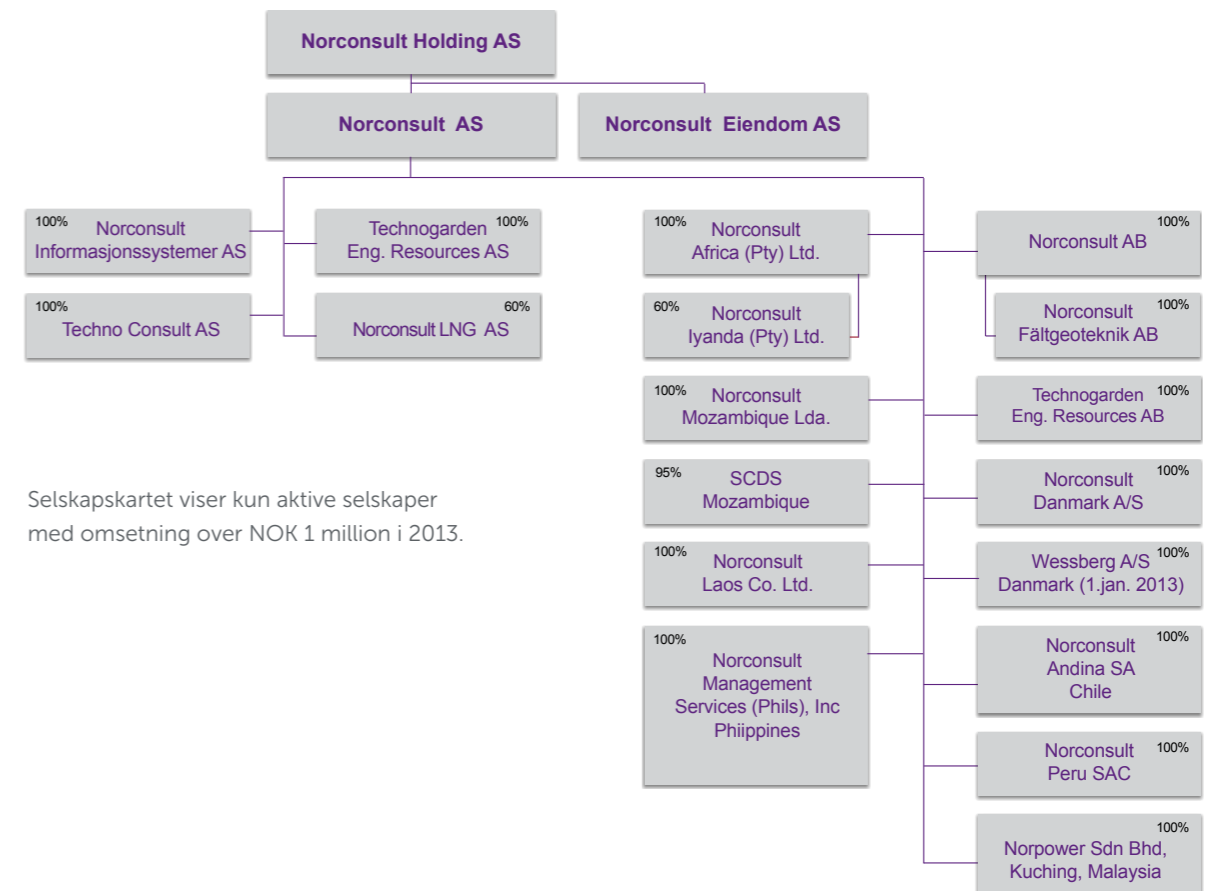
Sykefravær %

2010	2011	2012	2013
3,1	3,2	2,9*	2,8*

* Fravær ved egne barns sykdom er ikke inkludert.

Dette er Norconsult

Norconsult skal være en ledende nordisk leverandør av kunnskapsbaserte tjenester, og samtidig være en fremtredende aktør internasjonalt innenfor utvalgte markeder. På det norske markedet skal vi være størst og framstå som det klare førstevalget innen vår bransje.



Norconsultkonsernet har 2 700 medarbeidere, og er i sin helhet eid av de ansatte. Konsernets hovedkontor ligger i Sandvika utenfor Oslo. Virksomheten drives fra 49 kontorsteder i Norge og gjennom datterselskaper i Norge, Sverige og Danmark. Selskapet er også etablert med datterselskaper i Afrika (Sør-Afrika og Mosambik), Asia (Filippinene, Laos, Thailand og Malaysia) og i Sør-Amerika (Chile og Peru).

Slik jobber vi

Norconsult er en flat og desentralisert organisasjon hvor lokal kunnskap om kunden og prosjektet er nøkkel-faktorer for suksess. Det er i oppdragene vi viser våre prestasjoner, og det er gjennom de dyktigste medarbeiderne vi blir bedre enn konkurrentene og foretrukket av våre kunder.

Vi deler kunnskap og samarbeider effektivt på tvers av faglige, organisatoriske og geografiske skillelinjer i en spredt organisasjon. Våre oppdragsgivere er profesjonelle kunder med klare forventninger til oss. Dette skjerper og inspirerer oss til å gjøre nødvendige forbedringer og videreutvikle Norconsult på en sunn måte. I oppdragsgjennomføringen er ambisjonen å sikre at kunden og vi har felles forståelse av mål, utfordringer, fremdrift og leveranser. Vi skal ha relevant kompetanse og kapasitet tilgjengelig for å gjennomføre oppdraget som avtalt. Gjennom god kompetanse innenfor oppdragsstyring og god kommunikasjon med oppdragsgiverne underveis oppnår vi gode resultater sammen.

Det største utenlandske selskapet i Norconsultkonsernet er Norconsult AB i Sverige, som har hovedkontor i Gøteborg. Norconsult AB driver også fra en rekke kontorer rundt om i Sverige. I Danmark drives Norconsults virksomhet gjennom Norconsult Danmark AS og Wessberg AS.

Andre store selskaper i Norconsultkonsernet er Norconsult Informasjonssystemer AS og Technogarden.

De største datterselskapene i Norconsultkonsernet

Norconsult Informasjonssystemer AS

Norconsult Informasjonssystemer (NoIS) utvikler og leverer helhetlige IKT-løsninger for prosjektering, bygging og forvaltning av infrastruktur og eiendom. Selskapet har 126 ansatte fordelt på kontorer rundt om i Norge, mens hovedkontoret ligger i Sandvika. NoIS har i 2013 også etablert seg i Sverige gjennom kjøpet av Astando AB. Norconsult Informasjonssystemer leverer løsninger innenfor markedsområdene:

- GIS og kommunal forvaltning
- Forvaltning, drift og vedlikehold
- Anbud, kalkyle og prosjektstyring
- BIM og konstruksjon

Løsningene er samlet under merke-navnet ISY og har over 10.000 brukere i Norge. Les mer på www.nois.no. Selskapet omsatte for 157 mill. kr. i 2013.

Norconsult AB

I 2007 utvidet Norconsult sitt "hjemmemarked" til Sverige. Siden den gang har antall ansatte og kontor-etableringer i Sverige vokst jevnt. I dag har Norconsult AB rundt 390 ansatte fordelt på 21 kontorsteder. Hovedkontoret ligger i Gøteborg. Selskapet er et av Sveriges raskest voksende rådgivningselskaper og leverer tjenester innenfor følgende forretningsområder:

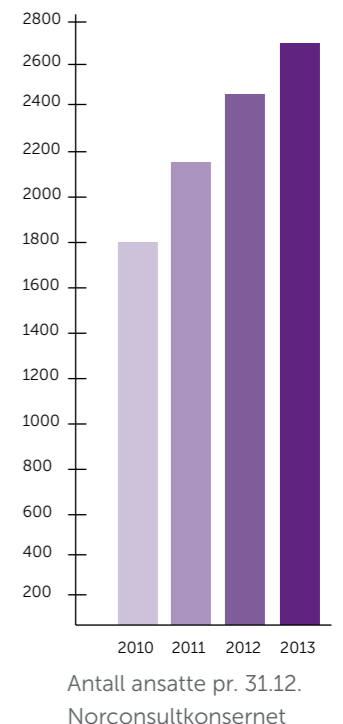
- Arkitektur och Samhällsplanering
- Mark och Vatten
- Väg och Bana
- Energi

I tillegg eier Norconsult AB selskapet Norconsult Fältgeoteknik AB.

Technogarden

Technogarden er et konsultentselskap som bidrar til å øke kundenes konkurranseevne gjennom å tilby fleksibel og effektiv tilgang på ingeniørressurser via konsulent-utleie. Selskapet har også er betydelig virksomhet innenfor telecom, rettet mot planlegging og prosjektering av tele-infrastruktur.

I Norge har Technogarden AS, foruten hovedkontoret i Sandvika utenfor Oslo, kontorer i Bergen, Stavanger, Kongsberg, Skien, Tønsberg og Trondheim. I tillegg har det svenske søsterselskapet Technogarden AB seks kontorer i Sverige.



Årsberetning 2013

Norconsult er en komplett rådgiver innen samfunnsplanlegging og prosjektering. Selskapet er bransjeledende i Norge og en fremtredende aktør i utvalgte markeder internasjonalt.

Konsernets hovedkontor ligger i Sandvika utenfor Oslo. Virksomheten drives fra 49 kontorsteder i Norge og gjennom datterselskaper i Norden (Norge, Sverige og Danmark), Afrika (Sør-Afrika og Mosambik), Sør-Amerika (Chile og Peru), og Asia (Malaysia, Filippinene og Laos).

Ved inngangen til 2014 hadde konsernet 2 700 medarbeidere. 2013 var et år med fortsatt sterk vekst. Norconsult økte både omsetningen og driftsresultatet. Styret finner denne utviklingen tilfredsstillende.

Virksomheten

Norconsult består av morselskapet Norconsult Holding AS som eier samtlige aksjer i Norconsult AS og Norconsult Eiendom AS. Norconsult Holding AS er i sin helhet ansatteid.

Hoveddelen av konsernets oppdragsvirksomhet ligger i selskapet Norconsult AS og i datterselskapene utenfor Norge. I tillegg leverer datterselskapet Norconsult Informasjonssystemer AS (NoIS) IKT-løsninger for infrastruktur og eiendom og datterselskapet Technogarden leverer konsulents-tjenester både i Norge og i Sverige.

Norconsult er den ledende rådgiveraktøren nasjonalt og toneangivende internasjonalt. Årlig utfører konsernet over ti tusen store og små oppdrag både for offentlige og private oppdragsgivere i flere deler av verden. Virksomheten bidrar til et bærekraftig samfunn gjennom nyskapende og målrettede rådgivningstjenester. Norconsult er opptatt av at det i valg av løsninger vises omtanke for samfunnets sårbarhet og har betydelig kompetanse innenfor miljø, sikkerhet/risiko og beredskap.

Norconsults oppdragsvirksomhet omfatter planlegging og rådgivning i alle faser av et prosjekt: Blant annet behovsbeskrivelser, forstudier, prosjektering, anskaffelsesprosesser og oppfølging i byggetiden samt drifts- og vedlikeholdsrutiner. Tjenestene er organisert i ni markedsområder:

- Bygg og eiendom
- Energi
- Industri
- Miljø
- Olje & gass
- Plan
- Samferdsel
- Sikkerhet
- Vann og avløp

I de siste årene er Norconsults kompetanse, kapasitet og geografiske tilstedeværelse forsterket gjennom oppkjøp av flere selskaper. I 2013 kjøpte Norconsult virksomhetene i RG-prosjekt AS i Nord-Trøndelag, Ing. Hallås Lillehammer AS på Lillehammer og Gjøvik, Arkitektstudio AS i Bodø, Wessberg A/S i Danmark og Astando AB i Sverige. Fra 1. januar 2014 er også Mjelde og Johannesen AS i Stavanger, PlanConsult VVS AS på Namsos og Steinkjer, Astra North AS i Stavanger, PW Arkitekter AS i Harstad og VA-Support AS på Kløfta blitt en del av Norconsult.

Marked

Konsernet har hatt en omsetningsøkning på 12 prosent sammenlignet med foregående år og omsetningen i Norge hadde en vekst på om lag 11 prosent sammenlignet med forrige år. Omsetningen i Sverige vokste med om lag ni prosent, delvis på grunn av organisk vekst og delvis grunnet et oppkjøp av selskapet Astando AB. I Danmark, hvor virksomheten er noe mindre, var det en sterk økning i omsetningen sammenlignet med 2012, både på grunn av sterk organisk vekst og på grunn av oppkjøpet av Wessberg A/S.

I datterselskapene utenfor Norden var det samlet sett omtrent samme omsetning som året før. Dette skyldes flere forhold, hvorav en gradvis nedtrapping av noen større oppdrag er en medvirkende årsak som reduserte volumet i noen selskaper, samtidig som veksten var sterk i andre selskaper. I tillegg har den midlertidige utestengelsen fra verdensbank-finansierte oppdrag på grunn av Dawasa-saken (se eget punkt) medført redusert omsetning i 2013 for noen av konsernets datterselskaper, spesielt i sørlige Afrika og Sør-Amerika.

Veksten i Norge har vært et resultat av oppkjøp og organisk vekst som følge av god utvikling innenfor flere markedsområder. Markedsområdene Bygg og eiendom, Samferdsel, Olje & gass og Miljø har alle opplevd en vekst over 10 prosent i 2013. Markedsområdene Energi, Vann og avløp og Plan har hatt en vekst mellom 8 og 10 prosent. Kun markedsområdet Industri har opplevd en tilbakegang i takt med lavere investeringer innen dette feltet i Norge siste år, mens Sikkerhet har hatt en flat utvikling.

Utsiktene videre vurderes som gode for de fleste markedsområdene. Det er noe usikkerhet knyttet til Industri og i noen grad til Bygg & eiendom grunnet usikkerhet rundt utviklingen

i boligmarkedet. Spesielt innenfor Samferdsel, Energi, Olje & gass og Miljø vurderes vekstmulighetene som gode i Norge. Videre vekst i Norge er avhengig av selskapets evne til å tilknytte seg nyutdannede og erfarne medarbeidere. Vekstmulighetene kan også påvirkes av utenlandske selskapers interesse for det norske markedet grunnet ledig kapasitet i andre europeiske land og ulik utvikling i kostnadsbase de senere år.

Norconsult vurderer utsiktene som generelt gode i de internasjonale markedene hvor selskapet er til stede, men forventer en beskjeden vekst i det svenske markedet i 2014.

Samfunnsansvar

Norconsult tar først og fremst samfunnsansvar ved å bidra til samfunnsnytte gjennom de tjenester konsernet leverer til oppdragsgiverne. Norconsults rådgivningsvirksomhet bygger på forretningsidéen om at konsernets kompetanse skal bidra til en bærekraftig samfunnsutvikling.

I 2013 reviderte Norconsult sin strategi for sosialt ansvar. Virksomheten ønsker å rette sin aktivitet innenfor følgende tre kategorier: Kompetanse, barn og ungdom og lokal støttespiller. Norconsult har siden 2012 vært samarbeidspartner

med organisasjonen MOT. Avtalen gjelder støtte til MOT sitt arbeid for å bevisstgjøre ungdom til å ta egne valg og vise mot. Avtalen gir dessuten Norconsult tilgang på MOTs kompetanse innenfor holdningsskapende arbeid og organisasjonsutvikling for å fremme gode og solide bedriftskulturer. I løpet av 2013 har Norconsult sine medarbeidere bidratt i bistandsprosjekter i regi av den humanitære organisasjonen Ingeniør Uten Grenser (IUG). I første kvartal 2014 valgte Norconsult å inngå en formell samarbeidsavtale med IUG, som innebærer at selskapet støtter IUGs virksomhet økonomisk samt med støtte til egne medarbeidere som ønsker å delta i IUG sine oppdrag internasjonalt. I tillegg til et utstrakt samarbeid med høyskolemiljøer har Norconsult valgt å samarbeide med videregående skoler og ungdomsskoler i sitt nærmiljø for å fremme realfagsinteresse og kompetanse blant ungdommer.

LiVE Norconsult

Norconsults kulturplattform LiVE (Ledelse, Verdier og Etikk) består av fem prinsipper for godt lederskap, fire verdier og en tommelfingerregel for etikk. De ti prinsippene i LiVE er et enkelt uttrykk for de holdninger alle medarbeidere i Norconsult bærer med seg i sitt daglige arbeid for virk-

somheten. LiVE-prinsippene ble først introdusert i 2012, og har deretter blitt implementert i Norconsult over hele verden i løpet av 2013. Norconsults arena for lederutvikling "Lederforum" hadde LiVE som tema i hele 2013. Der også MOTs pedagogikk ble benyttet som del av implementeringen. Et LiVE-spill er også benyttet som del av innføringen. Norconsults medarbeidere i hele konsernet har mottatt LiVE-spillet og gjennom uhytidelige teknikker trent på refleksjon om etikk, verdier og adferd. Gjennom LiVE skapes økt bevissthet om ønsket bedriftskultur og hvilke holdninger man til enhver tid legger til grunn for valg og beslutninger, under mottoet - "holdninger driver resultater".

Norconsults integritetsprogram

I 2013 iverksatte Norconsult et helhetlig integritetsprogram som skal sikre at virksomheten forebygger mot, eventuelt raskt oppdager og hindrer gjentakelse av tilfeller av korrupsjon og andre misligheter. Programmet skal være fullt implementert i hele konsernet innen utgangen av 2014. Det har blitt opprettet en stilling som Compliance Officer med ansvar for å drifte og videreutvikle integritetsprogrammet. Blant tiltakene som ble iverksatt i integritetsprogrammet i 2013 var en revisjon av Norconsults etiske retningslinjer. Disse er nå i tråd med internasjonale retningslinjer for etisk forretningsdrift og i henhold til lokale lover og regler i de land som konsernet har virksomhet. Konsernets beredskap mot korrupsjon har også blitt styrket i form av implementerte prosedyrer og støtteverktøy for å sikre grundig forhåndsvurdering av avtaleparter i land med høy korrupsjonsrisiko.

I forbindelse med revisjonen av konsernets etiske retningslinjer ble det opprettet en uavhengig varslingskanal der medarbeidere kan varsle med trygghet om at saken vil behandles fortrolig og bli fulgt opp diskret og grundig. Det ble ikke registrert noen varslingsaker i løpet av 2013. Norconsult la stor vekt på opplæring og bevisstgjøring rundt etiske dilemmaer i 2013. Alle medarbeidere i konsernet signerte elektronisk eller fysisk på at de hadde lest, forstått og ville følge Norconsults etiske retningslinjer. I 2013 gjennomførte alle medarbeidere i Norconsult AS et e-læringskurs der man måtte ta stilling til etiske dilemmaer man kan stå overfor i jobbsammenheng.

Dawasa-saken

I forbindelse med et oppdrag i perioden 2003-2006, der Norconsult AS inngikk i et Joint Venture for å forestå byggeledelse av fornyelse, utvidelse og oppgradering av vann- og avløpsystem i byen Dar-es-Salaam (Tanzania), ble to tidligere medarbeidere dømt for medvirkning til grov korrupsjon. Økokrim ilet i den forbindelse Norconsult en foretaksbot, som Norconsult ikke vedtok. Saken gikk derfor til retten. Norconsult ble først frifunnet i Oslo Tingrett, så ilagt foretaksbot i Borgarting lagmannsrett og endelig frifunnet i Høyesterett 28. juni 2013.

Prosjektet var delvis finansiert av Verdensbanken. Norconsult ble som følge av dette midlertidig utestengt fra Verdensbankfinansierte oppdrag fra 1. september 2011. Norconsult anket avgjørelsen til Sanctions Board i Verdensbanken som opphevet utestengelsen fra 31. januar 2014.

Styret anser hermed at saken er avsluttet og at selskapet nå kan konsentrere seg fullt og helt om å videreføre sitt arbeid for å sikre at virksomheten fortsatt drives med høy etisk standard, herunder med null-toleranse for korrupsjon og andre økonomiske misligheter.

Forskning og utvikling

Norconsult er som kunnskapsbedrift avhengig av et høyt kompetansenivå blant medarbeiderne. For å kunne være i forkant med ny kunnskap, deltar ulike fagmiljøer i relevante forskningsprosjekter og har doktorgradskandidater innenfor flere fagfelt. Norconsult AS har 27 medarbeidere med doktorgrad, i tillegg er fem medarbeidere doktorgradsstudenter.

I 2013 utgjorde FoU-investeringer i overkant av 2 prosent av omsetningen til Norconsult AS. Den største andelen av disse investeringene gjøres på IT. Norconsult bruker 40-50 årsverk på videreutvikling av IT-løsninger, med en total kostnad på om lag 50 millioner kroner. I 2013 har Norconsult blant annet utviklet analysemodeller for livssyklus-kostnader (LCC) og miljøkostnader for bruk i kalkyle- og beregningsverktøy, samt verktøy for risiko og sårbarhetsanalyser (ROS) for energibransjen i henhold til beredskapsforskriften. I tillegg har Norconsult vært involvert i flere andre forskningsprosjekter i 2013:

- **BegrensSkade:** Norconsult er prosjektleder for dette FoU-prosjektet som går over tre år. Det har en kostnadsramme på 21 millioner kroner og involverer totalt 23 partnere innen bygg-, eiendoms- og entreprenørbransjen. Formålet med BegrensSkade

er å utvikle nye metoder for grunnarbeider og samhandling innen bransjen med mål å redusere risiko for skader på naboeiendommer som følge av grunn- og fundamenteringsarbeider.

- **Energieffektive sykehus:** Norconsult leder et større forskningsprosjekt finansiert gjennom Norges forskningsråds RENERGI-program om å utvikle energieffektive sykehus. Målet er 50 prosent redusert energiforbruk for nye sykehus. Det er i prosjektet utviklet veiledere for energieffektive løsninger på de fleste tekniske fagområder. Det er videre utviklet simuleringsmodeller for å optimalisere temperaturnivået i oppvarmingsystemer i kombinasjon med varmepumpe, kjøleanlegg og varmelagring i grunnen.

- **DiVA-prosjektet:** Norconsult leder arbeidet med å utvikle et konsept for Digital VA forvaltning (DiVA). Dette prosjektet er finansiert av Forskningsrådet og går over fire år (2012-2016).

Innovasjon og prosessledelse

Norconsult har som et mål å løse kundens prosjekter på best mulige måte. Med dette for øyet har Norconsult AS utviklet og implementert en innovasjonsprosess som er skreddersydd for oppdrag som Norconsult typisk leverer. Innovasjonsmetodikken skal benyttes i flest mulig av Norconsults større rådgivningsoppdrag. Innovasjonsprosessen skal både kunne gi kostnadsbesparelser og effektivitets- og kvalitetsforbedringer.

Norconsult har en egen seksjon for innovasjonsledelse med spesialisert kompetanse og det utdannes også medarbeidere fra andre deler av selskapet

til prosessledere innenfor innovasjon. To kull har gjennomført denne prosesslederutdanningen så langt, og et nytt kull vil starte opp i 2014.

Prosesslederkompetansen er i 2013 utviklet til å kunne benyttes i forbindelse med samhandlingsprosesser i store tverrfaglige prosjekter. Målet med en samhandlingsprosess er at alle de involverte i et prosjekt raskt skal bli kjent med hverandre og med innovasjonsprosessen.

Medarbeidere

Norconsults mål er å tiltrekke seg de dyktigste medarbeiderne innenfor rådgiverfagene og arbeider aktivt for å utvikle et stimulerende miljø for personlig utvikling. Ved inngangen til 2014 hadde Norconsultkonsernet 2 700 medarbeidere, hvorav 150 var netto tilvekst i 2013.

Like muligheter og rettigheter

I Norconsultkonsernet skal alle ha like muligheter og rettigheter uavhengig av kjønn, etnisitet, alder, livssyn og funksjonsevne. Det er et mål å øke kvinneandelen både i operative enheter og på ledernivå i konsernet. Utviklingen er både positiv og negativ. Norconsult AS hadde ved utgangen av 2013 en kvinneandel på 25,8 prosent, noe som er en nedgang på om lag ett prosentpoeng sammenlignet med året før. Andelen kvinner i lederstillinger har imidlertid økt fra 14 prosent til 15,2 prosent. Andelen kvinner i morselskapets styre er 11 prosent. Noe som er en nedgang fra 22 prosent i 2012. Arbeidsmiljøutvalget i Norconsult AS består av 5 kvinner og 1 mann, og Norconsult AS hadde kvinnelig hovedverneombud i 2013.

Av de ansatte i Norconsult AS i 2013 hadde 8,6 prosent annet statsborgerskap enn norsk. Dette er en liten økning fra om lag åtte prosent i 2012.

Sikkerhet og helse

Norconsult skal ivareta sikkerheten og helsen for alle sine medarbeidere i tråd med selskapets etiske retningslinjer. Selskapet har et integrert styringssystem der ivaretagelse av krav til sikkerhet, helse og arbeidsmiljø er implementert. Styret anser Norconsults arbeidsmiljø som godt. En medarbeiderundersøkelse, foretatt av TNS Gallup viser at medarbeiderne i Norconsult AS trives godt og er engasjerte. Resultatet viser at Norconsult skårer blant de 10 prosent beste i Norge på jobbtrivsel. På en skala på 100 scorer Norconsult 82 poeng på jobbtrivsel. Sykefraværet i Norconsult AS ligger godt under gjennomsnittlig sykefravær i det norske arbeidslivet. Sykefraværet i Norconsult AS for 2013 var totalt 2,8 prosent. Dette er en reduksjon på 0,1 prosentpoeng sammenlignet med 2012, og lavere enn selskapets måltall < 3 prosent. Det arbeides målrettet for å redusere sykefraværet. Norconsult har legeordninger og helseforsikring for de ansatte. Det gjennomsnittlige sykefraværet for medlemsbedriftene i Rådgivende Ingeniørers Forening (RIF) var 3,7 prosent i 2013.

Norconsult arbeider systematisk med å identifisere farer og redusere risikomomenter i arbeidssituasjonen, blant annet gjennom instruksjoner for risikofylte arbeidsoperasjoner utenfor kontor. Alle medarbeidere har ansvar for å forsikre seg om at risiko i forbindelse med oppdrag og arbeidsoppgaver blir identifisert, evaluert og dokumentert.

Krav til å ivareta hensyn til menneskers sikkerhet og helse er en del av selskapets rutiner for oppdragsgjennomføring. Det er registrert to uønskede hendelser som har ført til materielle, men ikke personell skader i 2013. Det er registrert én arbeidsrelatert skade som førte til sykefravær i 2013, men det er ikke registrert slitasje- og belastningsskader.

Styringssystem

Norconsult har et integrert styringssystem for å ivareta krav, risikomentor og målsettinger. Systemet tar utgangspunkt i selskapets kjernevirksomhet, som er planlegging og gjennomføring av oppdrag av alle størrelser, med et bredt spekter av fagkompetanse og stor variasjon når det gjelder oppdragsgivere. Systemet tilfredsstillende alle krav i forhold til relevant lovgivning og NS-EN ISO 9001.

I forbindelse med Norconsults integritetsprogram ble det i 2013 igangsatt ytterligere systematisering av foretaksstyring i konsernet med utarbeidelse av selskapsovergripende policyer med tilhørende prosedyrer. I parallell arbeides det med etablering av en ny IT-plattform for konsernets styringssystem.

Miljøpåvirkning

Norconsult er bevisst at virksomheten påvirker det ytre miljøet, først og fremst gjennom de rådene selskapet gir sine oppdragsgivere, men også gjennom våre egne medarbeideres aktivitet. Det arbeides for å redusere denne påvirkningen gjennom ulike forbedringsprosjekter i tråd med selskapets etiske retningslinjer og miljøpolicy. Selskapet har et integrert styringssystem der krav til ivaretagelse av ytre miljø er implementert. Krav til

å ivareta hensyn til ytre miljø er en del av selskapets rutiner for oppdragsgjennomføring på lik linje med krav til blant annet teknisk og faglig kvalitet, tid, økonomi og menneskers sikkerhet og helse.

Norconsults energibehov på kontorene blir i det vesentligste dekket av elektrisk strøm, og for hovedkontoret dels i form av vannbåren fjernvarme/fjernkjøling. Norconsult deltar i retur- og gjenvinningsordninger for forbruksvarer der slike ordninger er etablert. Norconsults medarbeidere oppfordres til å bruke tog som transportmiddel når det er hensiktsmessig, og til i størst mulig grad å bruke video- og telefonmøter for å unngå unødvendig reisevirksomhet. Norconsults kontorer i Bodø, Stavanger, Trondheim og Hamar er Miljøfyrtårnsertifisert. Flere kontorer arbeider med å implementere slike krav i sin daglige drift.

Norconsult har et fagmiljø på ca. 60 personer som arbeider utelukkende med sikkerhet, helse, arbeidsmiljø og ytre miljø, og som trekkes inn i interne prosjekter og eksterne oppdrag etter behov. Blant disse er det personer som er kvalifiserte rådgivere ift. Miljøfyrtårnsertifisering.

Eierstyring

Norconsults styre består av tre eksterne representanter, tre aksjonærvalgte styremedlemmer og tre medlemmer valgt av de ansatte. Ingen av styremedlemmene sitter i Norconsults ledergruppe.

I forbindelse med at styreleder, Per Kristian Jacobsen, valgte å stille som kandidat til stillingen som konsernsjef

i forbindelse med planlagt lederskifte, valgte han å fratse sitt verv som styreleder 31.10.2013. Jan Oksum ble siden konstituert som ny styreleder frem til neste ordinære generalforsamling. Styret har derfor hatt åtte representanter + vararepresentanter siden 31.10.2013 og frem til neste generalforsamling.

Den ordinære generalforsamlingen i Norconsult Holding AS bestemmer honoraret til styrets medlemmer basert på en anbefaling fra valgkomiteén. Valgkomiteén består av fire medlemmer hvorav tre velges av generalforsamlingen og styret oppnevner én representant. Hovedoppgaven til valgkomiteén er å sikre at styret har den riktige sammensetningen av kompetanse og erfaring. Styret har i 2013 avholdt åtte styremøter inkludert ett styreseminar. Ved behov har styret blitt informert om viktige hendelser mellom styremøtene.

Årsregnskap

Resultat, balanse og kontantstrøm for Norconsult Holding AS konsern. Konsernet oppnådde i 2013 brutto driftsinntekter på 3 586,1 millioner kroner. (2012; 3 202,4 millioner kroner) og et driftsresultat på 308,0 millioner kroner (2012; 290,5 millioner kroner). Driftsmarginen for 2013 var på 8,6 prosent mot 9,1 prosent i 2012.

Konsernet hadde i 2013 en kontantstrøm på 33,3 millioner kroner. (2012; 42,9 millioner kroner). Selskapets netto kontantstrøm er preget av et moderat omfang av investeringsaktiviteter, forrige års utbyttebetaling samt kjøp av egne aksjer i perioden. Kontantstrømmen fra operasjonelle aktiviteter vurderes som

tilfredsstillende sett i lys av selskapets vekst. Kontantbeholdningen ved årets utgang var på 224,1 millioner kroner (2012; 190,8 millioner kroner). Konsernets egenkapital var 681,9 millioner kroner ved utgangen av 2013 (2012; 622,3 millioner kroner), noe som gir en egenkapitalandel i 2013 på 37,1 prosent.

Resultat, balanse og kontantstrøm for Norconsult Holding AS

I morselskapet Norconsult Holding AS foregår det ingen operativ drift. Driftsresultat var på -0,8 millioner kroner (2012; -0,7 millioner kroner). Resultat før skattekostnader var 131,1 millioner kroner. (2012; 116,4 millioner kroner). Selskapets egenkapital var 255,9 millioner kroner ved utgangen av 2013 (2012; 292,1 millioner kroner), noe som gir en egenkapitalandel i 2013 på 45,9 prosent. Kontantbeholdningen ved årets utgang var på 91,4 millioner kroner (2012; 82,6 millioner kroner). Norconsult Holding AS hadde i 2013 en kontantstrøm på 8,7 millioner kroner (2013; 60,4 millioner kroner).

Finansiell risiko

Risiko for at kunder ikke har økonomisk evne til å oppfylle sine forpliktelser anses som lav da det historisk sett har vært lite tap på fordringer. Selskapet har i alle ledd høyt fokus på å fakturere opparbeidet tid snarest mulig og har en tett oppfølging av kundefordringer.

Likviditeten i Norconsult vurderes som tilfredsstillende og driften i 2013 er selvfinansierende i alle enheter med kun få unntak. Overskuddslikviditet benyttes til utbyttebetaling eller investeringer i drift eller oppkjøp. Selskapet har handlingsrom til å

reducere alle disse elementene dersom likviditeten skulle tilsi dette. Alle oppkjøp er gjenstand for en due diligence-prosess og selskapet fokuserer på objekter med god lønnsomhet og gode fremtidsutsikter.

Norconsult er eksponert for valuta-svingninger i forbindelse med selskapets aktiviteter på tvers av landegrensene. Noe av denne omsetningen faktureres i norske kroner, noe i lokal valuta, noe i euro og noe i USD. Foreliggende valutastrategi tilsier at selskapet skal foreta en valutasikring der dette er hensiktsmessig ut fra en totalvurdering, eventuelt tilstrebe kontraktbetingelser som begrenser valuta-eksponeringen.

Norconsults virksomhet vokser både gjennom organisk vekst og strategiske oppkjøp av andre virksomheter. De siste årene er det gjort en rekke oppkjøp av selskaper hvor det er identifisert merverdier utover bokført egenkapital. Disse merverdiene er i stor grad knyttet til medarbeidere og kompetanse som regnskapsføres som goodwill. Goodwill blir avskrevet lineært over forventet levetid og i tråd med god regnskapsskikk. Ledelsen og styret i konsernet vurderer regelmessig verdien og levetid på goodwill, samt eventuelt behov for nedskrivninger. Dette gjøres gjennom evaluering av de respektive enheters oppnådde og forventning til fremtidige resultater. Det har ikke inntruffet forhold av vesentlig betydning for Norconsults stilling og resultat etter regnskapsårets slutt.

I samsvar med norsk regnskapslov bekrefter Norconsult at regnskapene er avlagt under forutsetningen om fortsatt drift.

Resultatdisponering

Styret har vurdert selskapets totale økonomiske situasjon inkludert egenkapital og fremtidsutsikter som del av grunnlaget for forslag til utbytte basert på årsresultatet for 2013.

Årets overskudd for Norconsult Holding AS utgjør 130,099 millioner norske kroner. Styret foreslår at overskuddet disponeres som følger:

Avsatt til utbytte:	MNOK	127,570
Overført til annen egenkapital:	MNOK	2,529
SUM	MNOK	130,099

Fremtidsutsikter

Norconsultkonsernets soliditet, kompetanse og markedsposisjon skaper en meget god basis for selskapet i tiden fremover. Markedsutsiktene vurderes som positive i de fleste markedsområder selskapet opererer i.

Norconsult har vært en aktiv aktør i den konsolidering som pågår i bransjen i Norge og vil fortsette å ta en ledende rolle i det norske markedet og være en vesentlig aktør i det nordiske markedet.

Internasjonalt vil Norconsult i tråd med konsernets strategi satse videre i de geografiske områder og markeder hvor konsernet kan utnytte sin unike kompetanse, har konkurransefortrinn og ser gode forretningsmuligheter.

Selskapet har en tilfredsstillende soliditet. Styret forventer ikke behov for tilførsel av kapital i løpet av året. Styret presiserer samtidig at det er knyttet generell usikkerhet til vurderinger av fremtidige forhold, og at utviklingen i markedet er avhengig av konjunkturer og generell økonomisk utvikling.



Jan Oksum Styreleder Grete Sønsteby Styrets nestleder Erik Frogner Styremedlem Jens Kvarekvål Styremedlem Johan B. Knudsen Styremedlem Harald Trosvik Styremedlem Henning Vellene Styremedlem Stein Sverre Hovden Styremedlem

Sandvika 24. april 2014


 Jan Oksum, styreleder


 Grete Sønsteby, nestleder


 Jørn Tyrdal


 John Nyheim


 Jens Kvarekvål


 Erik Frogner


 Henning Vellene


 Johan B. Knudsen


 Harald Trosvik


 Stein S. Hovden

MORSELSKAP (hele 1.000)		KONSERN (hele 1.000)	
2012	2013	2013	2012
		DRIFTSINNETEKTER OG -KOSTNADER	
2 407 227	2 663 982	Driftsinntekter	3 586 060
2 407 227	2 663 982	Sum driftsinntekter	3 586 060
353 978	380 795	Prosjektkostnader	445 065
1 498 588	1 682 968	Lønnskostnader	2 311 983
58 790	65 055	Ordinære avskrivninger	87 825
269 183	300 253	Andre driftskostnader	433 197
2 180 538	2 429 071	Sum driftskostnader	3 278 070
226 688	234 911	DRIFTSRESULTAT	307 990
		Finansinntekter og -kostnader	
29 369	26 316	Resultat fra datter- og tilknyttet selskap	0
1 680	2 122	Renteinntekt fra foretak i samme konsern	0
854	772	Annen renteinntekt	5 447
0	2 958	Annen finansinntekt	5 666
(8 770)	(4 948)	Rentekostnader til foretak i samme konsern	0
(267)	(1 027)	Annen rentekostnad	(3 068)
(8 788)	(2 948)	Annen finanskostnad	(9 253)
14 079	23 245	Netto finansposter	(1 208)
240 767	258 156	RESULTAT FØR SKATTEKOSTNAD	306 782
(60 849)	(61 892)	Skattekostnad	(83 767)
179 919	196 264	ÅRETS RESULTAT	223 015
		Minoritetsinteresser	(920)
		Årets resultat etter minoritetsinteresser	222 095
		Overføringer:	
(111 300)	(127 500)	Avsatt utbytte	
(68 619)	(68 765)	Overført annen egenkapital	
(179 919)	(196 264)	SUM OVERFØRT	

BALANSE

MORSELSKAP (hele 1.000)		KONSERN (hele 1.000)	
2012	2013	2013	2012
EIENDELER			
<i>Immaterielle eiendeler</i>			
0	0	7 736	5 054
213 670	220 223	226 170	190 569
213 670	220 223	233 906	195 623
<i>Varige driftsmidler:</i>			
4 689	4 689	208 354	218 277
21 806	22 187	42 024	40 673
		2 500	0
26 496	26 876	252 878	258 950
<i>Finansielle anleggsmidler:</i>			
170 327	251 448	0	0
46 377	39 231	0	0
781	781	1 003	1 003
21 086	23 686	26 837	22 954
110 259	125 807	122 603	107 173
348 831	440 952	150 444	131 130
588 996	688 051	637 227	585 703
136 472	126 605	180 948	179 604
<i>Fordringer:</i>			
383 728	470 214	713 283	596 430
101 630	98 475	0	0
13 245	28 947	81 972	41 686
498 603	618 932	795 259	638 116
<i>Bankinnskudd og lignende:</i>			
8 822	9 334	224 066	190 757
643 898	754 871	1 200 273	1 008 477
1 232 894	1 442 922	1 837 500	1 594 180

pr. 31. desember 2013

MORSELSKAP (hele 1.000)		KONSERN (hele 1.000)	
2012	2013	2013	2012
EGENKAPITAL OG GJELD			
<i>Innskutt egenkapital:</i>			
2 878	2 878	5 779	5 767
		(483)	(96)
50 361	50 361	249 114	258 828
53 240	53 239	255 856	264 499
<i>Opptjent egenkapital:</i>			
338 703	407 468	422 344	354 041
338 703	407 468	422 344	354 041
0	0	3 748	3 778
391 943	460 707	681 948	622 318
<i>Avsetninger for forpliktelser:</i>			
8 381	12 176	18 038	18 009
0		5 863	9 868
8 381	12 176	23 901	27 877
<i>Langsiktig gjeld:</i>			
42 427	65 364	0	0
0	10 788	23 930	15 654
42 427	76 152	23 930	15 654
<i>Kortsiktig gjeld:</i>			
63 989	81 368	127 653	107 031
33 914	38 325	57 663	52 105
48 621	55 182	811	931
39 635	0	0	0
62 973	60 818	97 414	95 748
212 002	264 042	295 182	241 019
111 300	127 500	128 069	111 300
217 709	266 653	401 740	321 128
790 143	893 888	1 107 721	928 331
840 951	982 215	1 155 552	971 862
1 232 894	1 442 922	1 837 500	1 594 180



"Jeg har tidligere sagt at dette er Norges mest spennende jobb innen ledelse og teknologi".

PER KRISTIAN JACOBSEN PÅTROPPEDE KONSERNSJEF

Per Kristian Jacobsen bor på Siggerud, utenfor Oslo, med kone og tre sønner i alderen 24 til 26 år. Han trives både i langressporet og på joggeturer i skogen. I tillegg har han aktivt fulgt opp sønnenes interesse for speideren og fotball. Opprinnelig er han fra Langesund, der han nå også eier et hus og båt.

Per Kristian Jacobsen er en lesende mann som både har krim og bøker om historie på nattbordet.

– Jeg er svært interessert i teknologiutvikling og har en spesiell interesse for bøker om teknologiens betydning i militærhistorien, forteller han. Denne interessen ble vekket da han i sin tid tok befalsutdanning i artilleriet og var tre år i forsvaret før han startet studiene på NTH.

Jacobsen ble sivilingeniør i teknisk kybernetikk på NTH i 1984 og har de siste 25 årene hatt ulike lederstillinger i en rekke virksomheter. Han har blant annet vært administrerende direktør i Solberg & Andersen AS, i IT Fornebu

AS og i Heidenreich Holding AS, samt konsernsjef i Tandberg Data ASA. Videre var han Executive Vice President i Landis & Gyr AG i Sveits på 1990-tallet.

En leder - ikke en sjef

– I starten av karrieren jobbet jeg mye med produktutvikling. Etter hvert har jeg også blitt mer opptatt av kommersialisering og marked og ikke minst av ledelse som fag, forteller Jacobsen. Han er tilhenger av teamledelse og ser seg ikke som en sjef i gammeldags forstand.

– I Norconsult er virkelig medarbeiderne konsernets viktigste ressurs. Min og de andre ledernes oppgave er å sette mål og stake ut kursen, og ikke minst sørge for at vi arbeider godt sammen for å nå målene. Det er selvfølgelig viktig at vi lykkes økonomisk, men det skal også være moro å gå på jobb, smiler han.

Norconsult og fremtiden

Jacobsen mener at endringskompetanse stadig blir viktigere fremover.

Vår nye konsernsjef

Per Kristian Jacobsen er ingen nykommer i Norconsult. Etter åtte år som styreleder, gleder han seg til å overta stafettspinnen etter John Nyheim.

– Verden endrer seg stadig raskere og vi må være i forkant av utviklingen. Vi må gjøre de rette analysene og tilpasse oss nye og endrete behov i markedet, sier Jacobsen.

Han påpeker at det ikke finnes én enkel oppskrift. For at vi som organisasjon også skal lykkes fremtiden, må vi som medarbeidere i Norconsult vise engasjement, ha mot til å utfordre og våge å tenke nytt.

– Jeg er helt overbevist om at vi sammen klarer å nå de målene vi setter oss. I Norconsult er det mange kloke hoder samlet og jeg lover å lytte til gode innspill fra hele organisasjonen, sier han.

Jacobsen er opptatt av å forsterke Norconsultkulturen basert på felles verdier og prinsipper i hele konsernet. Samtidig ønsker han å bevare Norconsultkontorenes nærhet til markedet.

– All business er lokal, men det er viktig å ta ut stordriftsfordeler der det er mulig, sier Jacobsen. Hva som er

den rette balansen er det til slutt kundene som bestemmer, sier Jacobsen.

Jacobsen ser frem til å bli kjent med både medarbeiderne i konsernet og med kunder og samarbeidspartnere. Jeg gleder meg, avslutter Per Kristian Jacobsen

Om konsernsjefen

- Gift, tre barn i alderen 24 til 26 år
- Født 1957
- Oppvokst i Langesund
- Bosatt på Siggerud
- Utdannet Sivilingeniør på NTH i 1984 i kybernetikk
- Leder og toppleder i flere store virksomheter
- Styreleder i Norconsult de siste åtte årene

Per Kristian Jacobsen
Påtroppende konsernsjef

Innovasjon begynner her - Kanskje du også

Norconsult lever av å bidra med kompetanse og tankekraft i over 10 000 oppdrag hvert år. Rekruttering av dyktige og motiverte medarbeidere er derfor noe av det viktigste vi gjør.

Norconsult utfører mange ulike oppdrag som varierer fra få timer over en kort periode til store tverrfaglige oppdrag som varer over flere år. Ulike typer oppdrag krever ulike typer kompetanse og selskapet tilbyr spennende muligheter for både nyutdannede og mer erfarne jobbsøkere.

Rekrutteringskampanje

Som en del av Norconsults rekrutteringsarbeid gjennomførte Norconsult en landsdekkende kampanje rettet mot nyutdannede og erfarne høsten 2013.

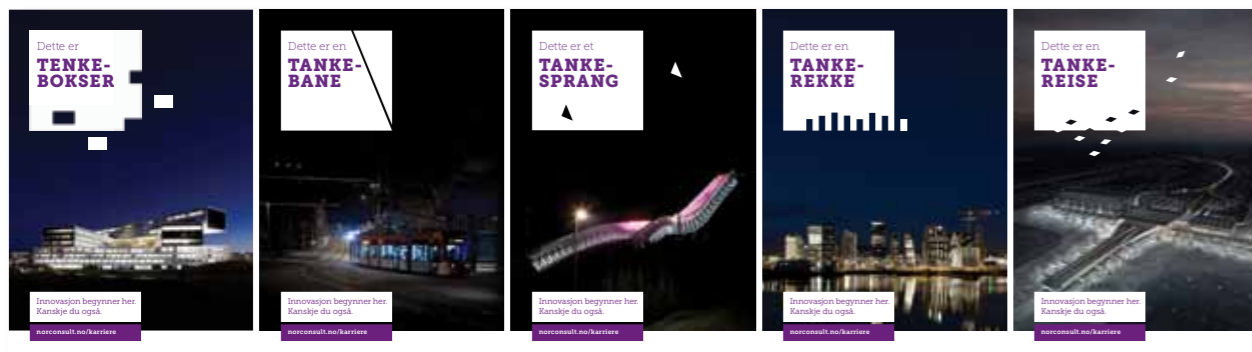
Kampanjefokuset var på innovasjon som ble formidlet gjennom presentasjon av spennende prosjekter som Norconsult enten gjennomfører eller har gjennomført.

Budskapet var godt synlig utendørs på ulike trafikkknutepunkter, i relevante fagtidsskrifter – både i print og på nettet, samt på sosiale medier. Budskapet ble også formidlet på egne nettsider og det ble både utviklet nytt stand-materiell og annet rekrutteringsmateriell til bruk for avdelingskontorene i hele landet.

Attraktiv arbeidsgiver

I en stadig stor konkurranse om kvalifiserte medarbeidere, viser undersøkelser at Norconsult også i 2013 vurderes som en svært attraktiv arbeidsgiver. I Universums Student Survey 2013, som kårer de mest populære arbeidsgiverne, ble Norconsult rangert som Norges femte mest attraktive arbeidsgiver for teknologistudenter. I Universum Professional Survey, som måler attraktiviteten på selskaper blant arbeidstakere under 40 år med høyere utdanning og erfaring, ble Norconsult rangert som det mest attraktive selskapet blant firmene i byggenæringen. Dette viser at vi fortsatt har en sterk

posisjon og et godt omdømme, både ved relevante utdanningsinstitusjoner og blant arbeidstakere som har jobbet noen år.



NORCONSULTS LEDERGRUPPE

Fra juni 2014



Sigurd Rugland
Direktør
Plan og samferdsel
Region vest

Bård Hernes
Direktør
Informasjonsteknologi

Knut Helgesen
Direktør
Energi

Egil Gossé
Direktør Tekniske systemer
Region midt

Stein Tidemann
Direktør Bygg og anlegg
Region nord



Per Kristian Jacobsen
Konsernsjef

Christian Bekkevold
Nilsen
Økonomidirektør

Fride Andrea Hærem
Direktør konsernstab
- IT, HR, Marked

Tom Baade-Mathiesen
Direktør Vann og avløp
Region innlandet

Ola H. Norderhaug
Direktør
International

Janicke Poulsen Garmann
Direktør
Miljø og sikkerhet
Region sør-øst

Norconsults strategi 2012-2015

Norconsults styre vedtok i februar 2012 selskapets strategiplan for perioden 2012-2015. Strategien viderefører Norconsults mål og forretningsidé i tillegg til å gi føringer for planperioden.

Mål

Norconsult skal være en ledende nordisk aktør av kunnskapsbaserte tjenester, og samtidig være en fremtredende aktør internasjonalt innenfor utvalgte markeder.

På det norske markedet skal vi være størst og framstå som et klart førstevalg i vår bransje.

Forretningsidé

Norconsult skal bidra til et bærekraftig samfunn gjennom nyskapende og målrettede tverrfaglige rådgivningstjenester – fra idéutvikling og overordnede planer til prosjektering og driftsstøtte.

Hovedføringer for planperioden 2012-2015

- Vi skal videreutvikle Norconsult for å bevare posisjonen som landets ledende, multidisiplinerte aktør i vår bransje.
- Vi skal fortsatt ha fokus på vekst, men samtidig må vi konsolidere virksomheten og sørge for at oppkjøpte selskaper blir en integrert del av Norconsultkonsernet.
- Vi skal fortsette vår ekspansjon i Norden.
- I vår internasjonale satsing skal vi opprettholde vårt fokus på fornybar energi, vannkraft og kraftsystemer, bedre lønnsomheten og redusere risiko.
- Vi skal strømlinjeforme virksomheten vår for å stå rustet mot magrere tider og tøffere konkurranse.
- Vi skal ha sterkere fokus på konsernfunksjoner for å bygge en helhetlig selskapsstruktur.
- Vi skal vise ansvarlighet ved å ta vare på natur og miljø både ved å minimere miljøbelastninger knyttet til egen virksomhet og ved å påvirke til miljøvennlige løsninger i våre oppdrag.
- Vi skal møte samfunnets og store oppdragsgivers forventninger med hensyn til samfunnsansvar (Corporate Social Responsibility).
- For å lykkes må vi arbeide for å holde på og tiltrekke oss dyktige og ansvarsfulle medarbeidere og ledere.

Holdninger driver resultater

Kulturen er en viktig bestanddel av Norconsult sitt omdømme. Norconsult har gjennom flere år vokst kraftig både i inn- og utland og tok i løpet av 2013 grep for å styrke og sikre en felles bedriftskultur

LiVE er grunnmuren for Norconsultkonsernets kultur, og består av ti prinsipper for Ledelse, Verdier og Etikk. LiVE beskriver hvordan vi samarbeider med kollegaer og kunder, hvordan vi forholder oss til samfunnet og hvordan vi lykkes. Prinsippene setter fokus på dagligdagse utfordringer og hjelper til med å ta de gode valgene. Våren 2013 startet implementering av LiVE i hele Norconsultkonsernet.

Våren 2013: LiVE teaser

Implementeringen startet med at alle medarbeidere fikk tilsendt en LiVE-brosjyre. Via selskapets intranett Panorama kunne medarbeidere dele hva de assosierte med Ledelse, Verdier og Etikk. Flere hundre medarbeidere deltok og innspillene ble presentert som ordskyer på ulike språk.

Høsten 2013: Implementering

LiVE ble introdusert for alle ledere som også har gjennomført etisk dilemmautviklingsprogrammet. LiVE er dessuten blitt en del av introduksjonskurset for nyansatte. Videre implementering gjøres i regi av divisjonsledere og kontorledere som har fått nødvendig materiell i form av brosjyrer, presentasjoner og spillet LiVE Out Of The Box.

Høst/vinter 2013:

LiVE Out Of The Box

Et viktig element i den videre implementeringen er spillet LiVE Out Of The Box. Dette er et brettspill som setter fokus på de ti prinsippene og verdiene i LiVE, og gjør det enkelt å diskutere relevante dilemmaer i grupper. Spillet er distribuert ut i hele konsernet og tatt i bruk på kontorer og i divisjoner, i nettverk og på samlinger. Hver enkelt medarbeider, både i de nordiske landene og i Norconsults internasjonale datterselskaper i Asia, Afrika og Sør-Amerika har dermed fått mulighet til å trene på hva etikk, verdier og adferd innebærer i hver enkelts arbeidshverdag.



Ledelse
Ta og gi ANSVAR
Vis MOT
Vær SYNLIg og TYDELIG
SE dine medarbeidere
LEV verdiene

Verdier
Redelig
Kompetent
Inkluderende
Engasjert

Etikk
Alt vi gjør skal tåle
OFFENTLIGHETENS LYS



Medarbeidere i Norconsult Andina i Chile spiller spillet LiVE Out Of The Box.

Norconsults integritetsprogram

For Norconsult er det et ønske og et mål alltid å utvise høy etisk standard på alle nivåer i organisasjonen. Arbeid med å integrere etisk refleksjon og hensyn i forretningsdriften har derfor hatt høy prioritet i Norconsult også i 2013.

I 2013 iverksatte Norconsult et helhetlig integritetsprogram basert på prinsippene i Verdensbankens Integrity Compliance Guidelines. Programmet sikrer at virksomheten forebygger, eventuelt raskt oppdager og hindrer tilfeller av korrupsjon og andre misligheter. Målet er at integritetsprogrammet skal være fullt implementert i hele konsernet innen utgangen av 2014.

Ledelsesforankring og risikobasert rammeverk

Våren 2013 gjennomførte Norconsult en risikoanalyse for å avgrense, definere og prioritere de viktigste oppgavene knyttet til å opprettholde en høy etisk standard samt å bekjempe og unngå korrupsjon globalt. De prioriterte tiltakene som utvikles og implementeres i integritetsprogrammet inkluderer både gjennomføring av kultur- og bevissthetsbyggende tiltak, og tiltak for ytterligere å systematisere foretaksstyring i konsernet. Blant tiltakene som ble implementert i 2013 er prosedyrer og støtteverktøy for å sikre grundig forhåndsvurdering av avtaleparter i land med høy korrupsjonsrisiko.

Fremdrift i Norconsults integritetsprogram følges kontinuerlig opp av konsernledelsen og styret. I 2013 opprettet ledelsen stillingen Compliance Officer, og dedikerte med det en rolle til drift og videreutvikling av integritetsprogrammet.

Alt vi gjør skal tåle offentlighetens lys

Konsernets konkurranseevne og omdømme er avhengig av at alle ansatte opptrer etisk forsvarlig, og er til å stole på. Medarbeidere og ledere fra hele konsernet bidro i 2013 til å revidere Norconsults etiske retningslinjer. Den reviderte versjonen ble vedtatt av styret den 5. september 2013. Blant endringene som ble foretatt i forbindelse med revisjonen av etiske retningslinjer er opprettelsen av en uavhengig varslingskanal, og et integritetsråd til å behandle eventuelle varslings saker. Medarbeidere i Norconsult skal rapportere om bekymringsverdige forhold og eventuelle overtredelser av lover, regler og de etiske retningslinjene til sin personalansvarlige leder. Manglende rapportering av slike forhold og overtredelser er i seg selv brudd på de etiske retningslinjene.

Hvis rapportering til nærmeste personalansvarlige leder ikke er mulig, ønskelig eller hensiktsmessig, skal saken rapporteres direkte til Norconsults uavhengige varslingskanal.

Etisk refleksjon og kompetanseheving

De etiske retningslinjene gir ikke detaljert veiledning i spesifikke situasjoner. Retningslinjene utgjør et rammeverk for atferd når man handler på vegne av Norconsult, og påvirker dermed refleksjoner om hva man skal og ikke skal gjøre. I Norconsult vektlegges åpenhet, dialog, refleksjon og samarbeid for å øke bevissthet om og sikre etisk atferd i alle deler av konsernet.

I tillegg til at alle Norconsults medarbeidere plikter å lese og gjøre seg godt kjent med konsernets etiske retningslinjer og at disse er vedlegg til alle ansettelsesavtaler, gjennomførte samtlige medarbeidere i Norconsult AS et e-læringskurs i etikk i løpet av 2013. Kurset besto av fem dilemmaer man kan stå overfor i jobbsammenheng, og medarbeiderne ble bedt om å ta stilling til spørsmål underveis.



NOEN REFERANSEPROSJEKTER FRA 2013



analyse og håndtering av data-innsamling under en aksjon mot akutt forurensning. Det er også gjennomført verifikasjoner (table-top og full-skala øving) av både egenberedskap, de beredskapsfaglige tjenester hos NOFO og statlig bistand under en eskalerende hendelse.

Sårbarhetsvurderinger for Oslo havn

Norconsult er godkjent av Kystverket som Recognized Security Organization (RSO), til å utføre sårbarhetsvurderinger og utferdige sikringsplaner i havneanlegg som er underlagt den internasjonale ISPS-koden (The International Ship and Port Facilities Security Code). Norconsult har gjennomført sårbarhetsvurderinger av 17 av Oslo havns havneanlegg. Sårbarhetsvurderingene er gjennomført i henhold til den internasjonale ISPS-koden, og omfatter samlede vurderinger av trusselbildet for havneanleggene basert på nasjonale, regionale og lokale faktorer.

Konsekvenser og tiltak ved langvarig bortfall av strøm i Lofoten

Norconsult har på oppdrag for Lofotrådet utredet sårbarhet og konsekvenser ved et langvarig strømbrydd i Lofoten. Arbeidet er gjennomført i tett samarbeid med Fylkesmannen i Nordland. Scenariet for utredningen har vært at Lofoten blir rammet av et 14 dager langt strømbrydd pga. en lengre periode med dårlig vær med stort snøfall, vind og ising av høyspentmaster.

Vi tilbyr tjenester innenfor:

- Arbeidsmiljø
- Brannsikkerhet
- Beredskap
- Helse, miljø og sikkerhet (HMS)
- Informasjonssikkerhet
- Samfunnssikkerhet
- Security
- Teknisk

SIKKERHET

Ventilasjonsvifter i Oslotunnelen

Norconsult har vært engasjert av Jernbaneverket som rådgiver for brannsikkerhetstiltak i Oslotunnelen. Som en del av dette arbeidet har Norconsult utarbeidet en helhetlig risikoanalyse for Oslotunnelen som også har inkludert vurdering og evaluering av tiltak for økt brannsikkerhet. Norconsult har prosjektert brannskiller på Nationaltheatret stasjon, og brannvanns- og røykventilasjonsanlegg i tunnelen. Arbeidet har inkludert byggeplan og konkurransegrunnlag, og oppfølging i byggeperioden. Prosjektet har høy kompleksitet med hensyn på tekniske løsninger og lite tilgjengelig plass for de nye installasjonene i tunnelen.

Oljevernberedskap for Goliatfeltet

Norconsult har bistått ENI Norge AS med å etablere oljevernberedskap for Goliatfeltet. Arbeidet har omfattet utarbeiding av miljørettet risikoanalyse, beredskapsdimensjonering, beredskapssetablering og prøving av beredskapen.

Arbeidet har omfattet utvikling av nye innovative beredskapsløsninger og bidrag til systematikk innen fjern-



ENERGI

Lysebotn II kraftverk

I samarbeid med Lyse Produksjon har Norconsult utarbeidet forstudier, beslutningsunderlag, konkurransegrunnlag for bygningstekniske og elektro-mekaniske kontrakter, landskaps- og miljøplaner, teknisk planer, SHA planer og ROS analyser på Lysebotn II Kraftverk. I tillegg utfører Norconsult bygningsteknisk detaljprosjektering (3D-BIM), miljøoppfølging, oppfølging av elektro-mekaniske leveranser samt ingeniørgeologisk kartlegging i byggefasen. Anleggsarbeidene startet sommeren 2013. Kraftverket planlegges å settes i drift våren 2018.

132 kV Kanstadbotn – Kvitfossen

I forbindelse med bygging av ny 132 kV-ledning på 65 km, mellom Kanstadbotn til Kvitfossen i Lofoten har Norconsult på oppdrag av Lofotkraft AS hatt følgende oppgaver: Traseplanlegging og utarbeidelse av forhånds-meldinger og konsesjonsøknader, samt kommunikasjon med offentlige myndigheter. Registrering og formidling av informasjon til grunneiere, prosjektering og utarbeidelse av tilbudsunderlag. Evaluering og kontrahering av

entreprenør. Deltakelse ved materiellkontroller. Byggeledelse og teknisk oppfølging i byggefasen. Prosjektet forventes ferdigstilt i løpet av 2016.

Vibrasjonsmåling på Maudal kraftverk

Norconsult gjennomførte på kort varsel fullstendig vibrasjonsmåling på aggregatet på Maudal kraftverk etter at Lyse Produksjon AS oppdaget stort akselkast på en turbin. Etter en nærmere analyse av dataene, ble det konstatert at innfestingen til øvre styrelager var løs. Lyse demonterte aggregatet, og fant at isolasjon rundt innfestingen til styrelageret var morken og ødelagt. Kilden til det observerte akselkastet ble dermed identifisert på kort tid, og Lyse fikk raskt et konkret grunnlag for å vurdere hvilke tiltak de ønsket å gjennomføre videre.

Vi tilbyr tjenester innenfor:

- Energioptimering
- Energiplaner
- Fornybar energi
- Fjernvarme og -kjøling
- Kraftoverføring og distribusjon
- Termisk energi
- Vannkraft
- Vindkraft



PLAN

Sentrumsutvikling Jevnaker

Norconsult har bistått Jevnaker 2020 i etableringen av stedsutviklingsprosjekter for Nesbakken (handels-sentrum) og Strandpromenaden (Nesbakken/Hadeland Glassverk/Thorbjørnrud hotell). Hovedoppgavene har bestått av analyser, prosessbistand og konsept- og mulighetsstudier. Hovedmålet med prosessen har vært å styrke samarbeidet blant alle aktører i Jevnaker for å utvikle og realisere målsettinger for utvikling i Jevnaker sentrum de kommende 10 årene. Arbeidet har skjedd i nært samarbeid med Jevnaker kommune, næringsdrivende og sentrale grunneiere.

Veumbekken

Behov for betydelig saneringsarbeid av vann- og avløpsnett i Holmen-området har åpnet for nye utviklingsmuligheter av bydelen i Fredriksstad Kommune. Norconsult har jobbet med bekkeåpning som viktig byplangrep.

Norconsult har bistått kommunen med alt fra faglig rådgivning og prosessledelse, via mulighetsstudier og utvikling av forprosjekt, og til slutt

med reguleringsplanarbeid. Områdets attraktivitet vil øke og bidra vesentlig til revitalisering av området. Standardheving av nærmiljøområdet vil bidra til forbedring av levekårene. De eksisterende stedlige kvaliteter og egenskaper i Holmegata vektlegges i utformingen

Universitetet i Nordland

I samarbeid med Statsbygg har Norconsult bidratt til å gjennomføre planprosessen fra mulighetsstudie til ferdig plan. I starten av planarbeidet ble det avholdt et ideseminar med sentrale aktører i prosessen. Planen forventes førstegangsbehandlet våren 2014. Planen legger til rette for bygging av 47 000 m², som er mer enn en dobling av universitetet sitt areal på Mørkved. Sentralt på campus etableres et bilfritt torg – Campusaksen – som skal knytte sammen eksisterende og ny universitetsbyggelse og bli et nytt byrom for beboerne på Mørkved.

Vi tilbyr tjenester innenfor:

- Arealplanlegging og planprosesser
- By- og stedsformgivning
- Regional og kommunal planlegging
- Analyser og utredninger
- Strategisk planlegging

SAMFERDSEL

Fellesprosjektet E6-Dovrebanen, FP2 Brøhaug-Strandlykkja

Norconsult var ansvarlig for utarbeidelse av byggeplan og oppfølging i byggetiden for Fellesprosjektet E6-Dovrebanen, delparsell Brøhaug-Strandlykkja på ca. 6 km. Dette omfatter forberedende arbeider på E6, lokalveger, underbygning jernbane og avbøtende tiltak. I tillegg Ulvin tunnelen (Dovrebanen) på 4 km, Morstuatunnelen (Dovrebanen) på 150 m og Morskogstunnelen (E6) på 2,3 km ligger innenfor delparsellen. Utvikling av ny løsning for vann-/frosstsikring av jernbanetunnelene. Jobben innebar omfattende bruk av 3D og inkluderte komplett arbeidsgrunnlag og tung oppfølging/tilstedeværelse i byggetiden.

Byggeplan for Fv. 456 Kolsdalen - Lumberkrysset

Norconsult har utarbeidet byggeplan med konkurransegrunnlag for Fv. 456 Kolsdalen – Lumberkrysset sør for Kristiansand. Strekningen omfatter ny firefelts motorveg med en lengde på 2,3 km med tilhørende G/S vegger og et omfattende veganlegg i dagen med blant annet tilknytting til E39. Prosjektet omfatter videre flere fjelltunneler, kryss i fjell, broer, kulverter, portaler, støyskjermer og støttemurer for veganlegget. Anlegget er bygget samtidig som mellom 20-40 000 biler skal passere gjennom området hver dag, noe som setter ekstra høye krav til planlegging av anleggsgjennomføring. Byggeplanen og konkurransegrunnlaget ble ferdigstilt høsten 2009, og byggearbeidene ble utført mellom 2010 og 2014 med Statens vegvesen Region Sør som oppdragsgiver.

Riksveg 7 Sokna – Ørgenvika

Norconsult har stått for detaljprosjektering av 17 km ny Rv 7 fra Sokna i Ringerike til Ørgenvika i Krødsherad kommune, den nye strekningen forkorter Rv 7 med 20 km. Vegen er



prosjektert- og bygges som 2-felt med forbikjøringsfelt på deler av strekningen. Prosjekteringsarbeidet startet opp sommeren 2010, med påfølgende anleggsstart høsten 2011, vegen åpnes for trafikk sommeren 2014. Basert på en innledende kreativ fase som ble ledet av Norconsult, ble hele strekningen gjennomgått og optimalisert. Dette resulterte i flere store forbedringer som medførte betydelige besparelser for prosjektet. Norconsult har i forbindelse med disse endringene også hatt ansvar for omregulering av reguleringsplanene. Hele traseen er prosjektert i 3D og 3D-stikningsdata er benyttet under bygging. Norconsult har som del av dette oppdraget prosjektert 2 lengre tunneler på hhv 2,8 og 3,7 km, åtte bruer med lengde fra 40 til 92 m og en miljøtunnel i betong på 180 m.

Vi tilbyr tjenester innenfor:

- Bruer
- Flyplasser
- Havner
- Jernbaner og sporveier
- Parkeringsanlegg
- Trafikkanalyser
- Tunneler
- Veier og gater

OLJE & GASS

Martin Linge Topside

Oppdraget var en tredje parts verifikasjon av Aker Solution sitt konsept for utvikling av topside på Martin Linge plattformen. Hovedfokus var på vektestimering og Norconsult sine estimater ved hjelp av Norwest Metoden viste at vekten og dermed kostnader kunne reduseres.

Fogelberg, Frigg Gamma Delta og Butch

Som en leverandør av ingeniørtjenester har Norconsult gjort flere verifikasjoner av kostnadsberegninger og av tekniske konsepter som er utviklet av andre. Blant annet har Norconsult hatt flere oppdrag for Centrica som er operatør for flere utbyggingsprosjekter som er under utvikling i Nordsjøen.

Norconsult har blant annet verifisert kostnadsoverslag foretatt av andre for Fogelberg –anlegget og på Delta Gamma Frigg. I tillegg til verifisering av kostnadsoverslagene har Norconsult vært ansvarlig for teknisk kontroll av mulige Tieback løsninger for oljereservoaret Butch.

Vi tilbyr tjenester innenfor:

- Gassdistribusjon
- Klimagasshåndtering
- Lagringsanlegg
- Naturgass og LNG
- Offshore konstruksjoner
- Offshore kraftanlegg
- Olje og gass prosessering
- Rørledninger
- Terminaler og landanlegg



Foto: Dark Arkitekter

BYGG OG EIENDOM

Fornebuporten næring

Norconsult prosjekterer nytt kontor- og forretningsbygg på Fornebu. Bygget består av to kontorbygg med felles kjeller og har et brutto areal i størrelsesorden 86.000 m². Norconsult utfører byggeteknisk-, brannteknisk-, bygningsfysisk-, akustisk- og landskapsarkitektonisk prosjektering for totalentreprenøren, mens vi prosjekterer de VVS tekniske- og elektrotekniske installasjonene for tekniske entreprenører. Prosjektet karakteriseres av stort volum og kompleks bygningsmessig geometri med bl.a. vanntette betongkonstruksjoner. De tekniske anlegg er komplekse, og det tas i bruk helt ny teknologi for å sikre god behovsstyring og lavt energibruk.

Oslo Universitetssykehus - Nytt akutttbygg Ullevål

Et krevende bygg og utfordrende arbeid, tett opp mot sykehusdriften, har blitt løst på rekordtid og resultatet i Norges fremste traumemottak. Prosjektet ble tatt i bruk primo 2014. Det nye akuttmottaket fremstår som state-of-the-art med hybrid operasjonsstue med både operasjons- og radiologifunksjoner i ett og samme

rom. I tillegg til operasjonsstuer og intensivrom, er akutttbygget utstyrt med smitteisolator, postoperative funksjoner og den aller siste teknologien i et nytt CT-laboratorium. Norconsult har vært rådgivende ingeniører innen alle ingeniør- og spesialfag i prosjektet, og prosjektet er modellert i BIM.

Nye Hamar Kulturhus

15.500 m² inneholder bl.a. konsert-/teatersal, en rekke øvingssaler, 2 kinoer, café og bibliotek. Norconsult har utført byggeteknisk og elektroteknisk rådgivning. Kulturhuset har spesiell geometri og dermed så kompliserte bærekonstruksjoner at vår avdeling for spesielle konstruksjoner ble engasjert. De IKT- og elektrotekniske installasjonene er svært omfattende og ble prosjektert med hensyn på fleksible løsninger.

Vi tilbyr tjenester innenfor:

- Boliger
- Hoteller
- Kjøpesentra
- Kontorbygg
- Kulturbygg
- Sportsarenaer
- Sykehus og institusjonsbygg
- Undervisningsbygg



arbeidsoppgaver relatert til både prosjektering og anbudsutarbeidelse av tunnel- og ledningsanlegg fra Bjørvika og Grünerløkka til Bekkelaget Renseanlegg. Arbeidet har omfattet flere entrepriser. Oppdraget har inkludert utarbeidelse av tiltaksplaner for forurenset grunn, miljøoppfølgingssplaner, prosjektering av fisketrapp, miljørisikoanalyser, mudringstillatelser, myndighetskontakt og anleggsoppfølging.

Jernbanetomta Lillestrøm

Planlagt utbygging av Jernbanetomta på Lillestrøm i Skedsmo kommune detaljreguleres. Planområdet ligger i umiddelbar nærhet til Lillestrøm jernbanestasjon, som er blant de største knutepunktene for kollektivtrafikk i østlandsområdet og avgrenses ellers av veisystemer. Fremtidige planer omfatter både hotellvirksomhet, kontorer og boliger. Norconsult har gjennomført støykartlegging, samt trafikk- og ROS-analyse for fremtidig bebyggelse. Den sentrale beliggenheten med hensyn på både veg og bane gir støyinnfall fra flere sider, noe som forutsetter at det er lagt stor vekt på å finne planløsninger som ivaretar stille side utenfor støyfølsomme rom og skjermet uteplass i henhold til grenseverdier fra Miljøverndepartementets støyretningslinje.

Vi tilbyr tjenester innenfor:

- Akustikk/støy
- Akutt forurensning
- Avfall og avfallshåndtering
- Forurensning av vann, grunn og sedimenter
- Miljøoppfølging og miljørådgivning i prosjekter
- Hydrogeologi
- Klimatilpasning og klimaendringer
- Luftforurensning og luft
- Miljøkartlegging og miljøsanering av bygninger

MILJØ

Luftsonekart for Drammen kommune

Norconsult har utarbeidet luftsonekart for Drammen kommune i henhold til Retningslinje for behandling av luftkvalitet i arealplanlegging (T-1520). Kartet brukes ved arealplanlegging, og er et nødvendig verktøy ved etablering av sykehus, barnehager og andre reguleringsformål som er spesielt følsomt for luftforurensning.

For Drammen kommune har Norconsult modellert utslipp og spredning av luftforurensning fra vegnettet, utslipp fra tunnelmunninger samt utslipp fra energisentraler og industri. Beregningsresultatene er presentert på kart og som kartlagt i SOSI-format, til bruk ved utarbeidelse av temakart. Drammen kommune er en av de første kommunene i Norge som har utarbeidet luftsonekart etter T-1520.

Midgardsormen

Vann- og avløpsetaten i Oslo kommune arbeider med et av tidenes største VA-prosjekter i Norge; Midgardsormen. Norconsult har utført forstudie, forprosjekt og detaljprosjektering med miljørådgivning i alle faser. Innen ytre miljø har Norconsult utført



VANN OG AVLØP

Ny DN600 mm vannledning i Kristen Flagstadsvei

Norconsult har hatt prosjektledelse, detaljprosjektering, beskrivelse, byggeledelse og SHA-ansvar for ny DN600 mm vannledning i Kristen Flagstadsvei (Vågsbygd i Kristiansand kommune). Arbeidet omfatter prosjektering av ny ledningstrase, med grensesnitt mot eksisterende kabler, ledninger og fjernvarme. Det er også gjort vurderinger for opprettholdelse av trafikk på viktig kollektivakse for rutebusser i Kristen Flagstadsvei, i hele anleggsfasen.

Detaljprosjekt for Teglverksdammen

Norconsult har prosjekteringsledelse og alle fag bortsett fra landskapsarkitekt og spesialarbeider knyttet til naturbasert rensing/vannplanter. Totalkostnadene for hele prosjektet er beregnet til ca. 90 millioner kroner. Arbeidene omfatter detaljprosjektering og oppfølging i byggeperioden for Teglverksdammen. Byggearbeidene starter i mai 2014 og pågår til høsten 2015. Teglverksdammen blir Oslo's hittil største naturbaserte rensedam for overvann og skal kunne håndtere inntil 700 l/s uttatt fra Hovinbekken som i dag ligger lukket i kulvert.

Ensjøprosjektet - Tiedemannsparken

Norconsult har prosjekteringsledelse og alle fag bortsett fra landskapsarkitekt arbeider for gater, parker, all teknisk infrastruktur og åpning av Hovinbekken gjennom Ensjø. Transformasjonen av området som tidligere var kjent som «bilby» i Oslo er i full gang til boligby med tilhørende forretning/kontor, parkområder og fremtidsrettede overvannsløsninger. I løpet av 2013 ble Tiedemannsparken ferdigstilt bygget med tilhørende åpning av en liten del av en gjenåpnet Hovinbekk.

Eidsberg kommune – Store nyanleggelser

På Hærland i Eidsberg kommune utvider Nortura AS sitt anlegg. Kommunen forventer også en fremtidig befolkningsvekst, nyetablering av annen industri og vekst i næringslivet. I samarbeid med Eidsberg kommune og nabokommuner har Norconsult derfor på vannsiden kommet fram til løsningen "Storsystemet" som knytter regionen sammen med gjensidig vannforsyning. Norconsult prosjekterer utvidelse av vann og avløpsanleggene, dvs vannkilde, vannbehandlingsanlegg, transportanlegg, høydebasseng og avløpsrenseanlegg. Avløpssystemene tilrettelegges for overføring av avløpsvann fra Skjønhaug renseanlegg i Trøgstad til Mysen renseanlegg.

Vi tilbyr tjenester innenfor:

- Avløp
- Overvannshåndtering
- Vannforsyning
- Vannressursforvaltning
- Koordinert teknisk infrastruktur



INDUSTRI

Norconsult hadde i 2013 oppdrag innen alle industri typer. Vi har hatt løpende oppdrag innen gruvedrift, smelteverk og aluminiumverk hos store virksomheter som Sydvaranger Gruve, Elkem, TIZIR (Tysseidal), Wacker, Finnfjord og Hydro. I tillegg jobber vi med annen prosess- og produksjonsindustri. Noen eksempler på gjennomførte prosjekter er:

Nr 1 trykk, Biri

For Industribygg AS har Norconsult deltatt ved prosjektering og oppfølging av nytt trykkeribygget med papirlager, pressehall og pakkeri for Nr 1 trykk. Samlet areal utgjør 5.600 m². Bygget har omfattende tekniske anlegg for luftbehandling, fuktkontroll og kjøling. Norconsult har bistått med rådgiving innen brannteknikk, VVS og elektrofag.

Takeda Nycomed Asker

Norconsult har bistått ved energikartlegging og forslag til energisparende tiltak ved driften av Takeda Nycomeds legemiddelfabrikk i Asker. Fabrikken har et årlig energiforbruk på ca 16 GWh. Totalt ble det identifisert rundt 40 tiltak. Det er estimert at gjennomføring av de foreslåtte tiltakene vil gjøre at Takeda Nycomed fabrikkene kan eliminere behovet for oljefyring.

Takeda Nycomed har iverksatt ni av tiltakene i løpet av 2013, og det er satt opp en prioriteringsliste for ytterligere 20 av tiltakene.

Norsk Spesialolje AS

På Rønningen i Bamble har Norsk Spesialolje etablert nytt tanklager og behandlingsanlegg for oljeforurensete avfalls- og restprodukter. Restproduktene gjennomgår en forbehandling før re-rafinerings til smøreoljer. Tanklageret er etablert inne på Ineos sin industripark med tilknytning til parkens hjelpesystemer. Norconsult har vært engasjert i forprosjekt og detaljprosjektering av tomteopparbeidelse samt bygg- og mekaniske entrepriser. Videre har Norconsult utført myndighetssøknader/-oppfølging, teknisk oppfølging av samtlige entrepriser og byggeledelse av grunn- og byggenreiser.

Vi tilbyr tjenester innenfor:

- Aluminiumsverk
- Avfallsbehandlingsanlegg
- Farmasøytisk industri
- Næringsmiddelindustri
- Gruveindustri
- Petrokemisk industri
- Sementindustri
- Skipsverft
- Smelteverk
- Solar industri
- Treforedlingsindustri

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adresser

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Norway

Your ref.:
Jonas Ådnøy Holmqvist

Our ref.:
John Nyheim

Date:
2014-05-13

Norconsult's role in Sarawak, Malaysia

Referring your letter regarding the above, at this time Norconsult has been engaged on a consultancy contract basis to provide technical and engineering services only to Sarawak Energy Bhd (SEB) through its subsidiary in Malaysia, NorPower Sdn Bhd.

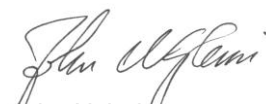
In line with Norconsult's procedures, an integrity due diligence evaluation was performed on our client, SEB (as well as all sub-contractors engaged by Norconsult in Sarawak). The results of this evaluation of SEB show that the company has not been convicted on any allegations of corruption or malpractice in the past and that there is no ongoing or pending litigation.

Further, Norconsult notes that Sarawak Energy Bhd has signed the *Hydropower Sustainability Protocol*, and is also represented in the Board of the organisation together with Norwegian actors such as Statkraft and SN Power. *The Hydropower Sustainability Protocol* is a comprehensive tool to assess the sustainability of hydropower projects, which was developed with representatives not only from the hydropower sector, but also from civil society including The Nature Conservancy, Transparency International and World Wildlife Fund. The Norwegian Agency for Development Cooperation (Norad) and the Norwegian Water Resources and Energy Directorate (NVE) have also been key contributors in the development of the *Hydropower Sustainability Protocol*.

The Norconsult Group is also a member of the International Hydropower Association and seeks to promote *the Hydropower Sustainability Protocol* as a tool to safeguard people, communities and biodiversity in the development of hydropower projects.

We hope that our response clarifies Norconsult's engagement in Sarawak for you. As any professional actor in the consulting sector, Norconsult does not disclose information concerning client relations to other external actors. We also do not take part in such discussions in public and, therefore, regret to inform you that Norconsult will not meet with your delegation from Sarawak next week.

Yours Sincerely
Norconsult AS



John Nyheim
CEO & President

Use LiVE in your daily work.

The principles and values
address your challenges.

They will help you to make
the good decisions

LiVE every moment

The principles for
Leadership, Values and Ethics
in Norconsult



LiVE is the Norconsult way.
It is how we work with our colleagues.
It is how we work with our customers.
It is how we interact in society.
It is how we succeed.



Photo: Colourbox



**stands for
LEADERSHIP**

Great leadership creates results by setting goals, managing resources and contributing to work satisfaction.





The principles to LiVE by

Take and give RESPONSIBILITY

Show COURAGE

Be VISIBLE and DISTINCT

RECOGNISE your colleagues

LiVE the values

LEADERSHIP

Take and give **RESPONSIBILITY**

Leaders who take and give responsibility stand firm in their area of responsibility and see the whole picture. They demonstrate confidence in their staff, delegate tasks and give freedom with responsibility. They involve and support their staff.

LEADERSHIP

Show **COURAGE**

Leaders who show courage take action as required and lead the way. They are prepared to handle difficult situations and dare to challenge accepted truths.

LEADERSHIP

Be **VISIBLE** and **DISTINCT**

Visible leaders are hands-on and close to business and profession. They are present, available and trustworthy. Distinct leaders communicate goals, tasks and expectations clearly. They provide specific and unambiguous feedback. They are well informed and convey relevant information.



Photo: Colourbox

LEADERSHIP

RECOGNISE your colleagues

Leaders who recognise their colleagues understand what motivates each individual. They promote and accompany career and professional development. They demonstrate respect, a willingness to listen and empathy.

LEADERSHIP

LiVE the values

Leaders who live the values use LiVE as the foundation of their leadership. They are committed to always lead by example. They actively use LiVE in engagement with their staff.



stands for
VALUES

Our attitude drives our results. In order to reach our goals, we have a set of core values which influence our behaviour and attitude.



The background of the entire slide is a close-up photograph of a tree trunk's cross-section, showing concentric growth rings in shades of light to dark brown. The rings are most distinct in the upper left quadrant and become more blurred and wavy towards the bottom right.

The values to LiVE by

Honest

Competent

Inclusive

Engaged

VALUES

Honest

We live by our Code of Ethics and act honestly in all matters to the benefit of society, our clients and ourselves.

VALUES

Competent

We constantly strive to enhance our knowledge and skills in order to deliver the best professional quality.

VALUES

Inclusive

We create results through positive interaction among people and approach everyone with respect and openness. By sharing knowledge and experiences we are able to solve tasks as one team.



Photo: Colourbox

VALUES

Engaged

Norconsult behavior is proactive. Through our engagement and commitment to innovation, we are at the forefront. Through our personal commitment we take responsibility for the development of our own skills.



Photo: Colourbox

E

stands for
ETHICS

In Norconsult we are ethically aware and act accordingly. By being ethically aware we make good and sustainable decisions that demonstrate integrity in everything we do.



A close-up photograph of a single yellow maple leaf with a prominent central vein and several side veins. The leaf is set against a dark, almost black background that is covered in numerous small, glistening water droplets. The lighting is soft, highlighting the texture of the leaf and the individual droplets. A white rectangular box is overlaid on the upper right portion of the image, containing text.

The principle to LiVE by
All our behaviour shall be able
to withstand PUBLIC SCRUTINY

ETHICS

All our behaviour shall be able to withstand PUBLIC SCRUTINY

Remember to do “the media test”.
Ask yourself and maybe your colleagues as well: “Is it OK if this is going to make headlines?” The answer should always be a sound and clear “yes”.



Bruk LiVE i ditt daglige arbeid.

Prinsippene og verdiene setter fokus på utfordringene dine.

De hjelper deg til å ta de gode valgene.

LiVE every moment

Prinsipper for
Ledelse, Verdier og Etikk
i Norconsult



LiVE er Norconsult-måten.
Det er hvordan vi samarbeider
med kollegaene våre.
Det er hvordan vi samarbeider
med kundene våre.
Det er hvordan vi forholder oss
til samfunnet.
Det er hvordan vi lykkes.



L

står for
LEDELSE

God ledelse skaper
resultater gjennom å
sette mål, styre ressurser
og bidra til arbeidsglede.

Hold prinsippene i LiVE

Ta og gi ANSVAR

Vis MOT

Vær SYNLIG og TYDELIG

SE dine medarbeidere

LEV verdiene



LEDELSE

Ta og gi ANSVAR

Ledere som tar og gir ansvar står stødig i eget ansvarsområde og ser helheten. De viser tillit, delegerer oppgaver og gir frihet under ansvar. De involverer og støtter aktivt sine medarbeidere.

LEDELSE

Vis MOT

Ledere som viser mot er handlekraftige og viser vei. De tar tak i vanskelige situasjoner og våger å utfordre etablerte sannheter.

LEDELSE

Vær **SYNLIG** og **TYDELIG**

Synlige ledere er tett på der ting skjer. De er til stede, tilgjengelige og til å stole på. Tydelige ledere kommuniserer tydelig mål, oppgaver og forventninger. De gir konkrete og tydelige tilbakemeldinger. De er godt orientert og formidler relevant informasjon.



Foto: Colourbox

LEDELSE

SE dine medarbeidere

Ledere som ser sine medarbeidere forstår hva som motiverer den enkelte. De fremmer og følger opp både karrieremessig og faglig utvikling. De viser respekt, er lydhøre og empatiske.

LEDELSE

LEV verdiene

Ledere som lever verdiene baserer sitt lederskap på LiVE. De er bevisste på alltid å gå foran med et godt eksempel. De bruker LiVE aktivt i dialog med egne medarbeidere.



**står for
VERDIER**

Våre holdninger påvirker våre resultater. For å nå målene våre har vi et sett med kjerneverdier som påvirker holdningene og adferden vår.



Hold verdiene i LiVE

Redelig

Kompetent

Inkluderende

Engasjert

VERDIER

Redelig

Vi etterlever våre etiske retningslinjer og opptrer redelig i alle forhold til beste for samfunnet, våre oppdragsgivere og oss selv.

VERDIER

Kompetent

Vi jobber hele tiden med å utvikle vår kunnskap og våre ferdigheter slik at vi leverer den beste faglige kvaliteten.

VERDIER

Inkluderende

Vi skaper resultater gjennom positiv samhandling mellom mennesker og møter alle med respekt og åpenhet. Vi deler kunnskap og erfaringer slik at vi evner å løse oppgaver i felleskap.



Foto: Colourbox

VERDIER

Engasjert

I Norconsult er vi framoverlente. Gjennom vårt felles engasjement og vår evne til nytenkning ligger vi i forkant. Gjennom vårt personlige engasjement tar vi ansvar for utviklingen av egen kompetanse.



Foto: Colourbox

E

**står for
ETIKK**

I Norconsult er vi etisk bevisste og etisk handlende. Gjennom å være etisk bevisste tar vi gode og bærekraftige valg som viser integritet i alt vi gjør.



Hold prinsippet i LiVE
Alt vi gjør skal tåle
OFFENTLIGHETENS LYS

ETIKK

Alt vi gjør skal tåle **OFFENTLIGHETENS LYS**

Husk å ta «mediatesten». Spør deg selv og gjerne også kollegaene dine: «Er det OK at dette blir omtalt i media?» Svaret skal alltid være et tydelig «ja».



Norconsult

Code of Ethics



The principles for Leadership, Values and Ethics in Norconsult



LEADERSHIP

Take and give **RESPONSIBILITY**

Leaders who take and give responsibility stand firm in their area of responsibility and see the whole picture. They demonstrate confidence in their staff, delegate tasks and give freedom with responsibility. They involve and support their staff.

Show **COURAGE**

Leaders who show courage take action as required and lead the way. They are prepared to handle difficult situations and dare to challenge accepted truths.

Be **VISIBLE** and **DISTINCT**

Visible leaders are hands-on and close to business and profession. They are present, available and trustworthy. Distinct leaders communicate goals, tasks and expectations clearly. They provide specific and unambiguous feedback. They are well informed and convey relevant information.

RECOGNISE your colleagues

Leaders who recognise their colleagues understand what motivates each individual. They promote and accompany career and professional development. They demonstrate respect, a willingness to listen and empathy.

LiVE the values

Leaders who live the values use LiVE as the foundation of their leadership. They are committed to always lead by example. They actively use LiVE in engagement with their staff.

VALUES

Honest

We live by our Code of Ethics and act honestly in all matters to the benefit of society, our clients and ourselves.

Competent

We constantly strive to enhance our knowledge and skills in order to deliver the best professional quality.

Inclusive

We create results through positive interaction among people and approach everyone with respect and openness. By sharing knowledge and experiences we are able to solve tasks as one team.

Engaged

Norconsult behavior is proactive. Through our engagement and commitment to innovation, we are at the forefront. Through our personal commitment we take responsibility for the development of our own skills.

ETHICS

All our behaviour shall be able to withstand **PUBLIC SCRUTINY**

Remember to do "the media test". Ask yourself and maybe your colleagues as well: "Is it OK if this is going to make headlines?" The answer should always be a sound and clear "yes".

INDEX

- 04** — **Introduction from the CEO**
- 06** — **Scope and responsibility**
- 08** — **1. Our Community**
 - 1.1. Human rights
 - 1.2. Working conditions
 - 1.3. Health, safety and employee security
- 09** — **2. Our Relationships**
 - 2.1. Environment
 - 2.2. Clients
 - 2.3. Suppliers
 - 2.4. Use of intermediaries
 - 2.5. Fair competition and anti-trust legislation
 - 2.6. Politics and religion
- 11** — **3. Integrity and conflicts of interest**
 - 3.1. Corruption and bribery
 - 3.2. Money laundering and fraud
 - 3.3. Conflicts of interest
 - 3.4. Gifts and benefits
 - 3.5. Nepotism and Cronyism
 - 3.6. External engagements
 - 3.7. Confidentiality
 - 3.8. Public information, communication and media
- 14** — **4. Our Assets**
 - 4.1. Internal controls and authorities
 - 4.2. Assets and intellectual property
 - 4.3. Accounting and financial reporting
- 15** — **5. Implementation and monitoring**
 - 5.1. Integrity due diligence
 - 5.2. Dilemma training
 - 5.3. Reporting
 - 5.4. Sanctions

Introduction from the CEO



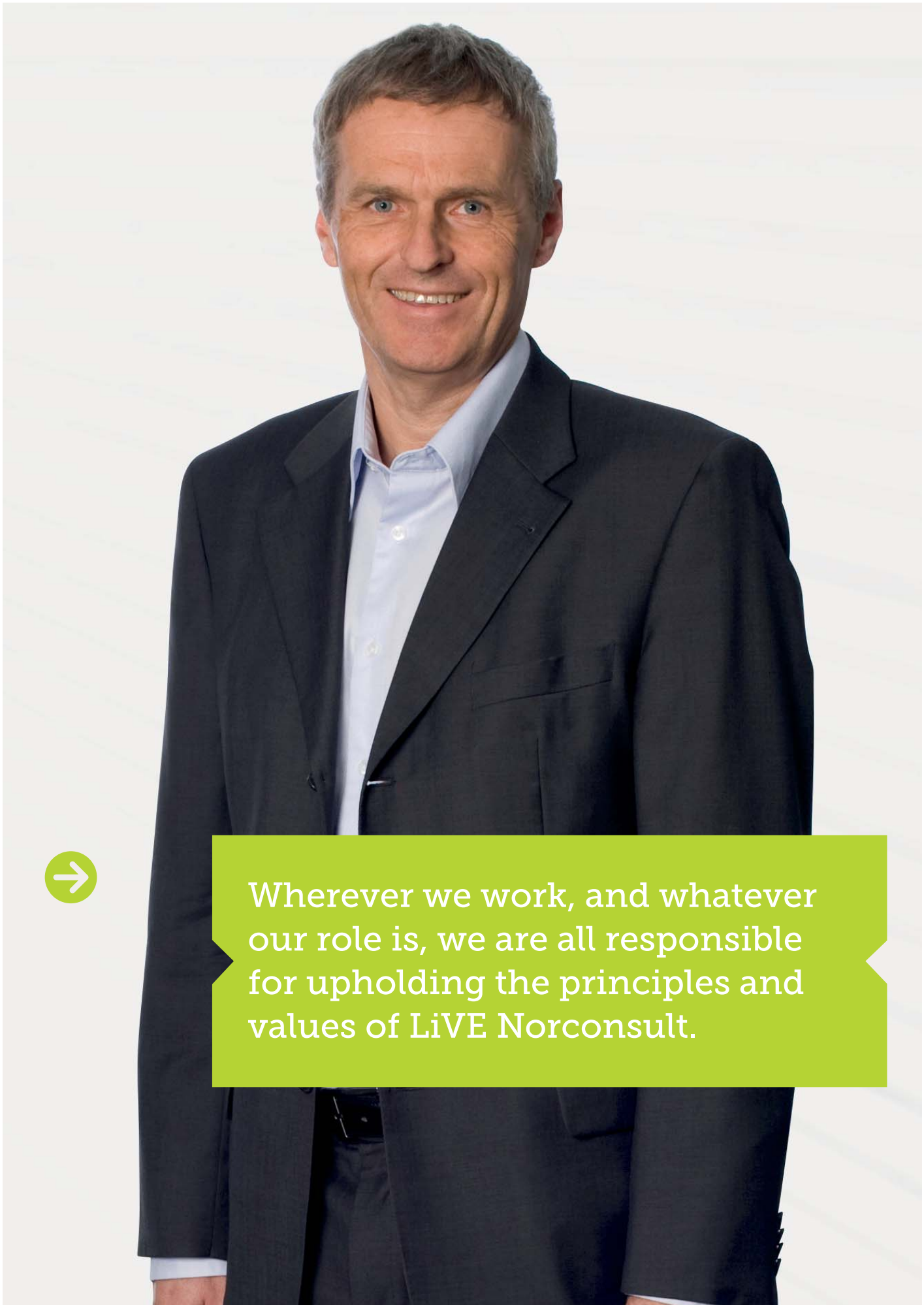
Norconsult is an influential actor in the fields of regional planning and project planning. In order to continue to be able to operate a successful and sustainable business, it is vital that we retain the trust and strong reputation that we have built up through our strong corporate culture of competent consultancy and ethical conduct.

Our Code of Ethics reflects applicable legislation. Nevertheless, ethics involves more than matters established in laws and regulations: ethical conduct is just as much about attitudes and making sound judgements and good decisions when faced with ethical dilemmas. The cultural platform LiVE Norconsult describes our principles for Leadership, Values and Ethics, which represent the foundation of our Code of Ethics. Any breach of our Code of Ethics threatens both our competitiveness and the reputation of the company. Wherever we work, and whatever our role is, we are all responsible for upholding the principles of LiVE Norconsult. Our rule of thumb for ethics states that all our behaviour shall be able to withstand public scrutiny.

Being an employee of Norconsult involves both a requirement of integrity and an obligation to act ethically. This Code of Ethics is designed to guide us on how to react and behave in situations of doubt. I expect all employees to familiarise themselves with our Code of Ethics, and to actively reflect on the ethical dilemmas we may face in our business, and on what is acceptable and ethical behaviour. Please feel free to discuss specific and potential ethical dilemmas with your colleagues or line manager.

Yours sincerely,

Per Kristian Jacobsen
President & CEO



Wherever we work, and whatever our role is, we are all responsible for upholding the principles and values of LiVE Norconsult.

Scope and responsibility



This Code shall apply to the Norconsult Group, including any subsidiary in which Norconsult Holding AS, directly or indirectly, owns more than 50 per cent of the voting shares, or in which the power of control is possessed and exercised by or on behalf of Norconsult Holding AS. The Code of Ethics shall apply globally for all employees, permanent and temporary, and regardless of position. This also includes all members of the Boards of Directors in the Norconsult Group (hereafter "Norconsult"), and shareholders. Affiliated companies and Norconsult's business partners are expected to be committed to ethics and integrity compliance in the conduct of their business operations, and will be monitored accordingly.

The Code of Ethics is a governing document, and part of Norconsult's management system. It defines the ethical standards upon which we shall act.

This Code of Ethics does not provide detailed guidance on any specific situation, or give instructions on how to comply with local legal requirements in the many differ-

ent countries in which Norconsult operates. It provides a framework of conduct to be followed when representing Norconsult, and as such influences how to think about what we should and should not do. Managers on all levels at Norconsult are responsible for familiarising their employees with the Code of Ethics, and implementing and ensuring compliance with it.

Employees shall comply with all applicable laws and regulations. If there are differences between such laws and regulations and the standards set out in this Code of Ethics, the most stringent standard shall be applied.

In situations of doubt or if this Code does not provide explicit guidance, consult with your immediate superior.

Enquiries about the Code of Ethics, how it should be interpreted and applied can be directed to your immediate superior, applicable staff functions or the Norconsult Group Compliance Officer (as described in 5.3).



1. Our community



1.1 Human rights

All people are equal and entitled to be recognised and treated with respect and dignity. Norconsult supports and respects the promotion of internationally proclaimed human rights, such as the United Nations' Universal Declaration of Human Rights. At Norconsult, all relationships and business practices are to be founded on basic human rights and a recognition and acceptance of diversity. Inclusive and honest are among Norconsult's core values. All employees shall respect the personal dignity, privacy and rights of all those with whom they interact.

If employees suspect or are aware of conduct in breach of Norconsult's standards regarding human rights, they shall notify their immediate superior, in accordance with the routine for reporting concerns.

1.2 Working conditions

Norconsult shall be a safe workplace with an inclusive working environment. Norconsult upholds freedom of association and recognises the right to collective bargaining in accordance with national laws and regulations. Norconsult supports the elimination of all forms of child, forced and compulsory labour. Norconsult does not tolerate any form of harassment, discrimination or intimidation.

Employees of Norconsult shall never contribute to, perform or experience negative discrimination based on any status, mental or sexual harassment, language or physical

contact that is coercive, threatening, abusive or exploitative. If employees suspect or are aware of conduct in breach of Norconsult's standards regarding working conditions, they shall notify their immediate superior in accordance with the routine for reporting concerns.

1.3 Health, safety and employee security

Norconsult will conduct its business with the highest regard for the health, safety and security of all employees. Norconsult is committed to maintaining a working environment that is safety-conscious and a work-force that is properly equipped, trained, aware of, and compliant with safety and health requirements and guidelines. With a continuous focus on identifying risks, potential accidents and non-conformances, and investigating their causes, hazards shall be identified, mitigated and monitored to prevent accidents, occupational illnesses and deliberate threatening or violent actions in or resulting from Norconsult's business operations.

All employees are responsible for ensuring that occupational risks relating to assignments and tasks are identified, evaluated and documented. Relevant measures and controls to reduce occupational risk shall be identified, implemented and documented in a verifiable manner. It is the duty of each and every employee to notify their immediate superior of any concerns that may threaten the health, safety and the security of employees.

2. Our relationships



2.1 Environment

Norconsult is a key player in the regional and the national communities in which the Group is represented. Our activities may pose challenges to the environment through our consultancy, and also in our business operations. Norconsult is committed to exercising care and responsibility for the environment.

All employees are responsible for ensuring that the environmental impact of our activities is minimised. Environmental impact shall be assessed in our assignments, and employees are responsible for recommending sustainable solutions.

2.2 Clients

Our clients place trust in our competence and consultancy to support their value creation and success. Norconsult's business mission is to stand out as the first choice in the consultancy sector. However, no client is more important than the ethics, integrity and reputation of Norconsult. Employees of Norconsult are responsible for providing quality services that reflect our professional and interdisciplinary competence, and are appropriate and tailored to the specific issues and needs of our clients.

Employees of Norconsult shall meet and treat clients in a consistent way, working together to achieve the best solutions and acting as ambassadors for our core values: Honest, Inclusive, Competent and Engaged.

2.3 Suppliers

Suppliers comprise both individuals and companies that have their own organisation and routines, and are engaged by Norconsult to further enhance our ability to provide products and services to our clients. Norconsult expects its suppliers to be committed to ethics, and to comply with other integrity requirements established in the terms and conditions of contracts with Norconsult. This is particularly important because Norconsult may be associated with and held liable for the conduct of its suppliers. Suppliers shall be treated fairly and equally by Norconsult. In competition for contracts with Norconsult, all suppliers shall be confident that the selection process is predictable, equitable, transparent and verifiable.

Employees of Norconsult are responsible for ensuring that established guidelines and procedures are followed in the selection of suppliers. If employees suspect or are aware of supplier conduct in breach of Norconsult's Code of Ethics, they shall notify their immediate superior, in accordance with the routine for reporting concerns.

2.4 Use of intermediaries

Intermediaries comprise agents, sales representatives and other parties who act as links to third-parties in Norconsult's business activities. Corruption can sometimes occur when companies use intermediaries to obtain public and private sector business or influence public or private sector actions on their behalf. Norconsult and its employees





may be accountable if an illegal payment is made by an intermediary on behalf of Norconsult. It is preferred that intermediaries are not engaged. In some situations, however, it may be deemed necessary. In these instances, Norconsult will only engage intermediaries who apply the same standards of business conduct as Norconsult, whether in interaction with private sector clients, or government officials.

Employees of Norconsult shall obtain written approval from the relevant Managing Director, Executive Vice President or the Norconsult Group Compliance Officer for use of an intermediary. Furthermore, all requirements established in the Norconsult Group Procedure for use of Intermediaries shall be satisfied and employees of Norconsult shall document this. Employees shall consult with their immediate superior or Compliance Officer if they are in any doubt or if conduct in breach of Norconsult's standards is suspected.

2.5 Fair competition and anti-trust legislation

Fair competition is important to society and creates a sound business environment. Norconsult's competitiveness in the market shall be based on providing the best interdisciplinary consultancy services. Employees of Norconsult shall treat competitors in an honest and professional manner, and act with caution to ensure that competition laws and regulations, for example regarding market sharing or co-operation on pricing, are not violated.

2.6 Politics and religion

Political and religious contributions are contributions of anything of value to support a political or religious goal. Contributions to industry associations or fees for memberships of organisations that serve business interests are not political contributions. Norconsult does not take political positions or associate itself with any religions or specific political movements. Norconsult does not make contributions to political parties, individual politicians or organisations directly affiliated with religions or political parties.

The political sympathies, religious affiliations and membership in groups, teams or associations of employees of Norconsult are irrelevant to the company. Employees of Norconsult are free to participate in religious and political activities on their own behalf without reference to Norconsult or their employment with Norconsult. Employees of Norconsult are expected to act impartially in their work and conduct on behalf of Norconsult. Furthermore, employees of Norconsult are expected to demonstrate loyalty to the company and not to damage Norconsult's reputation, whether in private or at work.

3. Integrity and conflicts of interest



3.1 Corruption and bribery

Corruption is the willingness to act dishonestly, and the abuse of entrusted power in return for money or personal gain. Corruption is a threat to business and to society as a whole, and Norconsult exercises zero tolerance towards all types of corruption.

Employees of Norconsult shall never accept or offer a bribe, kickback or facilitation payment. Knowing, or having reason to know about prohibited payments, are also considered violations of the Code of Ethics if these are not immediately reported to your immediate superior and the Norconsult Group Compliance Officer. A bribe is an offer, a promise or any undue pecuniary or other advantage given, whether directly or through intermediaries, attempting to influence a decision to obtain or retain business or other improper advantage. A kickback is a form of negotiated bribery in which a commission, or a portion of the improper advantage, is paid to the party receiving the bribe in return for services rendered. Both a bribe and a kickback can take the form of non-monetary payments of anything of value, such as purchases at inflated prices and unreasonable entertainment. A facilitation payment is a small payment made to lower-level government or private sector employees, as a personal benefit to them, to secure or speed up the performance of a routine action which it is their duty to perform regardless of the payment. Facilitation payments are a form of corruption and are strictly prohibited.

Employees of Norconsult shall notify their immediate superior immediately if a payment is made that could be misinterpreted as a facilitation payment to ensure that such payments are properly documented and posted to the correct accounts. If a payment is demanded from you in order to avert an immediate threat to the life or health of any person, such payments are not prohibited, but must immediately be reported to your immediate superior and Norconsult Group Compliance Officer.

3.2 Money laundering and fraud

Money laundering is a process whereby the identity and origin of illegally obtained money, such as bribes, are concealed or disguised. Fraud is the use of deception, trickery and breach of confidence to gain some unfair or dishonest advantage. Norconsult exercises zero tolerance towards all forms of money laundering and fraud.

Employees of Norconsult shall act and conduct business activities in compliance with relevant laws and regulations, and using funds from legitimate sources. If employees suspect or are aware of conduct in breach of Norconsult's standards regarding money laundering and fraud, they shall notify their immediate superior or Compliance Officer, in accordance with the routine for reporting concerns.





3.3 Conflicts of interest

A conflict of interest exists when a party has professional obligations or personal or financial interests that could influence the objective exercise of her/his duties. Service to or from Norconsult shall never be subordinate to personal gain or advantage for any employee of Norconsult.

Norconsult employees shall not attempt to gain unfair advantages for Norconsult, themselves, friends or relatives. It is not permitted to take part in or attempt to influence decisions if this could lead to a conflict of interest, or if this could be interpreted as a conflict of interest. Employees of Norconsult who realise that a potential and unacceptable conflict of interest may arise, shall notify their immediate superior, in accordance with the routine for reporting concerns.

3.4 Gifts and benefits

Gifts and benefits include services, financial benefits or other privileges, and material things of value that are given, offered, solicited or received. The distinction between acceptable gifts, benefits, courtesies and corruption can be difficult to draw. Norconsult is committed to making business decisions objectively and solely on the basis of factors supporting fair competition. All gifts, benefits and courtesies offered or received with an obligation to provide any benefit or improper advantage in return, are prohibited at Norconsult.

Employees of Norconsult shall not offer or accept any cash, cash equivalents, or expensive and excessive gifts and courtesies. Employees of Norconsult are permitted to receive modest gifts, but are urged to reflect upon whether receiving an offered gift will withstand public scrutiny. Employees of Norconsult shall consult with, and notify their immediate superior or Compliance Officer immediately if they are in any doubt or if conduct in breach of Norconsult's standards is suspected.

3.5 Nepotism and Cronyism

Nepotism is favouritism shown to family members without regard to merit or qualification. Cronyism is the same shown to close friends. Norconsult is firmly opposed to nepotism and cronyism.

Employees of Norconsult shall not let personal relations affect decision-making processes, such as recruitment processes, and shall be responsible for evaluating their own independence in such processes. Employees of Norconsult shall consult with, and notify their immediate superior or Compliance Officer if they are in any doubt or if conduct in breach of Norconsult's standards is suspected.

3.6 External engagements

External engagements include positions, tasks, commissions, and memberships with or in other companies, entities, associations or organisations. Engagements in external positions by employees may be in conflict with or impair Norconsult. Any external engagements taken on by Norconsult employees must never become a hindrance to their ability to carry out duties and functions as Norconsult employees or undermine trust in Norconsult.

Employees of Norconsult shall not engage in activities that adversely affect or are in competition with Norconsult. It is the duty of each and every employee of Norconsult to inform their immediate superior of existing or potential external engagements that may have an impact on their work ability and capacity. When external engagements have an impact on an employee's work ability and capacity, prior written approval shall be obtained from the employee's immediate superior.

3.7 Confidentiality

Confidentiality is a set of rules or a commitment that limits access to or places restrictions on use or dissemination of certain types of information. At Norconsult, confidentiality

requirements shall be regulated in employment contracts and in assignment contracts. Norconsult shall never disclose information received, produced or processed when this relates, for example, to intellectual property rights, technical- or business-sensitive or personal information, and there is a contractual obligation or other legitimate interest in avoiding the spread of information. Norconsult shall protect all information in a professional manner, and as specified in contractual agreements.

Employees of Norconsult shall maintain professional secrecy regarding all information received, produced or processed in the course of their work. This includes being careful when discussing, transmitting or storing information under conditions or circumstances where information can be disclosed to unauthorised persons. Professional secrecy shall be respected after the period of employment in Norconsult is terminated.

3.8 Public information, communication and media

Public information comprises information disclosed to employees, stakeholders and the public. Media includes mass communication channels such as newspapers, periodicals, television, radio and social media.

All internal and external information from Norconsult shall be verifiable and correct and be based on high professional and ethical standards. When it is in Norconsult's interest, Norconsult may participate in public debate. Only employees who are expressly authorised to do so may communicate with the media.

All employees of Norconsult engaged in producing or publishing public information are responsible for ensuring that the information is verifiable and correct. Employees of Norconsult who discover or suspect inaccurate or false information shall notify their immediate superior, according to the routine for reporting concerns.

4. Our Assets



4.1 Internal controls and authorities

Internal controls, including the authority to commit and represent Norconsult, are instruments that shall ensure that risks are minimised in business operations and processes, and ensure that these are run effectively. At Norconsult, decisions shall be made at the correct level in accordance with the applicable stipulated authorisation.

An employee may only commit Norconsult if he/she is specifically authorised to do so and must always comply with the framework of authorisation. Internal controls are a management responsibility, but each and every employee is responsible for following established procedures and guidelines. Employees of Norconsult shall consult with their immediate superior if they are in any doubt about their conduct.

4.2 Assets and intellectual property

All that is owned and controlled by Norconsult and which is held to create positive economic value are the properties and assets of Norconsult. Intellectual property comprises all professional creations conceived by employees of Norconsult, past and present.

Competent is one of Norconsult's core values, and our main competitive advantage lies in our ability to apply our professional and interdisciplinary expertise to our client's specific needs. Norconsult shall safeguard this ability by

restricting unauthorised access to and use of time, financial assets, facilities, materials and intellectual property.

Employees shall protect the assets and intellectual property of Norconsult against loss, damage and abuse. In particular, information, IT systems and Internet services shall be utilized in the best interests of Norconsult, and not for personal purposes. This includes utilisation of social media during working hours. Employees of Norconsult shall not violate the intellectual property of others.

4.3 Accounting and financial reporting

Accounting and financial reporting comprises the production of information that is reliable, transparent, consistent and timely about the economic resources under Norconsult's control, and the financial activities of Norconsult. Norconsult's accounting processes and annual financial reports shall be in accordance with the Norconsult Group Accounting Principles, and relevant laws and regulations.

Employees of Norconsult shall follow the Norconsult Group Accounting Principles when carrying out financial transactions, accounting and reporting processes, and register transactions with proper documentation to ensure that these are fully and correctly recorded.

5. Implementation and monitoring

5.1 Integrity due diligence

Integrity due diligence comprises research into the background, reputation, qualifications and conduct of a party with regard to laws, regulations and Norconsult's ethical standards.

Norconsult shall perform integrity due diligence to ensure that the Group is not at risk of exposure to unwanted costs, reputational loss or criminal liability. Norconsult shall avoid dealing with contractors, suppliers and other business partners known to be, or reasonably suspected of, engaging in misconduct, except in cases where appropriate mitigating actions are put in place.

Employees of Norconsult shall perform and document integrity due diligence on joint venture members, major sub-suppliers, intermediaries and companies considered for acquisition in accordance with the Norconsult Procedure for Integrity Due Diligence. Norconsult employees who are in any doubt about whether integrity due diligence should be performed should consult with their immediate superior or Compliance Officer.

5.2 Dilemma training

Dilemma training is a means of active training intended to increase awareness and reduce doubt about what is the ethically responsible course of action in situations that may compromise integrity. Norconsult shall promote openness, dialogue and cooperation to safeguard ethical conduct in all parts of the Group.

Employees of Norconsult shall periodically participate in and complete mandatory training initiatives. Employees are urged to actively and regularly consult with and discuss integrity dilemmas with their colleagues, immediate superior or Compliance Officer.

5.3 Reporting

Employees of Norconsult shall report concerns and infringements of laws, regulations or the Code of Ethics to their immediate superior. Failure to report concerns and infringements constitutes conduct in breach of the Code of Ethics. If reporting to the immediate superior is not possible or appropriate, the case shall be reported directly to the Compliance Officer. Sanctions shall not be applied to employees who report concerns and infringements in good faith. Employees of Norconsult may voice concerns in privacy and confidence pending discrete and comprehensive follow-up.

Reporting to Norconsult Group Compliance Officer:

Norconsult AS
Group Compliance Officer
P.O Box 626,
NO- 1303 Sandvika
Norway
E-mail: IntegrityReporting@norconsult.com

5.4 Sanctions

Norconsult exercises zero tolerance towards compliance violations. Those who infringe laws, regulations or the Code of Ethics will be subject to consequences that reflect the violation. Disciplinary action may be taken in accordance with relevant legislation. Serious violations may lead to termination of employment. In the event of a violation, disciplinary and preventive measures will be implemented as deemed appropriate. In the event that an employee is found guilty of a violation of anti-corruption and bribery laws, Norconsult will not pay or reimburse employees for fines or legal fees incurred in defending such charges.

Reporting to Norconsult Group Compliance Officer:

Norconsult AS
Group Compliance Officer
P.O Box 626, NO- 1303 Sandvika, Norway
E-mail: IntegrityReporting@norconsult.com

Questions about the Code of Ethics can be directed to
ethicsnorconsult@norconsult.com

Norconsult

Etiske retningslinjer



Prinsipper for Ledelse, Verdier og Etikk i Norconsult



LEDELSE

Ta og gi ANSVAR

Ledere som tar og gir ansvar står stødig i eget ansvarsområde og ser helheten. De viser tillit, delegerer oppgaver og gir frihet under ansvar. De involverer og støtter aktivt sine medarbeidere.

Vis MOT

Ledere som viser mot er handlekraftige og viser vei. De tar tak i vanskelige situasjoner og våger å utfordre etablerte sannheter.

Vær SYNLIG og TYDELIG

Synlige ledere er tett på der ting skjer. De er til stede, tilgjengelige og til å stole på. Tydelige ledere kommuniserer tydelig mål, oppgaver og forventninger. De gir konkrete og tydelige tilbakemeldinger. De er godt orientert og formidler relevant informasjon.

SE dine medarbeidere

Ledere som ser sine medarbeidere forstår hva som motiverer den enkelte. De fremmer og følger opp både karrieremessig og faglig utvikling. De viser respekt, er lydhøre og empatiske.

LEV verdiene

Ledere som lever verdiene baserer sitt lederskap på LIVE. De er bevisste på alltid å gå foran med et godt eksempel. De bruker LiVE aktivt i dialog med egne medarbeidere.

VERDIER

Redelig

Vi etterlever våre etiske retningslinjer og opptrer redelig i alle forhold til beste for samfunnet, våre oppdragsgivere og oss selv.

Kompetent

Vi jobber hele tiden med å utvikle vår kunnskap og våre ferdigheter slik at vi leverer den beste faglige kvaliteten.

Inkluderende

Vi skaper resultater gjennom positiv samhandling mellom mennesker og møter alle med respekt og åpenhet. Vi deler kunnskap og erfaringer slik at vi evner å løse oppgaver i felleskap.

Engasjert

I Norconsult er vi framoverlente. Gjennom vårt felles engasjement og vår evne til nytenkning ligger vi i forkant. Gjennom vårt personlige engasjement tar vi ansvar for utviklingen av egen kompetanse.

ETIKK

Alt vi gjør skal tåle OFFENTLIGHETENS LYS

Husk å ta «mediatesten». Spør deg selv og gjerne også kollegaene dine: «Er det OK at dette blir omtalt i media?» Svaret skal alltid være et tydelig «ja».

INDEX

- 04** — **Innledning ved konsernsjefen**
- 06** — **Omfang og ansvar**
- 08** — **1. Samfunn og fellesskap**
- 1.1. Menneskerettigheter
 - 1.2. Arbeidsforhold
 - 1.3. Sikkerhet og helse
- 09** — **2. Vår virksomhet**
- 2.1. Ytre miljø
 - 2.2. Oppdragsgivere
 - 2.3. Leverandører
 - 2.4. Bruk av mellommenn
 - 2.5. Rettferdig konkurranse og konkurranserett
 - 2.6. Politikk og religion
- 11** — **3. Integritet og interessekonflikter**
- 3.1. Korrupsjon og bestikkelser
 - 3.2. Bedrageri og hvitvasking av penger
 - 3.3. Interessekonflikter
 - 3.4. Gaver og fordeler
 - 3.5. Favorisering av familie og venner
 - 3.6. Eksterne engasjementer
 - 3.7. Taushetsplikt
 - 3.8. Offentlig informasjon, kommunikasjon og massemedier
- 14** — **4. Våre eiendeler**
- 4.1. Interne styrings- og kontrollmekanismer samt fullmakter
 - 4.2. Eiendeler og immaterielle rettigheter
 - 4.3. Bokføring og regnskap
- 15** — **5. Implementering og oppfølging**
- 5.1. Forhåndsvurdering av avtaleparter (integrity due diligence)
 - 5.2. Dilemmatrening
 - 5.3. Varsling
 - 5.4. Sanksjoner

Innledning ved konsernsjefen



Norconsult er en toneangivende aktør i samfunnsplanlegging og prosjektering. For å kunne fortsette å drive en vellykket og bærekraftig virksomhet er vi avhengige av å opprettholde tilliten og vårt sterke omdømme. Dette har vi opparbeidet oss fordi vi har en sterk bedriftskultur som kjennetegnes av kompetent rådgivning og etisk atferd. Disse etiske retningslinjene gjenspeiler gjeldende lover. Etikk er imidlertid mer enn det som er nedfelt i lover og regler. Etisk atferd, og handler også like mye om holdninger og at vi gjør gode vurderinger og valg når vi blir stilt overfor etiske dilemmaer. Kulturplattformen LiVE Norconsult beskriver våre ledelsesprinsipper og kjerneverdier samt tommelfingerregelen for etikk, og utgjør grunnlaget for disse etiske retningslinjene. Eventuelle brudd på de etiske retningslinjene er en trussel både mot konsernets kurransesevne og omdømme. Uansett hvor vi arbeider og hvilken rolle vi har, er vi alle ansvarlige for å etterleve prinsippene i LiVE Norconsult. Tommelfinger-

regelen for etikk sier at alt vi gjør skal tåle offentlighetens lys. Å være ansatt i Norconsult innebærer både krav til integritet, og en forpliktelse til å opptre etisk forsvarlig. Disse etiske retningslinjene er utviklet for å veilede oss i hvordan vi skal reagere og oppføre oss i tvilstilfeller. Jeg forventer at alle medarbeidere gjør seg kjent med de etiske retningslinjene, og følger opp med refleksjoner omkring etiske dilemmaer vi kan bli stilt overfor, hva som er akseptabel og etisk god atferd. Konferer også gjerne konkrete og mulige tilfeller av etiske dilemmaer med kollegaer eller nærmeste leder.

Med vennlig hilsen

Per Kr. Jacobsen
Konsernsjef



Uansett hvor vi arbeider og hvilken rolle vi har, er vi alle ansvarlige for å etterleve prinsippene og kjerneverdiene i LiVE Norconsult.

Omfang og ansvar



Disse retningslinjene gjelder for Norconsult-konsernet, herunder alle datterselskaper der Norconsult Holding AS direkte eller indirekte eier mer enn 50 prosent av de stemmeberettigede aksjene, eller der styringsretten innehas og utøves av eller på vegne av Norconsult Holding AS. De etiske retningslinjene skal gjelde for samtlige medarbeidere, både fast og midlertidig ansatte, og uavhengig av stilling. Dette omfatter også alle medlemmer i styrene i Norconsult-konsernet (heretter kalt «Norconsult») samt aksjonærer. Norconsult forventer at alle tilknyttede selskaper og forretningspartnere driver sin virksomhet med integritet og på en etisk forsvarlig måte, og vil gjøre undersøkelser for å forsikre seg om dette.

De etiske retningslinjene er et styrende dokument og en del av Norconsults styringsystem. Retningslinjene definerer det etiske nivået vi skal overholde.

Disse etiske retningslinjene gir ikke detaljert veiledning i spesifikke situasjoner. De omfatter heller ikke instruksjoner om hvordan man skal overholde lokale lovpålagte krav i de ulike

landene der Norconsult driver virksomhet. Retningslinjene utgjør et rammeverk for atferd når man handler på vegne av Norconsult, og påvirker dermed refleksjoner om hva man skal og ikke skal gjøre. Ledere på alle nivåer i Norconsult har ansvar for å gjøre sine medarbeidere kjent med de etiske retningslinjene, implementere dem og sørge for at de blir overholdt.

Norconsults medarbeidere skal overholde alle gjeldende lover og regler. I tilfeller der det er forskjeller mellom lover og regler og prinsipper som fremgår av disse etiske retningslinjene, er det de strengeste kravene som skal følges.

Ved tvil eller tilfeller der de etiske retningslinjene ikke gir tilstrekkelig veiledning, skal man spørre om råd fra personalansvarlig leder.

Spørsmål om de etiske retningslinjene og hvordan de skal tolkes og anvendes, kan stilles til personalansvarlig leder, relevante stabsfunksjoner eller Norconsults Compliance Officer (som beskrevet under punkt 5.3).



1. Samfunn og fellesskap



1.1. Menneskerettigheter

Alle mennesker er likeverdige, har rett til anerkjennelse og skal behandles med respekt og verdighet. Norconsult støtter og respekterer internasjonalt anerkjente menneskerettigheter, som FNs menneskerettighetserklæring. Hos Norconsult skal alle relasjoner og all forretningspraksis baseres på grunnleggende menneskerettigheter samt anerkjennelse, aksept og verdsettelse av mangfold. Inkluderende og redelig er blant Norconsults kjerneverdier. Alle medarbeidere skal respektere andre menneskers verdighet, personvern og rettigheter.

Medarbeidere som har mistanke om eller kjenner til brudd på Norconsults holdninger til menneskerettigheter, skal varsle sin personalansvarlige leder i samsvar med rutinen for varsling.

1.2. Arbeidsforhold

Norconsult skal være en trygg arbeidsplass med et inkluderende arbeidsmiljø. Norconsult støtter organisasjonsfrihet og anerkjenner retten til kollektive forhandlinger i samsvar med nasjonale lover og regler. Norconsult er imot alle former for barnearbeid og tvangsarbeid. Norconsult aksepterer ingen former for trakassering, diskriminering eller trusler.

Medarbeidere i Norconsult skal ikke bidra til, praktisere eller oppleve negativ diskriminering på grunn av personlige forhold, mental eller seksuell trakassering eller språklig

eller fysisk kontakt som er påtvunget, truende, fornærmende eller utbytende. Medarbeidere som har mistanke om eller kjenner til brudd på Norconsults holdninger til arbeidsforhold, skal varsle sin personalansvarlige leder i samsvar med rutinen for varsling.

1.3. Sikkerhet og helse

Norconsult skal ivareta sikkerheten og helsen for alle sine medarbeidere. Norconsult er opptatt av å ha et arbeidsmiljø der alle medarbeidere er bevisst risiko som følge av arbeidet. Våre medarbeidere skal kjenne til og overholde krav og retningslinjer knyttet til sikkerhet og helse, og ha hensiktsmessig utstyr og opplæring. Med kontinuerlig fokus på fareidentifikasjon, nestenulykker, uønskede hendelser og manglende samsvar med regler og retningslinjer samt granskning av årsakene til disse, skal vi identifisere, begrense og følge opp risiko. Slik skal vi også unngå ulykker, sykdommer og forsettlig truende eller voldelige handlinger i eller som følge av Norconsults virksomhet.

Alle medarbeidere har ansvar for å forsikre seg om at all risiko i forbindelse med oppdrag og arbeidsoppgaver blir identifisert, evaluert og dokumentert. Relevante tiltak for å redusere risiko for sikkerhet og helse skal identifiseres, implementeres og dokumenteres. Hver enkelt medarbeider har plikt til å varsle sin personalansvarlige leder om eventuelle forhold som kan true medarbeideres sikkerhet og helse.

2. Vår virksomhet



2.1. Ytre miljø

Norconsult er en viktig samfunnsaktør der konsernet har virksomhet. Norconsults aktiviteter kan påvirke det ytre miljøet både gjennom rådgivervirksomheten og den direkte forretningsdriften. Norconsult er opptatt av å ta hensyn til og ansvar for det ytre miljøet.

Alle medarbeidere har ansvar for å sørge for at den miljømessige påvirkningen fra aktivitetene våre, er så liten som mulig. Miljøpåvirkningen knyttet til oppdragene våre skal vurderes, og medarbeiderne har ansvar for å anbefale bærekraftige løsninger.

2.2. Oppdragsgivere

Norconsults oppdragsgivere har valgt å bruke vår kompetanse og rådgivertjeneste for å støtte sin verdiskaping og forretningsmessige utvikling og fremgang. Norconsults mål er å fremstå som et klart førstevalg i rådgiverbransjen. Men ingen oppdragsgiver er viktigere enn Norconsults etikk, integritet og omdømme.

Norconsults medarbeidere har ansvar for å levere tjenester som gjenspeiler vår profesjonelle og tverrfaglige kompetanse. Våre leveranser skal være hensiktsmessige for og tilpasset til oppdragsgivernes spesifikke problemstillinger og behov.

Norconsults medarbeidere skal møte og behandle oppdragsgivere på en profesjonell og forutsigbar måte, sam-

arbeide for å oppnå de beste løsningene og være aktive ambassadører for Norconsults kjerneverdier: Redelig, kompetent, inkluderende og engasjert.

2.3. Leverandører

Våre leverandører omfatter både enkeltpersoner og selskaper som har sin egen organisasjon og egne rutiner. Leverandører engasjeres for at Norconsult skal kunne levere enda bedre produkter og tjenester til oppdragsgiverne våre. Norconsult forventer at leverandørene forplikter seg til etisk atferd og overholder øvrige integritetskrav som fremgår av vilkårene i kontrakter med Norconsult. Dette er særlig viktig ettersom Norconsult kan bli assosiert med og holdt ansvarlig for leverandørens atferd. Norconsult skal behandle leverandører rettferdig og likt. I konkurransen om kontrakter med Norconsult skal alle leverandører kunne stole på at utvelgelsesprosessen er forutsigbar, rettferdig, og mulig å etterprøve.

Norconsults medarbeidere har ansvar for å forsikre seg om at retningslinjer og prosedyrer for valg av leverandører blir fulgt. Medarbeidere som har mistanke om eller kjenner til at leverandører bryter Norconsults etiske retningslinjer, skal varsle sin personalansvarlige leder i samsvar med rutinen for varsling.

2.4. Bruk av mellommenn

Mellommenn omfatter agenter, salgsrepresentanter og andre parter som fungerer som forbindelser til tredjeparter





i Norconsults forretningsaktiviteter. Korrupsjon kan oppstå når selskaper bruker mellommenn til å skaffe seg oppdrag eller påvirke handlinger i offentlig eller privat sektor på sine vegne. Norconsult og selskapets medarbeidere kan holdes ansvarlig hvis en mellommann foretar ulovlige utbetalinger på vegne av Norconsult. Mellommenn skal fortrinnsvis ikke benyttes. I enkelte situasjoner kan det likevel være nødvendig å bruke mellommenn. I slike tilfeller skal Norconsult bare engasjere mellommenn som overholder de samme etiske nivå for forretningsførsel som Norconsult, enten det dreier seg om samhandling med offentlige tjenestemenn eller oppdragsgivere i privat sektor.

Medarbeidere i Norconsult som må benytte mellommenn, skal i forkant innhente skriftlig godkjenning fra divisjonens/regionens direktør eller konsernets Compliance Officer. Videre skal alle krav som fremgår av Norconsult Group Procedure for use of Intermediaries overholdes. Norconsults medarbeidere skal dokumentere dette. Ved tvil, eller om man har mistanke om brudd på Norconsults retningslinjer, skal Norconsults ansatte rådføre seg med sin personalansvarlige leder eller Norconsults Compliance Officer.

2.5. Rettferdig konkurranse og konkurranserett

Rettferdig konkurranse er viktig for samfunnet og skaper et sunt forretningsmiljø. Norconsults konkurranseevne i markedet skal baseres på leveranse av de beste tverrfaglige rådgivertjenestene. Norconsults medarbeidere skal behandle konkurrenter på en redelig og profesjonell måte og nøye forsikre seg om at konkurranselovgivning og -regler ikke blir brutt, for eksempel med hensyn til markedsdeling eller prissamarbeid.

2.6. Politikk og religion

Politiske og religiøse bidrag er enhver type bidrag av verdi til støtte for en politisk eller religiøs sak. Bidrag til bransjeforeninger og medlemsavgift til organisasjoner som støtter forretningsinteresser, er ikke politiske bidrag. Norconsult tar ikke politiske standpunkter og slutter seg ikke til noen religion eller spesifikke politiske bevegelser. Norconsult gir ikke bidrag til politiske partier, individuelle politikere eller organisasjoner som er direkte tilknyttet en religion eller politiske partier.

Norconsults medarbeideres politiske sympatier, religiøse tilhørighet, medlemskap i grupper, lag og foreninger er konsernet utedkommende. Norconsults medarbeidere står fritt til å delta i religiøse og politiske aktiviteter på egne vegne, uten henvisning til Norconsult eller sitt ansettelsesforhold i konsernet. Det forventes at Norconsults medarbeidere fremstår som upartiske på arbeid og i opptreden på vegne av Norconsult. Videre forventes det at Norconsults medarbeidere opptrer lojalt og ikke skader Norconsults omdømme verken privat eller på jobb.

3. Integritet og interessekonflikter



3.1. Korrupsjon og bestikkelser

Korrupsjon er vilje til å handle på uærlig vis og misbruk av betrodd makt for å oppnå personlig vinning. Korrupsjon er en trussel mot næringslivet og samfunnet som helhet. Norconsult håndhever nulltoleranse for alle typer korrupsjon.

Korrupsjon kan ha forskjellige former. En bestikkelse er en urettmessig fordel i form av penger eller annet gode – eller et tilbud eller løfte om dette – gitt eller fremsatt, enten direkte eller gjennom mellommenn, i den hensikt å påvirke en avgjørelse for å skaffe seg eller beholde en forretningsavtale eller en annen urettmessig fordel. En returprovisjon er en form for fremforhandlet bestikkelse der en provisjon eller en del av den urettmessige fordel en utbetales til mottakeren av bestikkelsen til gjengjeld for utførte tjenester. Både bestikkelser og returprovisjoner kan skje som direkte pengeutbetalinger eller i form av annet som har verdi, for eksempel kjøp til kunstig høye priser eller overdrevet bevertning eller representasjonsytelse. Smøring er en mindre utbetaling til en ansatt på lavere nivå i offentlig eller privat sektor, som en personlig fordel til vedkommende, i den hensikt å fremskynde en rutineoppgave som den ansatte har plikt til å utføre uavhengig av utbetalingen.

Norconsults ansatte skal aldri motta eller tilby bestikkelser, returprovisjon eller smøring. Det anses også som et brudd på de etiske retningslinjene hvis en ansatt kjenner til eller har mistanke om ulovlige utbetalinger, og ikke øyeblikkelig

rapporterer forholdet til personalansvarlig leder og konsernets Compliance Officer.

Norconsults medarbeidere skal varsle sin personalansvarlige leder i tilfelle det foretas en utbetaling som kan oppfattes som smøring. Hensikten er å sørge for at slike utbetalinger blir hensiktsmessig dokumentert og riktig regnskapsført. Hvis en medarbeider blir avkrevd en utbetaling for å avverge en direkte trussel mot en persons liv eller helse, er slik utbetaling ikke forbudt. Forholdet skal umiddelbart rapporteres til personalansvarlig leder og konsernets Compliance Officer.

3.2. Bedrageri og hvitvasking av penger

Bedrageri er bruk av løgn, forfalskninger og tillitsbrudd for å skaffe seg urettmessige eller utilbørlige fordeler. Hvitvasking av penger er en prosess der identiteten og opphavet til ulovlig anskaffede penger, for eksempel bestikkelser, blir skjult eller tilslørt. Norconsult håndhever nulltoleranse for alle former for bedrageri og hvitvasking av penger.

Norconsults medarbeidere skal agere og gjennomføre forretningsaktiviteter i samsvar med gjeldende lover og regler og benytte midler fra legitime kilder. Medarbeidere som mistenker eller kjenner til brudd på Norconsults retningslinjer angående bedrageri og hvitvasking av penger, skal varsle sin personalansvarlige leder eller Norconsults Compliance Officer i samsvar med rutinen for varsling. →



3.3. Interessekonflikter

Interessekonflikter oppstår når en part har yrkesmessige forpliktelser eller personlige eller økonomiske interesser som kan påvirke vedkommendes objektivitet i utføringen av sine plikter. Tjenester til eller fra Norconsult skal aldri være underordnet personlig vinning eller fordel for noen medarbeider i Norconsult.

Norconsults medarbeidere skal ikke forsøke å skaffe urettmessige fordeler til selskapet, seg selv eller sine slektninger eller venner. Det er ikke tillatt å delta i eller forsøke å påvirke avgjørelser hvis dette kan medføre interessekonflikt, eller hvis det kan bli oppfattet som en interessekonflikt. Medarbeidere i Norconsult som oppdager en mulig interessekonflikt, skal konsultere sin personalansvarlige leder i samsvar med rutinen for varsling.

3.4. Gaver og fordeler

Gaver og fordeler omfatter tjenester, økonomiske fordeler eller andre privileger samt materielle goder av verdi som blir gitt, tilbudt, krevd eller mottatt. Det kan være vanskelig å skille mellom korrupsjon og akseptable gaver, fordeler og representasjonsytelser. Norconsult er opptatt av å ta objektive forretningsavgjørelser, utelukkende basert på faktorer som støtter rettferdig konkurranse. Alle gaver, fordeler og representasjonsytelser som tilbys eller mottas med en forpliktelse om å gi noen gevinst eller urettmessig fordel som gjenytelse, er forbudt.

Norconsults medarbeidere skal ikke tilby eller motta kon-tanter, likvide midler eller dyre og overdrevne gaver og representasjonsytelser. Norconsults medarbeidere har lov til å motta beskjedne gaver, men anbefales å reflektere over hvorvidt mottak av en slik gave vil tåle offentlighetens lys. Medarbeidere i Norconsult skal umiddelbart rådføre seg med og varsle sin personalansvarlige leder eller Norconsults Compliance Officer i tvilstilfeller og ved mistanke om brudd på Norconsults retningslinjer.

3.5. Favorisering av familie og venner

Norconsult er imot alle former for favorisering av familie og venner.

Medarbeidere i Norconsult skal ikke la personlige relasjoner påvirke sine beslutninger, for eksempel i rekrutteringsprosesser, og har ansvar for å vurdere sin egen uavhengighet i slike prosesser. Medarbeidere i Norconsult skal umiddelbart rådføre seg med og varsle sin personalansvarlige leder eller Norconsults Compliance Officer i tvilstilfeller og ved mistanke om brudd på Norconsults retningslinjer.

3.6. Eksterne engasjementer

Eksterne engasjementer omfatter stillinger, verv, oppgaver, oppdrag og medlemskap i eller for andre selskaper, enheter, foreninger eller organisasjoner. Slike engasjementer kan være i konflikt med eller svekke Norconsult. Eksterne engasjementer som Norconsults medarbeidere påtar seg, skal ikke gå utover deres evne til å utføre sine plikter og funksjoner som medarbeidere hos Norconsult, eller undergrave tillit til Norconsult.

Norconsults medarbeidere skal ikke delta i aktiviteter som påvirker Norconsult negativt eller konkurrerer med Norconsults virksomhet. Hver enkelt medarbeider har plikt til å varsle sin personalansvarlige leder om pågående eller potensielle eksterne engasjementer som kan påvirke deres arbeidsevne og -kapasitet. Dersom eksterne engasjementer påvirker arbeidsevnen og -kapasiteten, skal medarbeideren innhente skriftlig godkjenning fra sin personalansvarlige leder.

3.7. Taushetsplikt

Taushetsplikt er regler eller forpliktelser som begrenser adgangen til bruken eller tilgjengeliggjøring av visse typer informasjon. I Norconsult skal taushetsplikten reguleres i ansettelseskontrakter og i oppdragsavtaler. Norconsult skal aldri avdekke informasjon som er mottatt, produsert eller

behandlet, når denne for eksempel er knyttet til immaterielle rettigheter, teknisk eller forretningsmessig beskyttelsesverdig informasjon eller personopplysninger, og det foreligger en kontraktsforpliktelse til eller annen legitim interesse i å unngå spredning av informasjonen. Norconsult skal beskytte all informasjon på profesjonelt vis og som spesifisert i avtaler.

Norconsults medarbeidere har taushetsplikt i forbindelse med all informasjon som de mottar, produserer eller behandler i sin yrkesutøvelse. Dette omfatter å utvise forsiktighet ved samtaler om og overføring eller lagring av informasjon under omstendigheter der informasjonen kan avdekkes for uvedkommende. Taushetsplikten skal overholdes også etter at ansettelsesforholdet til Norconsult er avsluttet.

3.8. Offentlig informasjon, kommunikasjon og massemedier

Offentlig informasjon er informasjon som tilgjengeliggjøres for medarbeidere, interessenter og offentligheten. Massemedier er kommunikasjonskanaler som aviser, tidsskrifter, TV, radio og sosiale medier.

All intern og ekstern informasjon fra Norconsult skal være etterprøvable og korrekt og være basert på profesjonalitet og etikk. Norconsult kan delta i offentlig debatt når dette er i selskapets interesse. Kun medarbeidere med fullmakt til dette skal kommunisere med media.

Alle medarbeidere i Norconsult som deltar i utarbeidelse eller publisering av offentlig informasjon, har ansvar for å forsikre seg om at informasjonen er etterprøvable og korrekt. Medarbeidere i Norconsult som oppdager eller har mistanke om at det foreligger unøyaktig eller feilaktig informasjon, skal umiddelbart varsle sin personalansvarlige leder i samsvar med rutinen for varsling.

4. Våre eiendeler



4.1. Interne styrings- og kontrollmekanismer samt fullmakter

Interne styrings- og kontrollmekanismer, herunder fullmakt til å representere og inngå forpliktelser på vegne av Norconsult, er virkemidler som skal sørge for at forretningsdrift og -prosesser håndteres på en effektiv måte, og at tilknyttet risiko reduseres til et minimum. I Norconsult skal avgjørelser tas på riktig organisatoriske nivå i samsvar med relevante gjeldende fullmakter.

En medarbeider må ha fullmakt for å inngå forpliktelser på vegne av Norconsult og skal alltid overholde rammene for fullmakten. Interne styrings- og kontrollmekanismer er ledelsens ansvar, men hver enkelt medarbeider har ansvar for å følge fastsatte prosedyrer og retningslinjer. Medarbeidere i Norconsult som er i tvil om egen fullmakt og atferd i lys av denne, skal rådføre seg med sin personalansvarlige leder.

4.2. Eiendeler og immaterielle rettigheter

Alt som eies og kontrolleres av Norconsult for å skape økonomisk verdi, er Norconsults eiendom. Immaterielle rettigheter omfatter alt som Norconsults tidligere og nåværende medarbeidere har utarbeidet i forbindelse med sin yrkesutøvelse.

Kompetent er en av Norconsults kjerneverdier. Vårt største konkurransefortrinn ligger i evnen til å anvende vår faglige

og tverrfaglige ekspertise for å dekke oppdragsgivers spesifikke behov. Norconsult skal ta vare på dette fortrinnet ved å begrense uvedkommendes adgang til og bruk av tid, materiell, utstyr, finansielle eiendeler, eiendom og immaterielle rettigheter.

Medarbeidere skal beskytte Norconsults eiendeler og immaterielle rettigheter mot tap, skade og misbruk. Informasjon, IT-systemer og internettjenester skal brukes i Norconsults beste interesse, og ikke til personlige formål. Dette gjelder også bruk av sosiale medier i arbeidstiden. Norconsults medarbeidere skal ikke krenke andres immaterielle rettigheter.

4.3 Bokføring og regnskap

Bokføring og regnskap omfatter produksjon av pålitelig, etterprøvbar, konsekvent og rettidig informasjon om de økonomiske ressursene Norconsult kontrollerer, samt om selskapets finansielle aktiviteter. Norconsults bokføringsprosesser og årsrapporter skal være i samsvar med Norconsult Accounting Principles og gjeldende lover og regler.

Norconsults medarbeidere skal følge Norconsult Accounting Principles i forbindelse med økonomiske transaksjoner, bokførings- og rapporteringsprosesser samt sørge for tilstrekkelig dokumentasjon for å sikre at transaksjonene blir registrert på en fullstendig og riktig måte.

5. Implementering og oppfølging

5.1. Forhåndsvurdering av avtaleparter (integrity due diligence)

Forhåndsvurdering av avtaleparter omfatter undersøkelser av bakgrunnen, omdømmet, kvalifikasjonene og atferden til en part med hensyn til lover, regler og Norconsults etiske retningslinjer.

Norconsult skal utføre forhåndsvurdering av avtaleparter (integrity due diligence) for å forsikre om at konsernet ikke risikerer eksponering for uønskede kostnader, tap av omdømme eller strafferettslig ansvar. Norconsult skal unngå å gjøre forretninger med entreprenører, leverandører og andre forretningspartnere som er kjent for, eller som med rimelighet kan mistenkes for, å være innblandet i uetisk atferd, bortsett fra i tilfeller der det er innført hensiktsmessige avbøtende tiltak (self-cleaning).

Når det er hensiktsmessig, skal Norconsults medarbeidere utføre og dokumentere forhåndsvurdering av avtaleparter for deltakere i joint ventures, underleverandører, mellommenn og selskaper som vurderes for oppkjøp, i samsvar med Norconsult Procedure for Integrity Due Diligence. Medarbeidere i Norconsult som er i tvil om forhåndsvurdering av avtaleparter skal utføres, skal rådføre seg med sin personalansvarlige leder eller Norconsults Compliance Officer.

5.2. Dilemmatrening

Dilemmatrening er aktiv opplæring og refleksjon for å øke bevisstheten og redusere tvil om hva som er etisk forsvarlig atferd og fremgangsmåte. Norconsult skal fremme åpenhet, dialog og samarbeid for å sikre etisk atferd i alle deler av konsernet.

Norconsults medarbeidere skal regelmessig delta i og fullføre obligatoriske opplæringstiltak. Medarbeidere anmodes om å rådføre seg med sine kolleger, personalansvarlige

leder eller Norconsults Compliance Officer og diskutere etiske dilemmaer aktivt og regelmessig.

5.3. Varsling

Medarbeidere i Norconsult skal rapportere om bekymringsverdige forhold og eventuelle overtredelser av lover, regler og de etiske retningslinjene til sin personalansvarlige leder. Manglende rapportering av slike forhold og overtredelser er brudd på de etiske retningslinjene. Hvis rapportering til nærmeste personalansvarlige leder ikke er mulig, ønskelig eller hensiktsmessig, skal saken rapporteres direkte til Norconsults Compliance Officer. Medarbeidere som rapporterer bekymringsverdige forhold og overtredelser i god tro, skal ikke utsettes for sanksjoner. En varslingssak vil bli behandlet fortrolig og bli fulgt opp diskret og grundig.

Varsling til Norconsults Compliance Officer:

Norconsult AS
Group Compliance Officer
Postboks 626, 1303 Sandvika
E-post: IntegrityReporting@norconsult.com

5.4. Sanksjoner

Norconsult håndhever nulltoleranse for manglende overholdelse av gjeldende lover og regler samt de etiske retningslinjene. Dette betyr at brudd på lover, regler eller de etiske retningslinjene vil få konsekvenser som står i forhold til overtredelsen. Det kan gjennomføres disiplinærtiltak i samsvar med gjeldende lovbestemmelser. Alvorlige overtredelser kan medføre oppsigelse. Overtredelser vil ellers medføre de disiplinære og forebyggende tiltak som vurderes som passende i forhold til overtredelsens art og alvorlighet. Hvis en medarbeider dømmes for korrupsjon eller bestikkelser, vil Norconsult ikke betale eller refundere medarbeideren for bøter eller advokatsalærer som vedkommende pådrar seg i forbindelse med forsvaret mot slike anklager.

Varsling til Norconsults Compliance Officer:

Norconsult AS
Group Compliance Officer
Postboks 626, 1303 Sandvika
E-mail: IntegrityReporting@norconsult.com

Spørsmål om de etiske retningslinjene kan rettes til
ethicsnorconsult@norconsult.com



18 March 2011

Mr. Knut Erling Noren
Norconsult
By email: knut.erling.noren@norconsult.com

Dear Sir,

**PRE-QUALIFICATION AND SELECTION PROCESS: PROVISION OF ENGINEERING
CONSULTANCY SERVICES (MAJOR WORKS)**

1. BACKGROUND

You have been selected to participate in this pre-qualification and selection process following an independent market survey to identify suitably-qualified consultants having an ability to provide specialist services, including design services and performance of the role of Owner's Engineer, to Sarawak Energy in support of its extensive capital works programme.

The State of Sarawak has initiated the development of the Sarawak Corridor of Renewable Energy (SCORE); a program of works to build substantial electricity infrastructure and attract industry to invest and build plants in Sarawak. These industrial plants will directly deliver some 6000 new construction and operational jobs plus an additional 25,000 to 30,000 indirect jobs for support businesses.

To support the SCORE agenda, Sarawak Energy is at the forefront of attracting major industries into the State as they all require large quantities of power at reasonable rates to ensure long term economic viability in the world markets for their products.

Sarawak Energy has commenced feasibility and concept phase evaluations for a program of major Hydro Electric Plant (HEP) developments, supported by a planned 600MW coal fired plant. The Murum HEP, at 944MW generating capacity, is currently under construction with full power generation scheduled for January 2014.

These projects will be supplemented via large to medium transmission line projects and various distribution projects; including a 500kV transmission line project.

Further overview of Sarawak Energy's planned capital works programme is set out in Attachment 1.

2. PURPOSE OF THIS PROCESS

The purpose of this process is to invite your response for evaluation and selection as the most suitably qualified and experienced consultant(s) with whom Sarawak Energy wishes to enter into ongoing commercial relations.

Sarawak Energy may select more than one consultant through this process, with individual engagements to proceed on a project-specific basis under overarching commercial conditions.

3. PROCESS

3.1 Submission of Response

Subject to your submitting a response in compliance with this process, you will be required to conduct a formal presentation of your capability to Sarawak Energy's representatives in Kuching during the period 5-7 April 2011.

You are invited to advise if you have a preference for a specific meeting day (Tuesday, Wednesday or Thursday) and time (9am-12 midday or 1.30pm-4.30pm).

During this formal presentation, you will be expected to address the matters set out in the draft meeting agenda set out at Attachment 2. Minor departures to this agenda are acceptable, subject to substantial adherence to the topics listed and an ability to address all matters during the allocated time of 2 hours.

You will be advised of the date and time allocated for your formal presentation following receipt of your response.

Your response must include the following:

1. Completed application letter (substantially in the form set out at Attachment 3); and
2. Completed pre-qualification questionnaire (responding to those questions set out at Attachment 4: Section I-IV inclusive).

3.2 Short-listing

Following the formal presentations, Sarawak Energy will identify those consultants to be short-listed for the purposes of further direct discussions and negotiations.

You will receive written advice from Sarawak Energy advising whether or not you have been short-listed.

3.3 Selection and appointment

Selection of the successful consultant(s) will be made by Sarawak Energy having regard to pre-determined evaluation criteria, including (but not limited to):

1. the quality and content of responses to the pre-qualification questionnaire;
2. the content and quality of the formal presentation; and
3. the outcome of any further direct discussions and negotiations had with short-listed consultants (including agreement as to those commercial terms reasonably required by Sarawak Energy).

The ultimate decision to appoint the successful consultant(s) will be subject to Sarawak Energy's subjective assessment of that consultant's ability to add best value to the efficient and effective delivery of projects in a manner that aligns with Sarawak Energy's business values and goals.

You will receive written advice from Sarawak Energy advising the final outcome of the selection process.

3.3 Debriefing

Sarawak Energy is not obliged to enter into any correspondence with unsuccessful consultants regarding their failure to be short-listed or, ultimately, appointed as a successful consultant.

Notwithstanding; following the appointment of the successful consultant(s), Sarawak Energy may afford a debriefing to unsuccessful consultants upon request.

The purpose of such debriefing will be to discuss the merits (or otherwise) of the unsuccessful consultant's response and presentation. Under no circumstances will Sarawak Energy discuss commercial-in-confidence information provided by other consultants participating in this process.

4. CLOSING DATE FOR SUBMISSION

Your response must be submitted by email to Sarawak Energy's representative named in 6.2 by no later than **3.00pm on Thursday, 31 March 2011** (Asia standard time - Kuching).

You will receive acknowledgement of receipt of your response within 24 hours of the closing date.

5. CONTRACT AND COMMERCIAL CONDITIONS

Appropriate contract and commercial conditions (including; proposed rates and fee structure) will be discussed generally during the formal presentations.

The form of contract and commercial conditions ultimately agreed and entered into will be the subject of direct negotiation between Sarawak Energy and short-listed consultant(s).

For the purposes of this process, invited parties may assume the form of contract under which the services will be provided to be substantially based upon the standard form FIDIC Client-Consultant Agreement (The White Book).

A copy of The White Book is available from FIDIC's website: <http://www.fidic.org/>

6. PROCESS ADMINISTRATION

6.1 Acknowledge receipt of documentation and advice as to intention

Following receipt of this letter and attachments, and consideration of its contents, you are required to acknowledge receipt and advise whether or not you intend to submit a proposal for Sarawak Energy's consideration.

Such acknowledgement and advice must be provided in writing to Sarawak Energy's representative named in 6.2 below no later than 5.00pm Monday, 21 March (Asia standard time - Kuching).

6.2 Sarawak Energy Representative

Sarawak Energy's representative for the purposes of this process is:

Mr. Matthew Shippey – Director, Contracts and Procurement

Email: matthew.shippey@sarawakenergy.com.my

Tel: +6 082-244000 HP: +6 010-4090768

All correspondence regarding this process, including questions and requests for clarification, must occur via Sarawak Energy's representative. Failure to comply with this requirement may result in your response being rejected.

Sarawak Energy's response to questions and/or clarifications may result in a communication or formal addendum issuing to all invited consultants.

6.3 Process conditions

The conditions set out within this letter apply to this process. In preparing and submitting a response for Sarawak Energy's consideration, you agree to be bound by these conditions.

Any failure to comply with these conditions may result in your response being rejected.

6.4 Process timeline

The timeline proposed by Sarawak Energy for conducting this process is:

Action	Date
1. Issue process documentation	o Friday, 18 March
2. Date for submission	o Thursday, 31 March (3.00pm)
3. Formal presentations	o Tuesday, 5 - Thursday, 7 April
4. Evaluation and assessment	o Week commencing, 11 April
5. Advice as to selection	o Thursday, 14 April

Yours sincerely



Matthew Shippey
Director of Contracts and Procurement

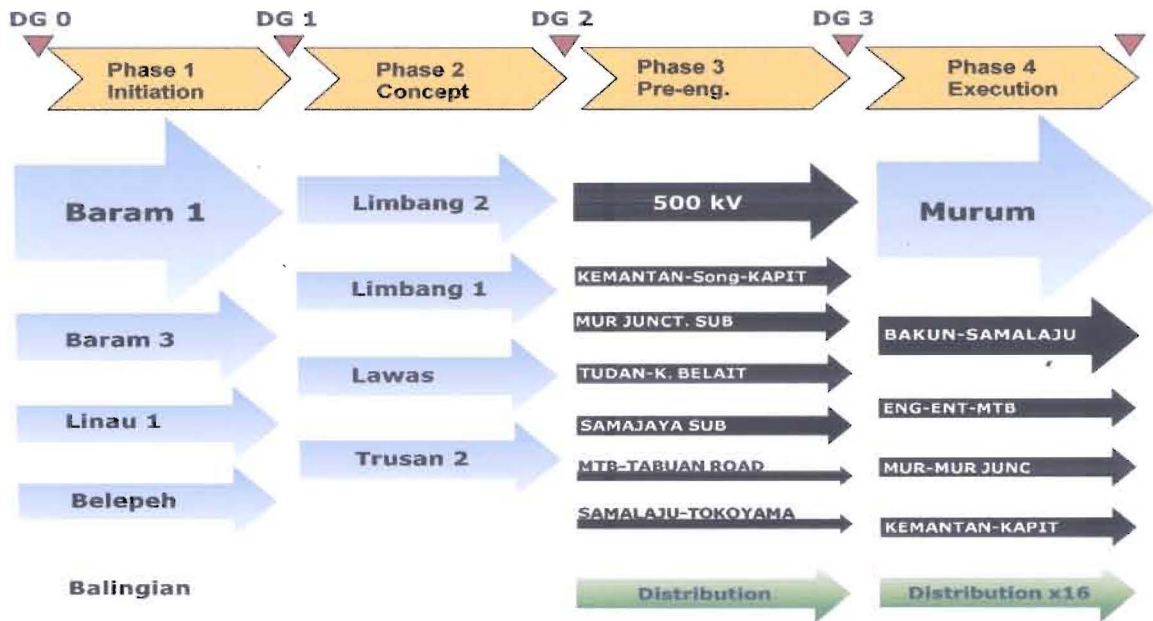
Tel: +6 082-244000 HP: +6 010-4090768
matthew.shippey@sarawakenergy.com.my

ATTACHMENTS:

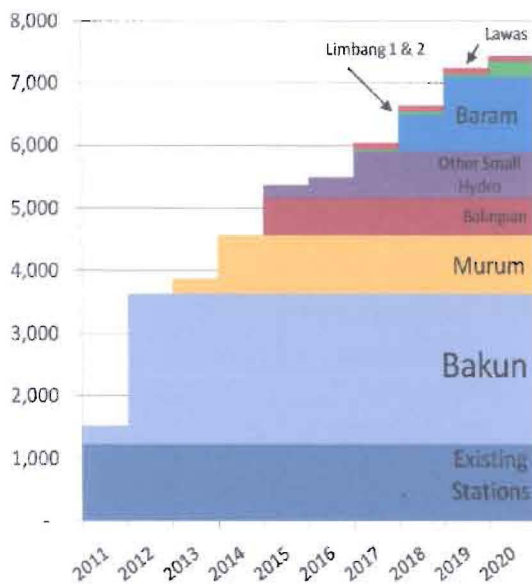
1. Overview of SEB Capital Works Programme
2. Draft Agenda for Consultant Presentations
3. Pro-forma Letter of Application
4. Prequalification Questionnaire
 - o Section I: General Information
 - o Section II: Health, Safety and Environmental
 - o Section III: Financial and Performance Information
 - o Section IV: Relevant Engineering Experience

ATTACHMENT 1 – Overview of SEB Capital Works Programme

SEB Growth Portfolio



Proposed Generation Plan : 2011-2020
(Installed MW)



SCORE projects 2011 - 2015:

- Bakun
 - 2,400MW installed capacity
- Murum (Hydro)
 - 944MW installed capacity
- Balingian (Coal)
 - 600MW installed capacity

Potential SCORE projects 2016-2020

- Baram 1
 - 1,200MW installed capacity
- Smaller stations, such as
 - Linau (hydro)
 - Belepeh (hydro)
 - Baram 3 (hydro)
 - Pelagus (hydro)
 - Kapit (coal)
- Northern agenda - Limbang & Lawas

ATTACHMENT 2 – Draft Agenda for Consultant Presentations

DRAFT AGENDA: Consultant Capability Interviews/Presentations (5th-7th April – Kuching, venue tba)	
1. Introductions (20 mins)	
1.1	Welcome (Chair)
1.2	Purpose (Chair)
1.3	Introduction of meeting attendees (All - go round the table, name and position)
1.4	Other
2. SEB Presentation (30 mins)	
2.1	Brief on SEB Projects portfolio (nominated SEB personnel) <ul style="list-style-type: none"> ○ outline of new SEB corporate structure and business drivers ○ outline of potential coal and hydro based power generation plants to a capacity of 6000 mW per annum ○ projects timelines and challenges
3. Consultant Presentation (2 hrs)	
3.1	<u>Brief</u> Company Overview <ul style="list-style-type: none"> ○ Coal/Hydro/Transmission experience/capability ○ Overall capability ○ Recent experience
3.2	Regional understanding <ul style="list-style-type: none"> ○ Existing Malaysian/Sarawak presence ○ Partnering arrangements with a firm in Malaysia / Sarawak ○ Resourcing SEB projects in Sarawak
3.3	Summary of recent industry technical trends and improvements; summary of benefits <ul style="list-style-type: none"> ○ Consultant's knowledge of industry technical trends / improvements ○ Trends/improvements initiated or employed by Consultant ○ Resultant benefit to Client and / or Project (and other stakeholders?)

3.4 Alternative procurement strategies

- outline of experience as a “traditional” owners engineer & 3rd party contractor
- experience with EPCM; acting as the owners engineer in auditing role
- experience in turnkey/design and build projects
- experience with other alternative procurement models
- procurement models utilised on most recent projects
- opinion re: pros and cons of alternative procurement strategies
- recommendation for SEB procurement strategy – why?

3.5 Partnering with EPC Contractors

- experience working with regional/other international contractors and major equipment suppliers
- specific experience, if any, working with Chinese contractors and major equipment suppliers
- assessment of the performance/capability of these companies
- opinion re: issues for consideration in selecting from certain regions and any management techniques that may need to be implemented to improve quality of outputs (including safety practices)

3.6 Lessons learned from recent projects

- Highlight learnings from recent projects
- Outline improvements made in response to negative issues
- Highlight issues raised in recent project risk analyses
- Outline actions taken to mitigate identified risks

3.7 Commercial matters

- proposed typical fee structure (including underpinning indicative rates)
- approach to risk and liability issues (ensuring appropriate apportionment)
- insurances (including professional indemnity)
- acceptance of FIDIC White Book as terms for engagement
- other

3.8 Value add brought by Consultant

- What sets you apart from your competitors
- Why should you be selected
- How can SEB best leverage off your strengths

4. Meeting close-out (Chair) (10 mins)

- Actions taken away from meeting
- Timelines for responses
- Other
- Thank you!

ATTACHMENT 4 – Prequalification Questionnaire

SECTION I - GENERAL INFORMATION

1. Please provide the full name and address of your Company together with; name, role title, telephone and fax numbers of relevant contact person.
2. Please state the Country(s) and registration details of your Company, including date of incorporation and details of each of your parent and subsidiary companies and their relationship to each other. If your company is other than a wholly owned subsidiary, please explain its ownership.
3. Please provide a high level overview of your Company, highlighting the primary nature of its business.
4. If your company is not the organization that would execute the work for this project, indicate how your company is related to the contracting organization. If your company would be part of a joint venture or consortium arrangement, describe the joint venture or consortium partners and the entity which would execute a contract with Sarawak Energy. Provide a copy of the draft joint venture or consortium agreement.
5. List the yearly volume of work performed by your company in total over the last 3 years. Please list the total value of current projects in which your company participates. Provide similar information for joint venture or consortium partners.
6. Please describe your company's organization for project execution. How is your company's design, and management organized and who are their reporting officers?
7. Describe how your company's executive management demonstrates its commitment to projects?
8. Please indicate how your company's Quality Control/Quality Assurance division is staffed and to which level of management it reports.
9. Please indicate how your company's Health / Safety / Environmental division is staffed and to which level of management it reports.
10. List and describe which (if any) ISO certifications (or similar) that your company holds.
11. Do you currently have company office(s) or affiliates in Malaysia? If so, please provide details.
12. Has your company established partnerships, affiliates, or formal business relationships with nonaffiliated companies in Malaysia? Please describe.
13. Please indicate if your Company is properly licensed and registered to conduct business in Malaysia. Provide details.

Your response must clearly reference the section and paragraph number to which it applies and provide the information requested in the order in which it was requested. Where applicable, corresponding information must be provided for joint venture/consortium partners.

END OF SECTION I

ATTACHMENT 4 – Prequalification Questionnaire (continued)

SECTION II - HEALTH, SAFETY AND ENVIRONMENTAL

1. Describe your company's safety and environmental processes, procedures and programs; including your company's approach to issues of Corporate Social Responsibility. Provide supporting evidence where possible (eg contents page from relevant processes and procedures).
2. Do you have a pre-job employee and new hire safety orientation program? If so, what does it include?
3. Do your engineering procedures include Process Hazards Analysis (PHA), or similar procedures?
4. Do your engineering procedures include Safety in Design (SID) analysis and review, or similar procedures?
5. What have been your safety statistics over the past 10 years? With which standards do you comply?

Your response must clearly reference the section and paragraph number to which it applies and provide the information requested in the order in which it was requested. Where applicable, corresponding information must be provided for joint venture/consortium partners.

END OF SECTION II

ATTACHMENT 4 – Prequalification Questionnaire (continued)

SECTION III – FINANCIAL, PERFORMANCE AND INSURANCE INFORMATION

1. Please provide one copy of the financial statements released to your shareholders, or to the public, for your Company for each of the last three years. If you are a member of a group of companies, provide details covering the financial activities of that group.
2. Provide details of credit facilities available to your company.
3. Describe any instances in the last five years in which your company has been involved in arbitration proceedings or legal actions arising from your company's involvement with engineering or construction contracts.
4. Please describe your company's liability and professional indemnity insurance coverage, including monetary limits. Describe any particular exemptions or inclusions. Please provide copies of certificates of currency

Your response must clearly reference the section and paragraph number to which it applies and provide the information requested in the order in which it was requested. Where applicable, corresponding information must be provided for joint venture/consortium partners.

END OF SECTION III

ATTACHMENT 4 – Prequalification Questionnaire (continued)

SECTION IV - RELEVANT ENGINEERING EXPERIENCE

Organization

1. Describe your engineering organization and list its key personnel and their experience.
2. Which design office(s) within your company would have the responsibility for completing engineering work for any SEB projects?
3. Please list other design offices maintained by your company and describe their capabilities.
4. Please list other design offices you would use, identifying them as affiliates, subsidiaries, sub-contractors or joint venture/consortium partners and their commercial relationship with you.
5. What is your current three-year committed and likely project engineering workload forecast and what is your current manpower (core staff, or through affiliates, joint venture/consortium or subcontract arrangements or other) at each of your design offices that you would propose for this project?
6. Please present a typical front end and detailed engineering organization chart for this type of project. Describe the typical experience and qualifications of persons assigned to each of the key positions for projects such as this one.
7. What are your capabilities to provide personnel to staff the key positions in your proposed organization?
8. What are your capabilities to provide personnel to be staffed within Sarawak Energy's offices working on particular projects?

Processes and Systems

9. Describe any hydro power / coal fired design experience that your company has.
10. What do you consider engineering Critical Success Factors in executing Coal fired and Hydro power projects?
11. What extra benefits does your company bring through its engineering capabilities to the execution of a project?
12. Describe your experience with front end engineering carried out before complete project endorsement by the owner.
13. Describe those engineering standards with which you comply. Does your company have its own, in-house engineering standards? Are they based on internationally recognized standards and codes (i.e. ASTM, BS, EN, DIN, JIS et al)? If so, please describe.
14. Describe your approach to standardization in design.
15. Describe your experience with and the process currently used for value management and value engineering.

16. Does your company also undertake quantitative and qualitative risk analysis during the engineering process?
17. Describe your standard procedure for incorporating constructability reviews and recommendations into the design process.
18. Describe in detail your methodology and experience in managing design projects that employ new technologies.
19. Propose your procurement strategies that would lead to a successful appointment of the contracting parties to undertake the hydro power / coal fired project. Would you envisage a different approach between the hydro power / coal fired project? Cite knowledge of procurement strategies utilized within the region where known.
20. What is your experience in designing plant modules? Please describe in detail. Do you have any unique modular expertise?
21. Describe how your company captures engineering lessons learned and how they are used to improve future performance.
22. Does your company benchmark engineering performance for Coal-fired, Hydro power and transmission projects? If so, what are some of the key metrics collected and used from your projects?
23. Describe your participation in any recent team building efforts between engineering and the owner project management and operating organization. If you do not have in-house capabilities for team building, do you routinely use an outside consultant? Please provide details of these outside consultant(s).

Estimating and Project Controls

24. Describe in detail the estimating and scheduling systems and processes you would utilize to generate a project manpower budget and schedule of appropriate accuracy.
25. Describe in detail the scheduling systems and processes you would utilize to manage the engineering phase of this project.

Current and Past Projects

26. Using the format shown on the table at the end of this section, please provide a list of similar projects and facilities your office has experience in executing hydro power / coal fired projects designed with total installed cost in excess of US\$ 250 million, showing, where available:
 - The client company's name, address and phone number of a contact person.
 - The type of process facility and its size.
 - The location.
 - EPC cost.
 - Dates engineering started and finished.
 - Dates construction started and finished.
 - Whether design was for a modular or field erected plant.

27. What was the dollar value of the engineering portion of the largest project that you have previously been awarded as a reimbursable contract? Identify the project with references.
28. What was the dollar value of the engineering portion of the largest project that you have previously been awarded as a lump sum contract? Identify the project with references.
29. Describe any experience that you may have as EPCM contractor.

Local Content

30. Do you have an engineering office(s) in Malaysia? If so, please provide appropriate details.
31. Do you currently have affiliations with engineering companies/design institutes in Malaysia? If so, please supply their names, areas of expertise, addresses and phone numbers. Describe the projects on which you worked together with these companies and the role of your company. Would you consider using them for work on this project? If so, in which disciplines, and for what portions / capacity of the overall percentage of the engineering work?
32. What experience do you have in identifying, mentoring, assisting and guiding national engineering companies in developing their technical and business skills so that local engineering competencies can be established?
33. Describe how your personnel integrate into a multi-cultural project team environment.
34. How would you manage the engineering portion of this project if there were a requirement that 50% or more of the engineering be performed in Malaysia?
35. Describe the engineering resources you currently have available who are fluent in the following languages: English, Malay, Chinese/Mandarin.

Your response must clearly reference the section and paragraph number to which it applies and provide the information requested in the order in which it was requested. Where applicable, corresponding information must be provided for joint venture/consortium partners.

END OF SECTION IV



Hydropower Sustainability Assessment Protocol

November 2010

Published by the
**International
Hydropower
Association**



Acknowledgements

The Hydropower Sustainability Assessment Protocol is the product of the considerable effort of many parties. The members of the Hydropower Sustainability Assessment Forum spent two and a half years deeply involved in research, analyses, meetings, outreach, trialling, review, exchanging views, negotiating content and finding solutions to divergent views. Many had reference groups that were very active in following the Forum process and informing the views of Forum members. The Forum was funded by substantial donations from the governments of Norway, Iceland and Germany, supplemented by funding from the International Hydropower Association, The Nature Conservancy, The World Bank Group, and The World Wide Fund for Nature (WWF). In addition, the in-kind contributions of the Forum members and many supporting organisations were considerable.

The Protocol reflects the intellectual contributions of these many players, and the end product has been enabled because of a shared vision that it can make a significant contribution to advancing sustainable hydropower. The members of the Forum and those reference groups and organisations that have worked with these individuals are gratefully acknowledged:

Developing Countries

Dr Yu Xuezhong, Research Professor, **China Institute of Water Resources and Hydropower Research**, PR China

Mr Zhou Shichun, Senior Engineer, **China Hydropower Engineering Consulting Group Co.**, PR China

Mr Israel Phiri, Manager PPI, **Ministry of Energy and Water Development**, Zambia

Developed Countries

Mr Geir Hermansen, Senior Advisor, Department of Energy, **Norad**, Norway

Prof Gudni A Johannesson, Director General, **National Energy Authority**, Iceland

Ms Kirsten Nyman, Policy Advisor for Sustainable Hydropower, **GTZ**, Germany (observer)

Finance Sector - Economic Aspects

Ms Courtney Lowrance, Director, Environmental & Social Risk Management, Citigroup Global Markets Inc, member of the **Equator Principles Financial Institutions**

Ms Daryl Fields, Senior Water Resources Specialist, **The World Bank** (observer)

Hydropower Sector

Dr Refaat Abdel-Malek, President, **International Hydropower Association**

Mr Andrew Scanlon, Manager Business Sustainability, **Hydro Tasmania**

NGOs - Environmental Aspects

Mr David Harrison, Senior Advisor, Global Freshwater Team, **The Nature Conservancy**

Dr Joerg Hartmann, WWF Dams Initiative Leader, **World Wide Fund for Nature (WWF)**

NGOs - Social Aspects

Mr Michael Simon, Lead, People, Infrastructure & Environment Program, **Oxfam**

Dr Donal O'Leary, Senior Advisor, **Transparency International**

Forum Chair

Mr André Abadie, Director, **Sustainable Finance Ltd**

Forum Coordinator

Dr Helen Locher, Sustainability Forum Coordinator, **International Hydropower Association**

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Background Document

November 2010

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Mr Zhou Shichun, Senior Engineer, **China Hydropower Engineering Consulting Group Co.**, PR China

Mr Israel Phiri, Manager PPI, **Ministry of Energy and Water Development**, Zambia

Developed Countries

Mr Geir Hermansen, Senior Advisor, Department of Energy, **Norad**, Norway

Prof Gudni A Johannesson, Director General, **National Energy Authority**, Iceland

Ms Kirsten Nyman, Policy Advisor for Sustainable Hydropower, **GTZ**, Germany (observer)

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Forum Chair

Mr André Abadie, Director, **Sustainable Finance Ltd**

Forum Coordinator

Dr Helen Locher, Sustainability Forum Coordinator, **International Hydropower Association**

Contents

Development of the Protocol	4
Protocol Purpose and Target Users	5
Principles Underpinning the Protocol	6
What is a Sustainable Hydropower Project?	7
Protocol Structure	7
Assigning Scores and Presenting Results	13
Preparing for and Conducting a Protocol Assessment	20
Glossary of Terms	26

Development of the Protocol

This document is the Background that accompanies a set of four stand-alone assessment tools, with all five documents being collectively referred to as the Hydropower Sustainability Assessment Protocol (the “Protocol”).

The Protocol is a revision, update and expansion to the IHA’s Sustainability Assessment Protocol 2006. It was developed at a time of a resurgence of interest in hydropower as a result of increasing requirements for a low carbon economy, energy security and improved water management. This growing interest has been alongside disparate approaches to assess new and existing hydropower projects at local, national and regional levels.

The Hydropower Sustainability Assessment Forum

The IHA in close collaboration with a range of partners launched the Hydropower Sustainability Assessment Forum (the “Forum”) in March 2008. The Forum’s aim was to develop an enhanced sustainability assessment tool to measure and guide performance in the hydropower sector, to provide more consistency in the approach to assessment of hydropower project sustainability, based on the IHA Sustainability Assessment Protocol 2006. The Forum comprised representatives of organisations from a diversity of sectors, with differing views and policies on sustainability issues related to hydropower development and operation. The 14 Forum members included representatives of governments of developed and developing countries, commercial and development banks, social and environmental NGOs, and the hydropower sector.

The Forum operated for a two and a half year period. Following the Forum launch in March 2008 in Washington DC, Forum meetings were held in July 2008 (USA), September 2008 (Zambia), October 2008 (China), December 2008 (Brazil), March 2009 (Turkey), June 2009 (Iceland), February 2010 (France), and May 2010 (Laos). Six webinar meetings were also held, to enable additional dialogue on key issues in between formal meetings. Forum members systematically discussed the sustainability issues important to hydropower, received expert input on these issues, evaluated important reference standards, evaluated experiences of application of the IHA Sustainability Assessment Protocol 2006, developed progressive drafts, undertook two global consultation processes, undertook a global trialling program of a Draft Protocol August 2009, and benefited from the inputs and advice of references groups to the Forum members in review of the progressive drafts. The HSAF Knowledge Base houses many of the inputs into the Forum process; it can be sourced at: www.hydrosustainability.org.

The Protocol has been recommended for adoption by the Board of the International Hydropower Association (IHA), additional supporting organisations are listed on: www.hydrosustainability.org. In adopting and supporting this Protocol, these organisations agree that the Protocol has the potential to make a substantial contribution to advancing sustainability in the hydropower sector, and these organisations will actively promote it. The Protocol will be subject to ongoing evaluation and refinement over time, as experience in Protocol application will assist future reviews and refinements of Protocol structure, content and instructions for use.

Areas of Non-Consensus

The Forum operated with transparency, goodwill and by consensus. In the Forum process, all Forum members heard and respected the diversity of views on many topics, and all did their best to compromise on preferred positions in the interests of achieving consensus outcomes. The Hydropower Sustainability Assessment Protocol 2010 captures a considerably high level of convergence amongst the diverse views of Forum member organisations on how to best incorporate into this assessment tool the issues relevant to hydropower sustainability.

There are numerous areas of wording in the Protocol that Forum members have indicated are of interest to pay close attention to in the forward process. These will be documented as “areas for further analysis and dialogue” to inform the forward governance, management and consultative committees and future Protocol reviews.

In cases, specific language in topics reflects the majority view in the negotiation rather than unanimous support for the final text. “Areas of non-consensus” are specific wording in the Protocol for which individual Forum members hold a preference contrary to the majority view and feels a strong need to list it as an “area of non-consensus” in addition to it being an “area for further analysis and dialogue”, for the reason of maintaining credibility with their constituencies. The Forum recommends that these areas receive priority consideration in future processes of Protocol improvement, and that inputs of key stakeholders and experiences based on practical application regarding these topics are sought.

These areas of non-consensus are in the two assessment tool documents entitled Preparation and Implementation, under the topics Project Affected Communities & Livelihoods; Resettlement; and Indigenous Peoples. The specific details of the non-consensus views are found on the relevant topic page in each of these Protocol assessment tool documents.

Full background on the Hydropower Sustainability Assessment Forum and the process leading to development of the Protocol, and more detail on these organisational views on the final Protocol, can be found at www.hydro sustainability.org.

Protocol Purpose and Target Users

The Hydropower Sustainability Assessment Protocol is a sustainability assessment framework for hydropower development and operation. It enables the production of a sustainability profile for a project through the assessment of performance within important sustainability topics.

To reflect the different stages of hydropower development, the Protocol includes four sections, which have been designed to be used as standalone documents. Through an evaluation of basic and advanced expectations, the Early Stage tool may be used for risk assessment and for dialogue prior to advancing into detailed planning. The remaining three documents, Preparation, Implementation and Operation, set out a graded spectrum of practice calibrated against statements of basic good practice and proven best practice. The graded performance within each sustainability topic also provides the opportunity to promote structured, continuous improvement.

Assessments rely on objective evidence to support a score for each topic, which is factual, reproducible, objective and verifiable. The Protocol will be most effective when it is embedded into business systems and processes. Assessment results may be used to inform decisions, to prioritize future work and/or to assist in external dialogue.

A wide application of the Protocol is desired; it should be applied in a collaborative way, to ensure the best availability of information and points of view. The development and evaluation of a hydropower project will involve many actors with different roles and responsibilities. It is recognized that both development and operation may involve public entities, private companies or combined partnerships, and responsibilities may change as the project progresses through its life cycle.

It is intended that the organisation with the primary responsibility for a project at its particular life-cycle stage will have a central role in any Protocol assessment. This organisation may not have the major responsibility for all sustainability topics. Roles and responsibilities for different topics will be discussed in a Protocol assessment and indicated in the assessment report.

IHA and the supporting organizations seek feedback and suggestions for the improvement of future versions of the Protocol. To provide feedback, please contact the IHA Central Office.

Governance of the Protocol

The use of the Protocol is governed to protect its integrity, ensure appropriate qualification of trainers and assessors, provide quality control, consistency and comparability of training material, assessments and results, and revenue generation to sustain further development of the Protocol and associated activities.

The Protocol is governed by the Hydropower Sustainability Assessment Council. A Charter, which sets out rules concerning the formation and decision-making of the Council, and Terms and Conditions for Use of the Protocol were adopted in June 2011. These key documents are publicly available on www.hydrosustainability.org.

The Council consists of a Governance Committee, a Management Entity, and a series of Chambers. Each chamber represents a different segment of stakeholders, such as ‘hydropower operators’, or ‘environmental organisations’, and each elect chairs and alternate chairs that come together to form the Governance Committee. The mission of the Council is to ensure multi-stakeholder input and confidence in the Protocol content and its application, and the Council welcomes and encourages input from, and engagement with, all stakeholders involved in the development of hydropower.

The terms and conditions define an official assessment as one which:

- Is carried out by an independent accredited assessor;
- Involves the principal organisation responsible for the project, demonstrated by their written support; and
- Meets any other guidelines for official assessment published by the Hydropower Sustainability Assessment Council.

No Protocol Assessment reports may make statements regarding the certification of the project in question as ‘certified sustainable’ or similar claims regarding a ‘pass’ or ‘fail’ of a sustainability standard. The publication of a Protocol assessment which does not meet the requirements of an official assessment, yet in intent and design implies that it is an official assessment, constitutes unauthorised use of the Protocol and will be considered in breach of the Terms and Conditions.

Subject to the Terms and Conditions for Use, the Protocol is available to all parties, without charge, on www.hydrosustainability.org, and is free to be used without license for informal purposes, such as informing dialogue, and guiding business systems and processes. The Protocol, with its previous drafts, is protected by IHA through international intellectual property law, including copyright.

Principles Underpinning the Protocol

- Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.
- Sustainable development embodies reducing poverty, respecting human rights, changing unsustainable patterns of production and consumption, long-term economic viability, protecting and managing the natural resource base, and responsible environmental management.
- Sustainable development calls for considering synergies and trade-offs amongst economic, social and environmental values. This balance should be achieved and ensured in a transparent and accountable manner, taking advantage of expanding knowledge, multiple perspectives, and innovation.
- Social responsibility, transparency, and accountability are core sustainability principles.
- Hydropower, developed and managed sustainably, can provide national, regional, and local benefits, and has the potential to play an important role in enabling communities to meet sustainable development objectives.

What is a Sustainable Hydropower Project?

The principles underlying this Hydropower Sustainability Assessment Protocol, combined with results of a Protocol assessment, provide an important framework for considering questions about the sustainability of any particular hydropower project.

There is a common view across a diversity of sectors (e.g. governments, NGOs, civil society, industry, banks) on the important sustainability considerations that need to be taken into account to form a view on hydropower project sustainability. The Protocol captures these considerations in a structured framework, and provides a platform from which to produce a sustainability profile for a project.

The Protocol is designed for the Level 3 scores, describing basic good practice, to be broadly consistent with the IHA Sustainability Guidelines 2004, and where there are gaps or inconsistencies that any future review of these IHA guidelines would consider these.

Organisations may hold different views on what levels of performance are linked to a sustainable project, and the Protocol makes no specification on requirements for acceptable performance. All countries and organisations adopting and supporting this Protocol respect the need for institutions to have their own policies and positions on acceptable performance for a hydropower project. All organisations expressing support for the Protocol recognise that a Protocol assessment can make a substantial contribution towards understanding and achieving sustainable projects. In producing a sustainability profile, the Protocol can help inform decisions on what is a sustainable project; decision-making on projects is left to individual countries, institutions and organisations.

Protocol Structure

The Protocol comprises five documents –this Background document and four assessment tools for the different stages of the project life cycle, as shown in Figure 1.

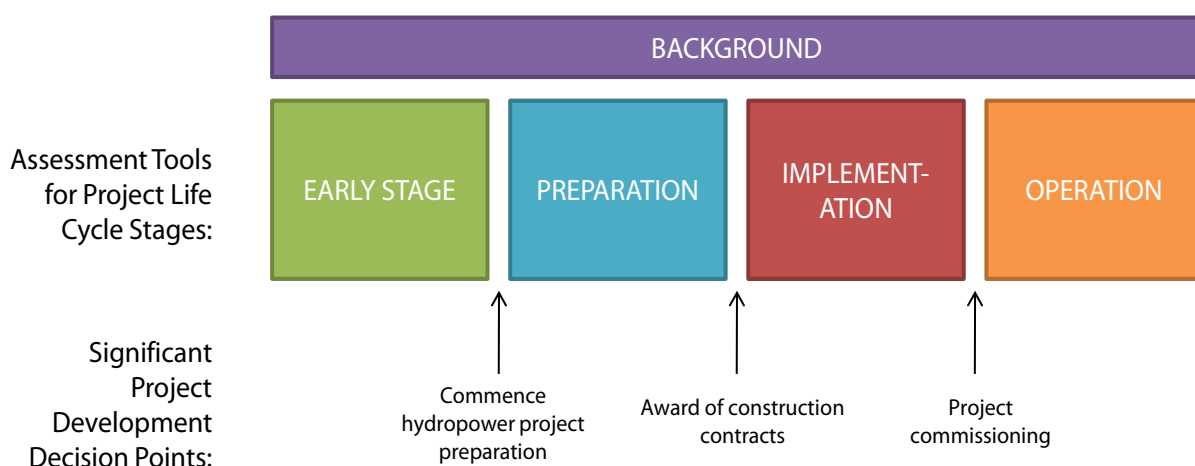


Figure 1 - Protocol Assessment Tools and Major Decision Points

Protocol Assessment Tools

The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to be applicable up to major decision points in the project life cycle (shown in Figure 1), and are most effective where there are repeat applications to help guide continuous improvement measures. Results of assessments undertaken during a project stage have the potential to assist in defining further measures to be undertaken during that project stage, or to inform the key decisions that would be made at the end of that project stage.

The **Early Stage** assessment tool is a preliminary screening tool to assess the strategic environment from which proposals for hydropower projects emerge. It identifies project risks and opportunities at an early stage, in order to identify the challenges and management responses to proceed with a more detailed project investigation. The Early Stage assessment tool may also be usable for other broader purposes, such as the identification of opportunities to improve the sustainability context of hydropower investments. The Early Stage assessment tool differs from the other three assessment tools in that it is an assessment guide but not a scoring protocol. This is because there is not a clearly formulated project at this stage, nor a strong basis of information from which to derive sustainability scores. A further difference is that early investigations about potential project possibilities are often of a confidential nature, especially in the case in which developers have not yet decided whether to invest in more detailed studies, or where there is a highly competitive context of a liberalised energy market. As long as no public announcement about project intentions has been made, this Early Stage assessment tool offers a means to encourage better early stage analysis and identification of knowledge gaps. As soon as detailed technical, environmental, social and financial feasibility studies are undertaken, often under a strict governmental process, the use of the Preparation assessment tool will be appropriate.

The **Preparation** assessment tool assesses the preparation stage of a hydropower project, during which investigations, planning and design are undertaken for all aspects of the project. This project stage is normally subject to national regulatory processes regarding project-specific Environmental and Social Impact Assessment (ESIA) requirements as well as project management processes. Following project preparation, there is a critical decision point in the decision to award the construction contracts. An assessment conducted at this point in time would assess whether all preparatory requirements have been met, management plans are in place, and commitments are appropriate and binding. This Protocol assessment tool can be used prior to, and to inform, the decision to move forward with project implementation. This decision is governed by national regulatory processes to obtaining a construction permit and an operating license based on the ESIA and project specific governmental requirements. Following this point, construction commences along with relevant elements of environmental and social management plans.

The **Implementation** assessment tool assesses the implementation stage of a hydropower project, during which construction, resettlement, environmental and other management plans and commitments are implemented. Commissioning of the power station enables the project to start to earn money, and in fact often some units (i.e. turbines) of a multiple unit power station are commissioned while others are still being installed to assist in meeting the financial commitments of the project. An assessment made prior to the decision to commission any units would assess whether all commitments have been met, and can inform the timing and conditions of project commissioning.

The **Operation** assessment tool assesses the operation of a hydropower facility. This Protocol assessment

tool can be used to inform the view that the facility is operating on a sustainable basis with active measures in place towards monitoring, compliance and continuous improvement. This project phase is framed by the operating conditions put forth in a national governmental authorisation often called operating license.

A project may be at an early or late point in the project stage when an assessment is undertaken. Assessments may be forward looking (i.e. what activities should be undertaken) or backward looking (reflecting on how well activities were undertaken). The Protocol is designed for repeat application, and an assessment undertaken early in a life cycle stage may guide activities that would result in stronger performance in a later stage assessment. There may be overlap between stages of the project life cycle (e.g. implementation activities during project preparation, or turbines commissioned while implementation activities are still progressing). If a project is in transition between stages, the choice of which assessment tool to use depends on the purpose of the assessment.

Hydropower projects tend to have an extensive lifetime, with many operating facilities having been in service for more than a century. The Early Stage assessment tool can provide guidance on some of the important considerations to take into account for decisions relating to facility or transmission network re-optimisation, facility life extension or decommissioning. Project decisions relating to major refurbishment would utilise the Preparation assessment tool. In the case of re-licensing or minor refurbishment, the Operations assessment tool would be appropriate for the assessment.

Protocol Topics

Within each Protocol assessment tool is a set of topics important to forming a view on the overall sustainability of that project at that point in its life cycle. Topics, when taken together, provide the list of issues that must be considered to confidently form a view on the overall sustainability of a hydropower project at a particular point in its life cycle.

Figure 2 shows the perspectives which are captured by the Protocol topics. It is recognised that an individual topic is not always neatly labelled as a particular perspective. For example, water quality may be typically seen as an environmental perspective, but poor water quality may have strongly negative social consequences. Some of the topics provide an integrative function across the other perspectives, for example Integrated Project Management.

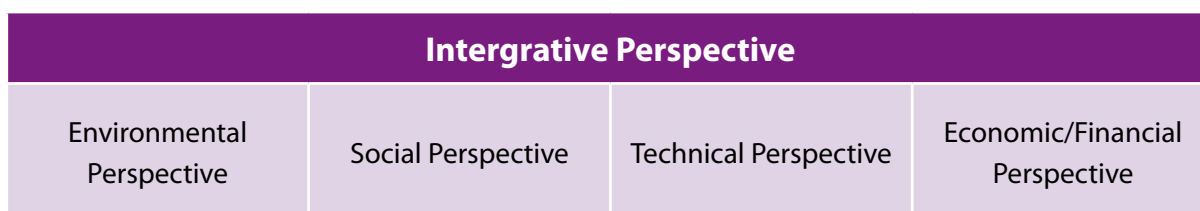


Figure 2 – Perspectives Represented by Protocol Topics

Table 1 provides a list of topics for each assessment tool. As can be seen, there are topics which address each perspective shown in Figure 2, including topics which are integrative in nature such as Governance, or Siting & Design. Not every topic will be relevant to every project, and so at the front of the Preparation, Implementation and Operation documents is a Topic Relevance Guide to assist in determining relevant topics. For example, if there is no Resettlement the Resettlement topic does not need to be assessed.

Structure of Each Topic Page

Each topic has the following information provided on the topic page:

- **Statements of description** and intent for that topic. The statement of description defines the scope of the topic. The intent statement provides information to help orient the reader and users on why that topic is important to the overall sustainability of the project and what should generally be achieved; it is not tied to any particular scoring level.
- **Scoring statements** at levels 1, 2, 3, 4 and 5 to guide how to allocate scores. These statements are structured around criteria that are considered to be the most pertinent to that topic at that particular stage of the project life cycle. Scoring statements are not found in the Early Stage assessment tool, which is guidance only.
- **Assessment guidance** – this provides definitions, explanations or examples of words, themes or concepts referred to in the topic description, intent or scoring statements. These are provided to assist the assessor in the assignment of scores. Also provided are examples of potential interviewees and examples of evidence which can guide the design, preparation for and undertaking of the assessment process. Where examples are cited, these are examples only and are provided to assist in understanding; these should not be interpreted as absolute requirements or assumed that all components must be met.

Table 1 - Hydropower Sustainability Assessment Protocol Topics by Section

ES - Early Stage	P - Preparation	I - Implementation	O - Operation
ES-1 Demonstrated Need	P-1 Communications & Consultation	I-1 Communications & Consultation	O-1 Communications & Consultation
ES-2 Options Assessment	P-2 Governance	I-2 Governance	O-2 Governance
ES-3 Policies & Plans	P-3 Demonstrated Need & Strategic Fit		
ES-4 Political Risks	P-4 Siting & Design		
ES-5 Institutional Capacity	P-5 Environmental & Social Impact Assessment & Mgmt	I-3 Environmental & Social Issues Mgmt	O-3 Environmental & Social Issues Mgmt
ES-6 Technical Issues & Risks	P-6 Integrated Project Management	I-4 Integrated Project Management	
ES-7 Social Issues & Risks	P-7 Hydrological Resource		O-4 Hydrological Resource
ES-8 Environmental Issues & Risks			O-5 Asset Reliability & Efficiency
ES-9 Economic & Financial Issues & Risks	P-8 Infrastructure Safety	I-5 Infrastructure Safety	O-6 Infrastructure Safety
	P-9 Financial Viability	I-6 Financial Viability	O-7 Financial Viability
	P-10 Project Benefits	I-7 Project Benefits	O-8 Project Benefits
	P-11 Economic Viability		
	P-12 Procurement	I-8 Procurement	
	P-13 Project Affected Communities & Livelihoods	I-9 Project Affected Communities & Livelihoods	O-9 Project Affected Communities & Livelihoods
	P-14 Resettlement	I-10 Resettlement	O-10 Resettlement
	P-15 Indigenous Peoples	I-11 Indigenous Peoples	O-11 Indigenous Peoples
	P-16 Labour & Working Conditions	I-12 Labour & Working Conditions	O-12 Labour & Working Conditions
	P-17 Cultural Heritage	I-13 Cultural Heritage	O-13 Cultural Heritage
	P-18 Public Health	I-14 Public Health	O-14 Public Health
	P-19 Biodiversity & Invasive Species	I-15 Biodiversity & Invasive Species	O-15 Biodiversity & Invasive Species
	P-20 Erosion & Sedimentation	I-16 Erosion & Sedimentation	O-16 Erosion & Sedimentation
	P-21 Water Quality	I-17 Water Quality	O-17 Water Quality
		I-18 Waste, Noise & Air Quality	
	P-22 Reservoir Planning	I-19 Reservoir Preparation & Filling	O-18 Reservoir Management
	P-23 Downstream Flow Regimes	I-20 Downstream Flow Regimes	O-19 Downstream Flow Regime

Assessment Criteria

There are six criteria that may be utilised for the scoring statements on each topic – Assessment, Management, Stakeholder Engagement, Stakeholder Support, Conformance/Compliance, and Outcomes. These provide an ability to assess both the processes in place to ensure sustainability of the project or operation, and the performance of that project or operation on that particular sustainability topic.

Understanding the Protocol's Gradational Assessment Approach

The gradational approach undertaken in the Preparation, Implementation and Operation assessments tools can be understood by examination of Table 2. This table provides general guidance on characteristics that are likely to be exhibited for these different criteria at the five different scoring levels. The scoring statements found in the Preparation, Implementation and Operation assessment tools have been guided by the approach shown in Table 2. This table is not intended to be the basis for assigning of scores, as sufficient information generally should be provided on the topic pages. However, this table can be referred to during an assessment if there is insufficient information in the topic scoring statements and in the topic-specific assessment guidance to help the assessor to determine a score. If there are questions in the assessment process about whether the assessment, management and stakeholder engagement approaches are sufficient for basic good practice, Table 2 may be of assistance.

Glossary of Terms

Definitions for terms that are commonly seen throughout the Protocol are found in the Glossary of Terms, found at the back of each of the four assessment tools, and at the back of this Background document. This glossary generally provides definitions that are not provided on the topic pages, although there may be some overlap if the definition is thought to be of general interest. For example, if there is a term whose definition is critical to a particular topic then the definition will be found on the topic page (e.g. the definition of "indigenous peoples" will be found under Assessment Guidance on the Indigenous Peoples topic page), but this is also provided in the Glossary of Terms.

HSAF Knowledge Base

The Hydropower Sustainability Assessment Forum (HSAF) developed an online HSAF Knowledge Base to capture information considered by the Forum during development of the Protocol. This website can be accessed at http://www.hydropower.org/sustainable_hydropower/HSAF.html. The HSAF Knowledge Base is a resource with a depth of information on Protocol topics and cross-cutting issues that can be accessed by those who are interested. The HSAF Knowledge Base identifies a number of the standards that were important reference points for the different topics and themes addressed in the Protocol. Important reference points have included the World Commission on Dams 2000 report, the UNEP Dams & Development Project, the IFC Performance Standards, the World Bank and other multi-lateral safeguards policies, ISO standards, and numerous UN declarations and conventions. It will provide a valuable record for future development of support material to accompany the Protocol.

Assigning Scores and Presenting Results

The Preparation, Implementation and Operation assessment tools enable development of a sustainability profile for the project under assessment. For each topic, scoring statements describe what should be exhibited by the project to address that important sustainability issue. It is recognised that different organisations may have the primary responsibility for different sustainability topics. Because it is likely that these responsibilities vary amongst countries and at project life cycle stages, no specification on organisational responsibilities is made in the Protocol scoring statements. It would be expected in the assessment reports to indicate where organisational responsibilities lie.

Scoring Levels

In the Preparation, Implementation and Operation assessment tools, each topic is scored from Level 1 to 5. The Level 3 and Level 5 statements provide meaningful and recognisable levels of performance against which the other scores are calibrated.

Level 3 describes **basic good practice** on a particular sustainability topic. Level 3 statements have been designed with the idea that projects in all contexts should be working toward such practice, even in regions with minimal resources or capacities or with projects of smaller scales and complexities. Note that the Protocol does not state that Level 3 is a standard that must be achieved; expectations on performance levels are defined by organisations that make decisions or form views based on Protocol assessments.

Level 5 describes **proven best practice** on a particular sustainability issue that is demonstrable in multiple country contexts. Level 5 statements have been designed with the idea that they are goals that are not easy to reach. However, they have been proven that they can be attained in multiple country contexts, and not only by the largest projects with the most resources at their disposal. 5s on all topics would be very difficult to reach, because practical decisions need to be made on priorities for corporate/project objectives and availability/allocation of resources (time, money, personnel) and effort.

On the topic pages, the Level 3 statements are provided in full, and the Level 5 statements provide what is exhibited in addition to that described in the Level 3 statement. Consequently, the Level 5 statements are meant to be read in conjunction with the Level 3 statements.

The other scoring levels are represented by standard statements which use basic good and proven best practice as reference points:

Level 1 - There are significant gaps relative to basic good practice.

Level 2 - Most relevant elements of basic good practice have been undertaken, but there is **one significant gap**.

Level 4 - All elements of basic good practice have been undertaken and in one or more cases exceeded, but there is **one significant gap** in the requirements for proven best practice.

Table 2: Understanding the Protocol’s Gradational Approach

This table captures characteristics that are likely to be exhibited at different scoring levels for each of the criteria used in the Hydropower Sustainability Assessment Protocol.

Level	Assessment	Management
5	<p>Suitable, adequate and effective assessment with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to take a relatively broad, external or regional view or perspective; emphasise opportunities; and show a high level examination of interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to show excellent anticipation of, and response to, emerging issues or opportunities; senior management and/or executive decisions are likely to be timely, efficient and effective in response to monitoring data, investigations and issues arising; and, in cases, commitments in plans are public, formal and legally enforceable.</p>
4	<p>Suitable, adequate and effective assessment with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to exhibit some recognition of broader, external or regional issues; opportunities; and interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to exhibit good anticipation of, and response to, emerging issues or opportunities; and, in cases, commitments in plans are public and formal.</p>
3	<p>Suitable adequate and effective assessment with no significant gaps.</p> <p>This would typically encompass (as appropriate to the topic and life cycle stage) identification of the baseline condition including relevant issues, appropriate geographic coverage, and appropriate data collection and analytical methodologies; identification of relevant organisational roles and responsibilities, and legal, policy and other requirements; appropriate utilisation of expertise and local knowledge; and appropriate budget and time span.</p> <p>At level 3 the assessment encompasses the considerations most relevant to that topic, but tends to have a predominantly project-focussed view or perspective and to give stronger emphasis to impacts and risks than it does to opportunities.</p>	<p>Suitable, adequate and effective management processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage) development and implementation of plans that: integrate relevant assessment or monitoring findings; are underpinned by policies; describe measures that will be taken to address the considerations most relevant to that topic; establish objectives and targets; assign roles, responsibilities and accountabilities; utilise expertise appropriate to that topic; allocate finances to cover implementation requirements with some contingency; outline processes for monitoring, review and reporting; and are periodically reviewed and improved as required.</p>
2	<p>A significant gap in assessment processes relative to basic good practice (Level 3).</p>	<p>A significant gap in management processes relative to basic good practice (Level 3).</p>
1	<p>Significant gaps in assessment processes relative to basic good practice (Level 3)</p>	<p>There are significant gaps in management processes relative to basic good practice (Level 3)</p>

Stakeholder Engagement	Stakeholder Support	Outcomes	Conformance/ Compliance
<p>Suitable, adequate and effective stakeholder engagement processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the engagement is likely to be inclusive and participatory with the directly affected stakeholders; thorough feedback is likely to be available on how directly affected stakeholder issues are taken in to consideration; in cases, there is likely to be directly affected stakeholder involvement in decision-making; and information identified through engagement processes to be of high interest to stakeholders is released publicly in a timely and easily accessible manner.</p>	<p>There is support of nearly all directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no opposition by these stakeholders.</p> <p>In cases formal agreements or consent with the directly affected stakeholder groups have been reached for management measures for that topic.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited enhancements to pre-project conditions; contributions to addressing issues beyond those impacts caused by the project; leveraging of opportunities; or significant contribution to capacity building.</p>	<p>No non-compliances or non-conformances.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), there is likely to be good feedback on how directly affected stakeholder issues have taken into consideration; and information on sustainability topics understood to be of high interest to stakeholders is voluntarily released publicly.</p>	<p>There is support of a large majority of directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or only very low level opposition by these stakeholders.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited full compensation of negative impacts; some positive enhancements; or evidence of capacity building associated with the project.</p>	<p>Very few minor non-compliances and non-conformances that can be readily remedied.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage): Identification of directly affected stakeholders; Appropriate forms, timing, frequency and locations of stakeholder engagement, often two-way; Freedom for affected stakeholders to participate; Attention to special stakeholder engagement considerations relating to gender, minorities, cultural sensitivities, level of literacy, and those who might require particular assistance; Mechanisms by which stakeholders can see that their issues are recognised and acknowledged, and how they have been or are being responded to; and disclosure of information on significant sustainability topics (in cases, this may be on request).</p>	<p>There is general support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no significant ongoing opposition by these stakeholders.</p>	<p>As appropriate to the topic and the life cycle stage, there may be exhibited avoidance of harm, minimisation and mitigation of negative impacts; fair and just compensation; fulfilment of obligations; or effectiveness of implementation plans.</p>	<p>No significant non-compliances and non-conformances.</p>
<p>A significant gap in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is support amongst some directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, with some opposition.</p>	<p>A significant gap relative to basic good practice (Level 3), for example, some deterioration in baseline condition.</p>	<p>A significant non-compliance or non-conformance.</p>
<p>There are significant gaps in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is low support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or a majority oppose.</p>	<p>Significant gaps relative to basic good practice (Level 3), for example deterioration in baseline conditions with delay or difficulties in addressing negative impacts.</p>	<p>Significant non-compliances and non-conformances.</p>

Methodology for Assigning Scores

The Protocol has been designed so a score can be readily assigned for each sustainability topic in the Preparation, Implementation and Operation assessment tools. The following steps are involved in the assignment of a score for each Protocol topic:

1. The assessor evaluates if the scoring statements for each of the criteria specified at Level 3 are met by the project.
2. If there is one significant gap relative to the Level 3 statements (all or part of a criterion is not fulfilled), then a score of 2 is assigned to the topic.
3. If there is more than one significant gap relative to the Level 3 statements, then a score of 1 is assigned to the topic.
4. If all of the Level 3 statements are met, then the assessor evaluates if the scoring statements for each of the criteria specified at Level 5 are met by the project.
5. If there is one significant gap relative to the Level 5 statements, then a score of 4 is assigned to the topic.
6. If there is more than one significant gap relative to the Level 5 statements, then a score of 3 is assigned to the topic.
7. If all of the Level 5 statements are met, then a score of 5 is assigned to the topic.

“Significant” means important in effect or consequence, or relatively large. If there are minor gaps, these will not affect the score. That is to say, if there are minor gaps in meeting the requirements specified in the Level 3 statements, a score of 3 is still assigned. The significance of any gap is tested by the assessor through inquiry about the importance or magnitude of the effect or consequence of that gap.

The assessment guidance for each topic is provided to assist the assessor in understanding what is meant by different terms or phrases in the scoring statements. These are not absolute lists of requirements that must be met, but rather are often expressed as examples. The Glossary of Terms is also found in each assessment tool document, and contains many of the commonly used terms throughout the Protocol. The table entitled “Understanding the Protocol’s Gradational Assessment Approach” is also included in each assessment tool document; if the assessor is having difficulties assigning scores based only on the topic page information, this table could be referred to as a form of assistance in determining scores.

There is the potential to assign scores for each of the topic criteria appearing on a topic page, in the interests of eliciting greater insights from the assessment.

Objective Evidence

The score for each sustainability topic is assigned by the assessor during the Protocol assessment based on review of objective evidence. The Protocol 'assessment' is understood to be the defined and agreed time period during which the assessor is conducting interviews and reviewing evidence towards assigning scores.

The term objective evidence refers to evidence brought to the attention of the assessor by relevant documentation and interviewees. This evidence is used by the assessor to verify whether and to what degree the scoring requirements for a particular Protocol topic have been met.

Objective evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible, is not influenced by emotion or prejudice, and is based on facts obtained through observation, measurements, documentation, tests or other means. Personal observation by the assessor counts as objective evidence, which makes the site tour an important part of the assessment process.

Interviewees are those individuals with whom the assessor formally meets during the Protocol assessment, and who bring forward information that has bearing on the score assigned for a Protocol topic. A number of interviewees will be representatives of the organisation or partnership with the primary responsibility for the project at that particular life cycle stage; these will hereafter be referred to as "project representatives". Other interviewees may be from key government agencies or stakeholder groups with particular responsibilities, knowledge or insight on a particular sustainability topic or group of topics.

An assessment process is always a sampling process given time and logistical limitations, and the assessor will need to assign scores based on the evidence presented. A nominated lead project representative will be ultimately responsible for ensuring that evidence is provided to justify scores; this includes arrangement of interviews with key stakeholders who are not project representatives. The assessor will be highly conscious of the need for the assessment to be credible. The assessor should work with the lead project representative ahead of time to agree on the purpose of the assessment, how it will be used, what relevant documentation can be provided in advance and how it can be best structured to ensure as high a degree of credibility as possible given the time and logistical constraints.

Documentary evidence as a form of objective evidence is clearly retrievable and reproducible, and so can be a very efficient form of evidence provision in an assessment process. In cases documents may be provided to the assessor on a confidential basis, for example financial data, and this would need to be noted in the assessment report. In the absence of documentary evidence on a particular topic, personal observation and/or interviews can be sources of evidence. Interviews are selective, and should always be targeted at those who are accepted as having clear responsibilities, knowledge or insight on a particular sustainability topic or group of topics (and conversely should not exclude those who are accepted as having clear responsibilities, knowledge or insight on a particular sustainability topic or group of topics). Interviews should never be construed as an opinion poll on the project's sustainability performance, but rather they should be designed to "triangulate" verbal evidence, meaning to get verification from other sources.

The assessor may choose to conduct independent research to identify issues that may have been raised in relation to the project (e.g. media or internet search). This would need to be disclosed to the lead project representative ahead of time, and the project representatives given the opportunity in the Protocol assessment to address and respond to any issues identified by the assessor through such means.

Assigning “Not Relevant”

The Protocol is a global assessment tool and there is a lot of variety that must be accommodated, for example project scale and complexity, public or private sector projects, mainstream or tributary stream siting, multi-unit versus single-unit design, single versus multi-use purpose, or reservoir versus run-of-river design. In addition, in the particular context of the hydropower project certain issues may not be relevant; for example, there may be no resettlement or cultural heritage issues that need to be managed.

To accommodate the amount of variety that will be encountered, assessors can identify a topic as Not Relevant if evidence presented supports such a conclusion. At the front of each assessment tool is a topic relevance guide to support such considerations. Also, early in each of the Preparation, Implementation and Operation assessment tools is found the topic relating to assessment and management of environmental and social issues – review of the Environment and Social Impact Assessment documents or related Management Plans should provide credible evidence that helps determine if later topics in the Protocol are not going to be relevant. Assessment guidance notes have also been provided for some topics to assist the assessor in determining if it is Not Relevant.

It may be that in some cases a component of a topic is not relevant. Depending on the project stage of the assessment and specific national contexts a criterion might not be relevant. In this case the assessor is able to assign a score based on the relevant content of the topic, but should make it clear in the assessment report what was considered not relevant and the evidence on which this determination was based.

Assigning “Not Scored”

The assessor assigns the score at the lowest level for which evidence is available to support the score. Verbal reassurances that evidence exists are not sufficient. In the absence of any interviews or objective evidence the assessor indicates that that topic is “Not Scored”. Assigning Not Scored would be appropriate in the case that an important scheduled interviewee is not able to be present at the last minute, in which case a topic may not be able to be assessed. If the assessor commences assessment of a topic, but is not able to verify the objective evidence to support a score, Not Scored should be assigned.

Assigning Not Scored to particular topics will also be relevant in the case that there is an agreement ahead of time that the assessment is a partial assessment, and not all topics will be assessed. The objective of a Protocol assessment is to produce a sustainability profile for the project, so an outcome with Not Scored assigned to any of the topics is considered an incomplete assessment. A project sustainability profile with Not Scored indicated on any of the topics should not be accepted as a representation of that project’s sustainability performance.

Relationship of Scores to Compliance with Regulatory Obligations

The preparation, implementation and operating phase of a hydropower project are framed by national regulations. First and foremost, a project is expected to comply with the laws and concessions/permits of the government. The Protocol offers a complementary tool, on a voluntary basis and in the spirit of continuous improvement, that identifies opportunities for improvement with respect to sustainability criteria relevant to an international context.

Compliance with relevant regulatory requirements is expected for all projects, and is an essential component of good practice. National or state requirements may be more or less stringent than the Level 3 statements in the Protocol. The Protocol is a globally applicable assessment tool, and makes no judgements on national

requirements which are set for reasons of relevance to that country. There may in fact be cases where local law sets out, for example, compensation measures that a proponent should not legally go above or below.

Compliance with regulatory requirements does not equate to a particular scoring level in the Protocol, but should be recorded by the assessor if it is a substantive issue for the assessment.

If a conflict between regulatory requirements and the level of statements in the Protocol arises as a point of issue in the assessment, the assessor should note if the project has met the regulatory requirements for a particular criterion and what these regulatory requirements are with respect to the Protocol specifications, in addition to assigning a scoring level based on the Protocol specifications. Decision-makers will then be able to determine their own views on this information.

Presenting the Results

Based on the Protocol assessment, a report is developed, a typical structure and content of which might be consistent with that shown in Figure 3. A formal template for reporting and presentation of results will be developed in the future, based on review of application experience as well as better understanding of the needs and interests of utilising organisations.

Analysis of areas of strength, weakness and opportunity, and recommendations for the project, could be included if this has been specifically requested for the assessment report.

The emphasis is not on an overall single score or a pass/fail for a project, but rather on provision of a sustainability profile for the project accompanied by information that assists in systematically analysing and understanding the strengths, weaknesses and pathways towards improvement.

In provision of a summary table and diagram, the scores are presented to show topic by topic performance and are not aggregated. If a topic is Not Relevant or is Not Scored, it is shown as such in the report, summary table and summary figure. A simple bar chart, histogram or webgram could work well for a summary figure. Averaging, totalling, or calculating percentages with scores is not intended, as it will mask areas of low performance and hence diminish credibility in the Protocol assessment as an aid to advancing project sustainability.

Preparing for and Conducting a Protocol Assessment

The following is provided as guidance on what might typically be involved in preparing for and conducting a Protocol assessment, based on the experience of utilisation of the previous IHA Sustainability Assessment Protocol 2006 and trialling of the Draft Hydropower Sustainability Assessment Protocol 2009. More formal guidance on steps in preparing for and conducting a Protocol assessment will be developed in the future, based on review of application experience as well as better understanding of the needs and interests of utilising organisations.

Assessments are conducted at the hydropower project site and often also at the project head office. The participants in and time allocated for a Protocol assessment will vary depending on project complexity, key issues, and how the results are intended to be used. One to two assessors would be considered appropriate for an assessment; the advantage of two would be if they provide different experiences, expertise and insights into the evaluation process. For particularly complex assessments, a team may be required so that interviews can be done in parallel. Assessors could be internal or external to the project, depending on the level of need for independence. Of necessity would be that the assessors have credible sustainability assessment and/or auditing experience. If there are reasons to have a high level of transparency or partnership in such an undertaking, an assessment could be observed by or undertaken in partnership with an external party (e.g. a representative from an NGO, civil society, development bank, commercial bank, bilateral donor or government as long as these are distinct from interviewees for the project).

Considerable preparation, in the order of one month for multiple representatives of the project, would be expected prior to an assessment, although this should diminish as users become more familiar with the Protocol. The organisation or partnership with primary responsibility for the project at that life cycle stage identifies a lead project representative to be the main point for coordination in arranging the assessment. This lead project representative would be available to the assessment team at all times so that he/she is aware of the information gaps and needs of the assessors and how best to address them.

Prior to the arrival of the assessors on site, the lead project representative would ensure:

- clarification on the purpose of the assessment and the expectations for its process (time, depth, breadth, range of interviewees, etc) and outcomes (how results will be presented, degree of interpretation, provision of recommendations, etc);
- identification of internal staff or external individuals who can provide information to support assessments on particular topics, and prior briefing of those individuals;
- review of the relevant assessment tool(s) of the Protocol by participants;
- identification of objective evidence that can be brought to the interviews to support scoring for each topic;
- provision of any background reading material for the assessors;
- preparation of an agenda and interview schedule for the visit, to be agreed with the assessors; and
- preparation of project overview presentation.

EXECUTIVE SUMMARY: Brief statements about the project, purpose of assessment, and outcomes including summary table and diagram of assessment results and any important explanatory or interpretive comments, in a form suitable for presentation to company Executive and Board.

PART 1: ABOUT THE PROJECT AND THE ASSESSMENT

- o Project name, location, owner or main responsible organisation
- o Assessment dates
- o Assessor name(s), title(s), organisational name(s), credentials
- o Any observers or partners in the assessment – names, titles, organisations, credentials
- o Project lead representative(s) name(s)
- o Background information about the project including purpose of the project, capacity, and major lay-out and design features, and stage in the development cycle
- o Purpose of the Protocol assessment and agreements on its scope, process and intended outcomes including level of confidentiality
- o Disclaimers and confidentiality agreements if any (these may relate to evidence cited, for example financial data)
- o Schedule of the assessment

PART 2: PROTOCOL ASSESSMENT FINDINGS

- o Summary of outcomes including table and diagram of assessment results and any important explanatory or interpretive comments
- o For each topic:
 - Several paragraphs on project context with respect to the topic, including primary organisational responsibilities.
 - Interviewees.
 - Objective evidence by type (visual, documentary, verbal) with comments as appropriate.
 - Scores assigned and reasons for.
 - Explanations for topics that are assigned Not Relevant or Not Scored.
 - Any notes of importance (e.g. regulatory requirements, information gaps, etc).

PART 3: ATTACHMENTS

- o Register of documentary evidence viewed (preferably numbered or coded)
- o Register of individuals interviewed

Figure 3 – Example Protocol Assessment Report

During the assessment, the lead project representative would ensure:

- availability of the lead project representative at all times;
- provision of an interpreter if required;
- relevant staff and external stakeholders attending meetings and interviews;
- provision of site tour to include all locations pertinent to the scoring requirements, meeting of project affected stakeholders, and viewing of objective evidence;
- provision of relevant documentary evidence for viewing; and
- provision of rooms where initial and close out meetings can be held, interviews conducted, and documentation viewed.

On each topic page are examples of potential interviewees and also examples of evidence. These will vary depending on the context. In the assessment, interviewees will vary with topic, and could include relevant project representatives, government representatives, community representatives and experts with particular responsibilities, insight and knowledge about the topic under focus. If major decisions are tied to the Protocol assessment outcomes, and transparency and credibility are important to establish, an interview schedule involving diverse stakeholder perspectives can help increase confidence in the findings.

In the assessment, a careful record is documented that captures all sites viewed, all individuals interviewed (titles, names, positions, organisations, relevant topic), and all evidence viewed (document titles, date, where held, relevant topic).

As a preliminary guide, at least five working days from arrival to departure of the assessors should be planned on for a Protocol assessment, although this will be more or less for an individual project depending on project scale and purpose of the assessment. A full-blown in-depth sustainability assessment might be done where the purpose is to support external decision-making, whereas a more cursory assessment might be done for internal self-assessments to guide project management directions by identifying project risks and opportunities for improvement. As mentioned above, more formal guidance on steps in preparing for and conducting a Protocol assessment will be developed in the future.

A typical assessment itinerary might be as follows:

- **First Day** - Initial meeting, often with introductory presentations by assessor(s) about the assessment process, and by the project representatives and others (such as government agencies) about the project. This is typically followed by a tour of the project, including downstream impacted areas and resettlement areas as far as practicable given travel times, logistical constraints, and key areas of focus for the project.
- **Intermediate Days** - Interviews by the assessor in relation to all Protocol topics. These interviews would be with project representatives and with other stakeholders (e.g. government, experts, NGOs, civil society, project affected communities) relevant to the different Protocol assessment requirements. The assessor will also spend time reviewing evidence typically in the form of reports and documents. The number of days depends on size and complexity of the project, level of formality of the assessment, breadth and depth of the interviews involved, and also travel times.
- **Final Day** - Close out meeting between the assessor and the project representatives, which could involve a presentation and/or discussion on key assessment findings, information gaps, and areas of strength, weakness and opportunity for the project.

Some topics may benefit from visiting twice in the assessment process. For example, the Governance Topic is second in the order of topics in the Preparation, Implementation and Operation assessment tools, and is critical for assessing the policies and practices that a developer or owner/operator has in place in the planning, construction and operation phases. An assessment of the Governance topic early in the Protocol assessment process enables an overview of the systems in place; a later revisit of this topic might allow for a finer assessment of the effectiveness of the systems in place. Typically some final meetings in the company's head office enables some of the questions about higher level policies that govern practices observed on site to be asked and evidence viewed.

Further Information

High Profile and Cross-Cutting Issues

There are a number of high profile and cross-cutting issues that are addressed in the Protocol but may not be apparent in the names of the topics and criteria. In the following, the letter codes refer to the different Protocol assessment tools (ES – Early Stage, P – Preparation, I – Implementation, O – Operation), followed by the topic number within that assessment tool.

Climate change is one of the issues that permeates through many facets of the Protocol assessment tools. Because it has many different dimensions, it does not appear as a single topic but is referenced in many different ways in a number of topics. Climate change provides a changed framework for consideration of many hydropower projects relative to a decade ago. Demonstrated Need (ES-1) and Demonstrated Need & Strategic Fit (P-3) address water and energy needs that may have strong climate change drivers, for example the need to have low carbon energy options and the need to mitigate climate induced changes to water supply. Policies & Plans (ES-3) and Demonstrated Need & Strategic Fit (P-3) include consideration of climate-related policies and plans. Options Assessment (ES-2) and Siting & Design (P-4) include consideration of a range of issues including the potential for greenhouse gas emissions generation. Financial Viability (P-9) includes options for finance including carbon finance. Hydrological Resource (P-7, O-4) includes understanding of hydrological trends and long-term availability which may be influenced by climate change, and includes consideration of the ability of the project to anticipate and adapt to any hydrological changes. Reservoir Planning (P-22) includes reference to reservoir clearing of vegetation, which may or may not be undertaken for the purpose of addressing greenhouse gas emissions. There is no distinct requirement to assess greenhouse gas emissions from reservoirs in this 2010 version of the Protocol because there is no established methodology as yet to do this; it is anticipated that in the future when a methodology is determined that it could be built into the Protocol.

Human rights is another issue that permeates through many facets of the Protocol assessment tools. There is an ever-growing body of support material on how companies can establish human rights policies and processes governing their business, and conduct human rights impact assessments in relation to their projects and operations. In fact because of the many facets of human rights that are addressed through a Protocol assessment, it could be used to help demonstrate how a project addresses human rights. Various human rights are addressed through almost all topics shown in Table 1, as well as through references in scoring statements to stakeholder engagement and public disclosure. The definition of a directly affected stakeholder is one with substantial rights, risks and responsibilities in relation to the project, and these are commonly referred to throughout the Protocol. Respecting human rights is directly built into the intent statements for the Resettlement (P-14, I-10, O-10) and Indigenous Peoples (P-15, I-11, R-11) topics. The Environmental & Social Impact Assessment & Management (P-5) scoring statement for Level 5 refers to social

impact assessments that incorporate assessment of human rights. The Labour & Working Conditions topic (P-16, I-12, O-12) scoring statement for Level 5 refers to consistency of labour management policies and practices with internationally recognised labour rights.

Further high profile and cross-cutting issues that may not be apparent from Protocol topic titles, and which may be of interest to stakeholders to know how they are addressed in the Protocol assessment tools include: Communication, Corruption, Gender, Grievance Mechanisms, IWRM (Integrated Water Resource Management), Legacy Issues, Livelihoods, Multi-Purpose Projects, Transboundary Issues and Transparency. Some of these are actually specific human rights in themselves. Table 3 provides a summary of where these issues are addressed in the Protocol.

Table 3 – High Profile and Cross-Cutting Issues in the Hydropower Sustainability Assessment Protocol

Corruption	Corruption is addressed in Political Risks (ES-4), Institutional Capacity (ES-5), Governance (P-2, I-2, O-2), and Procurement (P-12, I-8).
Gender	Gender is addressed to varying degrees in the topics Social Issues & Risks (ES-7), Communications & Consultation (P-1, I-1, O-1), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Project Affected Communities & Livelihoods (P-13, I-9, O-9), Resettlement (P-14, I-10, O-10), Labour & Working Conditions (P-16, I-12, O-12), and Public Health (P-18, I-14, O-14).
Grievance Mechanisms	Complaints or grievance mechanisms are directly addressed in Communications & Consultation (P-1, I-1, O-1), Governance (P-2, I-2, O-2) and Resettlement (P-14, I-10, O-10). Many other topics refer to processes for stakeholders to raise issues and get feedback through the wording of the stakeholder engagement criterion.
IWRM	Integrated Water Resource Management (IWRM) is addressed most directly in the topics called Policies & Plans (ES-3), Demonstrated Need & Strategic Fit (P-3), Siting & Design (P-4) and Hydrological Resource (P-7, O-4). It is indirectly relevant to many topics, and is specifically mentioned in the assessment guidance for Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Project Benefits (P-10, I-7, O-8), and Downstream Flow Regimes (P-23, I-18, O-17).
Legacy Issues	Legacy issues are addressed in Social Issues & Risks (ES-7), Environmental Issues & Risks (ES-8), Environmental & Social Impact Assessment & Management (P-5), and Environmental & Social Issues Management (I-3, O-3). Topics Project Affected Communities & Livelihoods (P-13, I-9, O-9), Resettlement (P-14, I-10, O-10), and Indigenous Peoples (P-15, I-11, O-11) also refer to legacy issues in the assessment guidance. The Operation assessment tool indirectly refers to legacy issues as part of almost all topics, in the scoring statement references to identification of ongoing issues.
Livelihoods	Livelihoods are addressed most directly in Project Affected Communities & Livelihoods (P-13, I-9, O-9), and are also addressed in Social Issues & Risks (I-7), Demonstrated Need & Strategic Fit (P-3), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Economic Viability (P-11), Resettlement (P-14, I-10, O-10), Indigenous Peoples (P-15, I-11, O-11), and Downstream Flow Regimes (P-23, I-18, O-17).
Multi-Purpose Projects	Multi-purpose projects are most directly addressed in Reservoir Planning (P-22), Reservoir Preparation & Filling (I-19), and Reservoir Management (O-18). They are also addressed in Demonstrated Need (ES-1), Policies & Plans (ES-3), Social Issues & Risks (ES-7), Demonstrated Need & Strategic Fit (P-3), Siting and Design (P-4), Hydrological Resource (P-7, O-4), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Economic Viability (P-11), Project Affected Communities & Livelihoods (P-13, I-9, O-9), and Downstream Flow Regimes (P-23, I-18, O-17).
Transboundary Issues	Transboundary Issues are most directly addressed under Political Risk (ES-4) as well as indirectly in Governance (P-2, I-2, O-2), Environmental & Social Impact Assessment & Management (P-5), Environmental & Social Issues Management (I-3, O-3), Hydrological Resources (P-7) and Downstream Flow Regimes (P-23, I-20, O-19)
Transparency	Transparency is addressed most directly in Governance (P-2, I-2, O-2), and also addressed through references to public disclosure in Demonstrated Need & Strategic Fit (P-3), Environmental & Social Impact Assessment & Management (P-5), Project Benefits (P-10, I-7, O-8), Economic Viability (P-11), Resettlement (P-14, I-10, O-10), Indigenous Peoples (P-15, I-11, O-11), and Downstream Flow Regimes (P-23, I-18, O-17).

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be misled.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Intermediaries: Workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic. In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.

Early Stage Assessment Tool

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Contents

The Hydropower Sustainability Assessment Protocol	32
ES-1 Demonstrated Need	33
ES-2 Options Assessment	34
ES-3 Policies & Plans	35
ES-4 Political Risks	36
ES-5 Institutional Capacity	37
ES-6 Technical Issues & Risks	38
ES-7 Social Issues & Risks	39
ES-8 Environmental Issues & Risks	40
ES-9 Economic & Financial Issues & Risks	41
Glossary of Terms	43

The Hydropower Sustainability Assessment Protocol

The Hydropower Sustainability Assessment Protocol (the "Protocol") is a sustainability assessment framework for hydropower projects and operations. It outlines the important sustainability considerations for a hydropower project, and enables production of a sustainability profile for that project. The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does

not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to be applicable up to major decision points in the project life cycle, and are most effective where there are repeat applications to help guide continuous improvement measures. The assessment tools and associated decision points are shown in Figure 1.

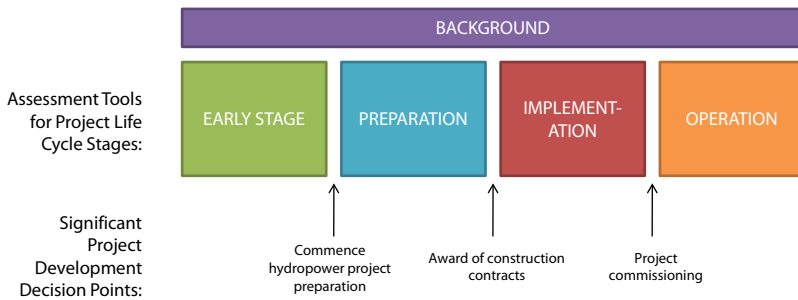


Figure 1 - Protocol Assessment Tools and Major Decision Points

Overview of the Early Stage Assessment Tool

This document provides the Early Stage assessment tool, and assumes that the user has already made him or herself familiar with the Protocol Background which describes the overall approach and use of the Protocol assessment tools. The Early Stage assessment tool is a preliminary screening tool, to assess the strategic environment from which proposals for hydropower projects emerge. It will identify project risks and opportunities at an early stage, in order to identify the challenges and management responses to proceed with a more detailed project investigation. The process should identify consistencies and conflicts relating to energy and water needs and opportunities in a sustainability context. Such an assessment would inform a proponent as to whether there is a strategic basis to move forward with a project proposal.

The Early Stage assessment tool includes key topics relating to the strategic environment; first reviewing existing needs, options and policies, then looking at the political situation and institutional capacities, followed by an assessment of the technical, social, environmental and economic risks. It is recognised that the results of such an assessment may carry a high level of confidentiality.

The Early Stage assessment tool may also be usable for other, broader purposes, such as the identification of opportunities to improve the sustainability context of hydropower investments. The objective is to encourage better early stage analysis and identification of knowledge gaps.

The Early Stage assessment tool differs from the other three assessment tools in that it is an assessment guide but not a scoring protocol. This is because there is not a clearly formulated project at this stage, nor a strong basis of information from which to derive sustainability scores. A further difference is that early investigations about potential project possibilities are often of confidential nature, especially in the case in which developers have not yet decided whether to invest in more detailed studies, or where there is a highly competitive context of a liberalised energy market. As long as no public announcement about project intentions has been made, this Early Stage assessment tool offers a means to encourage better early stage analysis and identification of knowledge gaps. As soon as detailed technical, environmental, social and financial feasibility studies are undertaken, often under a strict governmental process, the use of the Preparation assessment tool will be appropriate.

ES-1 Demonstrated Need

This topic addresses the needs that justify management and infrastructure investments in water and energy services, as identified through broadly agreed local, national, and regional development objectives and in national and regional policies and plans. The intent is that the capability of a particular hydropower project under consideration to contribute to established needs can be demonstrated.

This topic is important in order to support sustainable development objectives at the local, national and regional levels; and avoid over- or under-investment in energy and water services. It is also important as it seeks a balanced approach between water management and needs and energy management and needs.

Basic Expectations:

- **Assessment:** An assessment of identified needs for water and energy services has been undertaken that includes environmental, social and economic considerations.
- **Outcomes:** Needs for energy and water service projects have been demonstrated.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can make a significant contribution to demonstrated needs, or can contribute to many demonstrated needs; or
- a broad interpretation of water and energy services with respect to considering environmental and social dimensions.

Assessment Guidance:

Needs for water and energy services are those identified through broadly agreed local, national, and regional development objectives, policies and plans. A hydropower development to meet the energy requirements of an energy-intensive off-taker (e.g. an aluminium smelter) would be considered a demonstrated need if it is included in broadly agreed development objectives, policies and plans.

Water services examples include: water for energy generation, fisheries, floodplain agriculture, food supply, water storage capacity, drinking water supply, sanitation, water for business and industry, irrigation water supply, flood management, navigation, recreation, domestic needs of riparian dwellers, tourist opportunities, vehicle for transboundary cooperation, ecosystem services (e.g. floodplain maintenance, connectivity for migratory species, maintenance of off-river wetlands, nutrient and sediment balance, delta sediment replenishment, estuarine flushing, spawning ground access and maintenance), etc.

Energy services examples include: provision of electricity to meet local, national, regional, and/or international demand or opportunities; provision of grid stability; provision of peak load; provision of ancillary benefits such as spinning reserve, system regulation and improved thermal efficiency, etc.

Examples of evidence: Energy Master Plan; Water Development Plan; country or regional development report; analysis of project fit with demonstrated needs, regional land use and infrastructure development plans

ES-2 Options Assessment

This topic addresses the fit of a hydropower project under consideration amongst the options available to a region to meet energy and water needs, as well as the early stage process undertaken for considering project siting and design alternatives. The intent is that a hydropower project under consideration is supported as one of the priority options for addressing the need for energy and water services, and siting and design alternatives are considered at an early stage.

This topic is important because it compares hydropower options with other options such as other resources types and/or energy and water conservation. It adopts a sustainability perspective to ensure a realistic and comprehensive comparison of options across a range of economic, technical, environmental and social factors.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of the options available to meet demonstrated energy and water needs that considers a range of planning approaches and a range of siting and design alternative options with respect to the project under consideration.
- **Outcomes:** The project is one of the priority options for addressing the need for energy and water services.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project is one of the highest priority options; or
- a high quality approach taken to the options assessment, for example through the breadth of planning approaches considered, or the engagement of stakeholders in the analysis of options, or the criteria utilised for the analysis of options strongly emphasising sustainability or regional/basin-wide considerations.

Assessment Guidance:

Options assessment refers to an assessment that has been undertaken by government, river basin organisations, or other external organisations; however the absence of any available options assessment represents a significant risk for the developer which could be addressed in close collaboration with national authorities and financing agencies.

The full range of planning approaches includes policy, institutional, management and technical.

Energy options examples include: energy efficiency measures (conservation, policies, transmission and distribution measures), increased efficiency in generation (refurbishment and upgrades of existing power stations), the full range of types of energy, and the option of no development.

Water options examples include: a range of infrastructure options as well as conservation, policies, distribution mechanisms, demographic and land use issues.

Criteria or principles for analysis of alternatives might include, by way of example, siting on tributary streams rather than mainstem rivers; avoidance of high value biodiversity areas; avoidance of resettlement, increasing the effectiveness of existing water and energy infrastructure; etc.

Examples of evidence: options assessments, analysis of existing options assessments

ES-3 Policies & Plans

This topic addresses the context set by national and/or regional policies and plans for hydropower project planning, implementation and operations. The intent is that shortfalls, gaps or complexities in national and regional policies and plans can be managed with respect to development and operation of a particular hydropower project under consideration.

This topic is important because the sustainability of hydropower development can be influenced by the quality of integrated planning for resource development, and if the planning context is weak compensation measures on the part of the developer will be required (for example through corporate policies).

Basic Expectations:

- **Assessment:** An assessment of the most relevant policies and plans has been undertaken, including any basin development or integrated water resource management plans.
- **Outcomes:** The project fits with existing policies and plans, and any gaps or shortfalls can be managed.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project fits with the policy and planning context, and that gaps or shortfalls can be managed; or
- a broad approach taken with identification and analysis of relevant policies and plans, including social and environmental; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing gaps or shortfalls in the policy and planning context.

Assessment Guidance:

National and regional policies and plans examples include: development, energy, water (including IWRM), biodiversity, climate, conservation, transboundary, land use, urban and regional infrastructure planning etc. Because hydropower sits at the nexus of energy and water, it touches on a wide array of types of policies and planning instruments. There may be an absence of planning frameworks relevant to certain critical hydropower issues, or dated, poor quality or even contradictory with other policies and plans. Policies and plans may provide insufficient guidance on regulatory requirements for project preparation, approvals, implementation and operation. Potential hydropower projects may have implications that cross jurisdictional boundaries, in which case different sets of policies and plans would be relevant.

Social and environmental related policies and plans examples include: poverty eradication, food security, maintenance of fisheries, protection of high value sites (e.g. national parks, World Heritage sites, Ramsar wetlands, sites of cultural significance, recognised significant landscapes), etc.

Examples of evidence: national and regional policies and plans, evaluation of project fit with policies and plans, evaluation of status of river basin plans and river basin sustainability issues

ES-4 Political Risks

This topic addresses political risks of a region that may have implications for hydropower project development and operations. The intent is that political risks influencing development and management of a hydropower project under consideration are understood and can be managed.

This topic is important because the risk that a government may unilaterally repudiate its obligations or prevent others in its jurisdiction from honouring their obligations may affect the level and lending terms of financing for hydroelectric projects in its jurisdiction, as well as long term sustainability of the projects themselves.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of political risks most relevant to the project, including transboundary issues.
- **Outcomes:** The project can manage identified political risks.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can manage a broad range of political risks; or
- opportunities for the project to contribute to or cooperate with measures that encourage reduction or mitigation of political risks; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing political risks.

Assessment Guidance:

Political risk is a risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Transboundary issues would take into account institutional arrangements upstream and downstream of the project and basin-wide sharing of resources

Reduction or mitigation of political risks can be through, for example: energy sector reform, sound fiscal management, transboundary agreements, anti-corruption strategies, etc.

Examples of evidence: analysis of political risk, analysis of transboundary issues, agreements and institutions; authoritative assessment of political risk / sovereign stability; National Governance Audits; options to address political risks; records of meetings with representatives from governments, transboundary institutions and other key stakeholder groups

ES-5 Institutional Capacity

This topic addresses the capacities of the institutions that have a role in the development and operation of hydropower projects. The intent is that institutional capacity requirements and the existing capacity with respect to the hydropower project under consideration have been evaluated, and capacity shortfalls can be addressed.

This topic is important because the development of water and energy services in general, and of a hydropower project in particular, requires a comprehensive and balanced set of capacities amongst a range of stakeholders, namely governments/regulators, developers, financial institutions, contractors, suppliers, labour force, civil society and affected people. Where such skills are lacking in any of these sectors, such shortfalls may be mitigated by drawing on externally available resources, with the eventual objective of developing local capacity by transferring skills and technology.

Basic Expectations:

- **Assessment:** An assessment of the capacities of institutions most relevant to the hydropower project has been undertaken.
- **Outcomes:** The project can manage critical shortfalls, gaps or complexities in institutional capacities.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can manage critical shortfalls, gaps or complexities; or
- a rigorous and broad approach taken to identification and assessment of institutions and capacities; or
- opportunities for the project to contribute to or cooperate with measures that encourage strengthening of institutional capacities; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing critical shortfalls, gaps or complexities in institutional capacities.

Assessment Guidance:

Institution examples include: the executive, the legislature, political parties, anticorruption organizations, judiciary, grievance addressing mechanisms (e.g. the Ombudsman), specific civil service/public sector agencies, law enforcement agencies, Freedom of Information, media, local and regional government, civil society, private sector, international institutions (e.g. some provide peer review of anti-corruption efforts), audit/oversight institutions, public contracting system, etc.

Institutional capacity in the context of a hydropower project primarily relates to the capacity of a given national institutional framework to handle the administration of the planning, implementing and operation of hydropower projects in a predictable, responsible and timely manner. Examples for hydropower related institutional capacity

may include the existence and rigorous application of the following key processes implying the availability of appropriate human resources both in term of quantity and competences: project-specific assessment and licensing processes, meaningful stakeholder engagement, establishment of independent review committees, monitoring and following-up of license conditions, treatment of grievances, harmonisation of different governmental agencies requirements, the transparency of decision-making processes, etc.

Examples of evidence: analysis of institutional capacities; options to address institutional capacity shortfalls; records of meetings with representatives from government, key institutions, independent analysts and other key stakeholder groups

ES-6 Technical Issues & Risks

This topic addresses early identification and analysis of technical issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that technical issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, technical issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of technical issues and risks most relevant to the project.
- **Outcomes:** The project is likely to be able to manage technical issues and risks.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can fully manage technical risks; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing technical risks.

Assessment Guidance:

Technical issues and risks might relate to, for example: availability and reliability of the hydrological resource, seismic stability, other natural hazards, geotechnical stability, access to construction materials, asset safety, etc.

Examples of evidence: desk-top analyses of technical issues and risks, area-specific analyses, expert opinions; records of meetings with relevant technical experts

ES-7 Social Issues & Risks

This topic addresses early identification and analysis of social issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that social issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, social issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of social issues and risks most relevant to the project.
- **Outcomes:** The project is likely to minimise and manage negative social impacts and deliver net benefits to project-affected communities.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can avoid, minimize, mitigate and/or fully compensate negative social impacts; or
- the assessment takes into account opportunities, and there is potential for some social opportunities or enhancements to existing environmental issues to be realised; or
- the assessment takes into account risks relating to legacy issues or cumulative impacts; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing social risks.

Assessment Guidance:

Social issues and risks might relate to, for example: potential land and water use conflicts, project affected community composition, socio-economic status and livelihoods, likelihood of resettlement requirements, labour and workforce capacity, community safety, public health, cultural heritage, likelihood of community acceptance, communication and consultation needs and issues, legacy issues, cumulative impacts, social unrest, etc.

Examples of evidence: desk-top analyses of social issues and risks and social benefit opportunities; area-specific analyses; expert opinions; records of meetings with representatives from government, NGOs, potential project affected communities, indigenous communities and other key stakeholder groups.

ES-8 Environmental Issues & Risks

This topic addresses early identification and analysis of environmental issues and risks that may influence decisions to invest in preparation of a hydropower project under consideration. The intent is that environmental issues and risks have been evaluated at an early stage, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, environmental issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of environmental issues and risks most relevant to the project.
- **Outcomes:** The project is likely to minimise and manage negative environmental impacts.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence supported by objective evidence that a project can avoid, minimize, mitigate and/or fully compensate negative environmental impacts; or
- identification of opportunities for environmental enhancement, and there is potential for some of these enhancements to be realised; or
- identification of risk relating to legacy issues or cumulative impacts; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing environmental risks.

Assessment Guidance:

Environmental issues and risks might relate to, for example: biodiversity, migration of aquatic species, threatened species, wetlands of significance, critical habitats, weeds, pest species, greenhouse gas emissions from the reservoir, erosion, sedimentation, water quality, air quality, legacy issues, cumulative impacts, etc.

Examples of evidence: desk-top analyses of environmental issues and risks and environmental enhancement opportunities; strategic environmental assessments; area-specific analyses; expert opinions; records of meetings with representatives from government, NGOs, local and other key stakeholder groups

ES-9 Economic & Financial Issues & Risks

This topic addresses early identification and analysis of economic and financial issues and risks that may influence decisions to invest in preparation of a hydropower project or system of projects. The intent is that economic and financial issues and risks have been evaluated at an early stage, the project will deliver a net economic benefit, that the project or the system within which it operates will be financially viable, and decisions to invest in project preparation are informed on these matters.

This topic is important because without an early stage analysis, economic and financial issues and risks may be encountered after the developer has made significant investments into project preparation and it may be difficult to consider an alternative project.

Basic Expectations:

- **Assessment:** An assessment has been undertaken of financial issues, risks and opportunities most relevant to the project, and likely costs and benefits.
- **Outcomes:** The project or the corporate entity to which it belongs is likely to manage financial issues, attract finance, and deliver a net economic benefit within the sphere of influence of the given hydropower project.

Advanced Expectations:

In addition to basic expectations, the assessment may try to achieve:

- a higher level of confidence that a project or corporate entity to which it belongs can manage financial issues under a broad range of circumstances, fund environmental and social mitigation measures, and readily attract finance; or
- a high level of confidence supported by a broad consideration of potential costs and benefits including social and environmental externalities that the project can be deliver significant and sustainable net benefits; or
- an analysis undertaken of strengths, weaknesses, opportunities and threats of a project with respect to managing financial risks.

Assessment Guidance:

Financial viability is the ability of an entity to continue to achieve its operating objectives and fulfill its mission from a financial perspective over the long term. Some projects may be multi-purpose in which hydropower is not the primary purpose, in which case the financial objective of the hydropower component may be to support delivery of the other purposes of the scheme (e.g. water supply, irrigation water, etc). For some projects the financial contribution is measured from the perspective of the system within which it operates; for example, some pump storage projects may run at a loss but enable a greater profit to be made from other power stations within the system because of the greater efficiencies gained.

Financial issues and risks examples include: very high project costs; inability to meet required costs; uncertainties with respect to revenue streams; currency exchange instability; difficulties in access to project finance; access to renewable incentive schemes; regional pricing; market stability; market access; likelihood of major inflation or depreciation; etc.

Economic issues and risks examples include: few identifiable opportunities for additional benefits; early stage cost-benefit analysis shows no net project benefit; excessive social and environmental costs; etc.

Some **financial and economic information** may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Social and environmental externalities refers to by-products of activities that affect the well-being of people or damage the environment, where those impacts are not reflected in market prices (for example, pollution); costs or benefits associated with externalities do not enter standard cost accounting schemes.

Examples of evidence: evaluation of financial issues and risks; early stage cost-benefit analysis; identification of sources of finance; economic and finance issues and risk assessment; records of meetings with representatives from government, financial institutions, development banks and key stakeholder groups

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be misled.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Intermediaries: Workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc.).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic. In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.

Preparation Assessment Tool

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Contents

The Hydropower Sustainability Assessment Protocol	50
P-1 Communications & Consultation	51
P-2 Governance	53
P-3 Demonstrated Need & Strategic Fit	55
P-4 Siting & Design	57
P-5 Environmental & Social Impact Assessment & Management	59
P-6 Integrated Project Management	62
P-7 Hydrological Resource	64
P-8 Infrastructure Safety	66
P-9 Financial Viability	68
P-10 Project Benefits	70
P-11 Economic Viability	72
P-12 Procurement	73
P-13 Project-Affected Communities & Livelihoods	75
P-14 Resettlement	78
P-15 Indigenous Peoples	81
P-16 Labour & Working Conditions	84
P-17 Cultural Heritage	86
P-18 Public Health	88
P-19 Biodiversity & Invasive Species	90
P-20 Erosion & Sedimentation	92
P-21 Water Quality	94
P-22 Reservoir Planning	96
P-23 Downstream Flow Regimes	98
Glossary of Terms	100
Understanding the Protocol's Gradational Approach	103

The Hydropower Sustainability Assessment Protocol

The Hydropower Sustainability Assessment Protocol (the “Protocol”) is a sustainability assessment framework for hydropower projects and operations. It outlines the important sustainability considerations for a hydropower project, and enables production of a sustainability profile for that project. The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to

be applicable up to major decision points in the project life cycle, and are most effective where there are repeat applications to help guide continuous improvement measures. The assessment tools and associated decision points are shown in Figure 1.

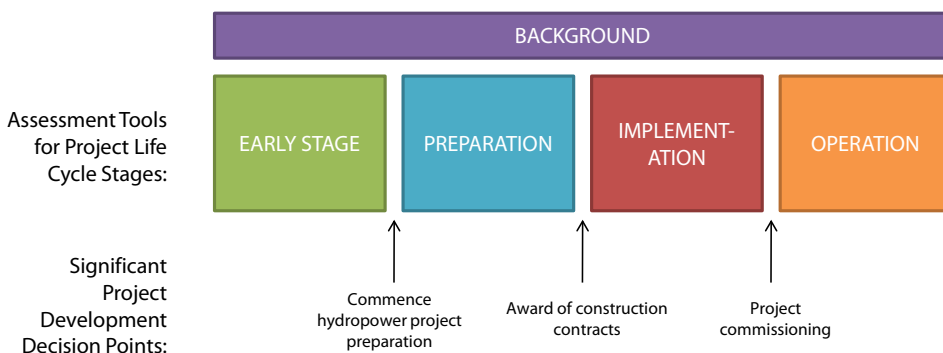


Figure 1 - Protocol Assessment Tools and Major Decision Points

Overview of the Preparation Assessment Tool

This document provides the Preparation assessment tool, and assumes that the user has already made him or herself familiar with the Protocol Background which describes the overall approach and use of the Protocol assessment tools. The Preparation assessment tool assesses the preparation stage of a hydropower project, during which investigations, planning and design are undertaken for all aspects of the project. Following project preparation, the awarding of construction contracts is a significant decision point. An assessment conducted at this point in time would assess whether all preparatory requirements have been met, management plans are in place, and commitments are appropriate and binding. This Protocol assessment tool can be used prior to, and to inform, the decision to move forward with project implementation. Following this point, construction commences along with relevant elements of environmental and social action plans.

Preparation Topic Relevance Guide

Not all topics in the Preparation assessment tool will be relevant for every project assessment, and their relevance must be considered on a project-by-project basis. The project representative would make a case for a topic to be not relevant and present evidence to support this. The assessor reviews the evidence and draws a conclusion, documenting the evidence cited, the quality of the evidence, and the basis for this conclusion. Some examples of circumstances that might make topics not relevant, subject to presentation of credible evidence, could be:

- No cultural heritage identified in the project affected area → Cultural Heritage topic is not relevant
- No indigenous peoples in the project affected area → Indigenous Peoples topic is not relevant
- No resettlement required by the project → Resettlement topic is not relevant.

P-1 Communications & Consultation

This topic addresses the identification and engagement with project stakeholders, both within the company as well as between the company and external stakeholders (e.g. affected communities, governments, key institutions, partners, contractors, catchment residents, etc). The intent is that stakeholders are identified and engaged in the issues of interest to them, and communication and consultation processes establish a foundation for good stakeholder relations throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Stakeholder mapping has been undertaken to identify and analyse stakeholders, to establish those that are directly affected, and to establish communication requirements and priorities, with no significant gaps.
Management: Communications and consultation plans and processes, including an appropriate grievance mechanism, have been developed at an early stage applicable to project preparation, implementation and operation that outline communication and consultation needs and approaches for various stakeholder groups and topics.
Stakeholder Engagement: The project preparation stage has involved appropriately timed communications and engagement, often two-way, with directly affected stakeholders on topics of interest and relevance to them; engagement is undertaken in good faith; ongoing processes are in place for stakeholders to raise issues and get feedback.
Conformance/Compliance: Processes and objectives relating to communications and consultation have been and are on track to be met with no major non-compliances or non-conformances, and any communications related commitments have been or are on track to be met.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the stakeholder mapping takes broad considerations into account.
Management: In addition, communication and consultation plans and processes show a high level of sensitivity to communication and consultation needs and approaches for various stakeholder groups and topics; and processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; negotiations are undertaken in good faith; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Assessment Guidance:

Stakeholders are those who are interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder mapping refers to identification and grouping of stakeholders in a meaningful way, for example based on stakeholder rights, risks and responsibilities. An example of “rights” would be land rights.

Directly Affected Stakeholders are those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Needs and approaches for stakeholder groups could include consideration of: cultural norms, gender, literacy level, vulnerable social groups, disabilities, logistical constraints, etc.

Good faith engagement is engagement that is undertaken with an honest intent to reach a mutually satisfactory understanding on the issues of concern.

Broad considerations within stakeholder mapping could include, for example: the geographic or compositional extent of stakeholder groups identified and considered, the interrelationships amongst stakeholder groups, the level of vulnerability to adverse project impacts and risks, and consideration of rights, risks and responsibilities, etc.

Processes to anticipate emerging risks and opportunities could include, for example, participation of project representatives in a catchment management committee.

Good faith negotiation involves (i) willingness to engage in a process; (ii) provision of information necessary for informed negotiation; (iii) exploration of key areas of importance; (iv) mutually acceptable procedures for negotiation; (v) willingness to modify position; (vi) provision of sufficient time to both parties for decision-making; (vii) agreements on proposed compensation framework, mitigation measures, and development interventions.

Potential interviewees: project communications staff; project manager; stakeholder representatives; project affected communities representatives

Examples of evidence: project stakeholder mapping document; project communications and/or consultation plans; communications protocols; grievance mechanisms

P-2 Governance

This topic addresses corporate and external governance considerations for the project. The intent is that the developer has sound corporate business structures, policies and practices; addresses transparency, integrity and accountability issues; can manage external governance issues (e.g. institutional capacity shortfalls, political risks including transboundary issues, public sector corruption risks); and can ensure compliance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Assessments have been undertaken of political and public sector governance issues, and corporate governance requirements and issues, through the project development cycle with no significant gaps.

Management: Processes are in place to manage corporate, political and public sector risks, compliance, social and environmental responsibility, grievance mechanisms, ethical business practices, and transparency; policies and processes are communicated internally and externally as appropriate; and independent review mechanisms are utilised to address sustainability issues in cases of project capacity shortfalls, high sensitivity of particular issues, or the need for enhanced credibility.

Stakeholder Engagement: The business interacts with a range of directly affected stakeholders to understand issues of interest to them; and the business makes significant project reports publicly available, and publicly reports on project performance, in some sustainability areas.

Outcomes: There are no significant unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no significant non-compliances.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, there are no significant opportunities for improvement in the assessment of political and public sector governance issues and corporate governance requirements and issues.

Management: In addition, contractors are required to meet or have consistent policies as the developer; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, the business makes significant project reports publicly available and publicly reports on project performance in sustainability areas of high interest to its stakeholders.

Outcomes: In addition, there are no unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no non-compliances.

Assessment Guidance:

Governance broadly refers to the combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Corporate governance is a term that refers broadly to the rules, processes, or laws by which businesses are operated, regulated, and controlled

Corporate governance requirements may include, for example: business administration, policies and processes, risk management, corporate social responsibility, ethical business practices, accountability and stakeholder relations, compliance, etc.

Corporate governance issues may relate to, for example: lack of capacity in key external institutional structures, policies and processes important to the project; public sector corruption risks; political risks; internal corruption risks; compliance; management of project risks; etc.

External governance considerations include legal, judicial, and institutional structures, processes and policies relevant to the project. Examples include: the executive, the legislature, political parties, anticorruption organizations, judiciary, grievance addressing mechanisms (e.g. the Ombudsman), specific civil service/public sector agencies, law enforcement agencies, Freedom of Information, media, local and national government, civil society, private sector, international institutions (e.g. some provide peer review of anti-corruption efforts), audit/oversight institutions, public contracting system, etc.

Political risk is a risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Transboundary issues would take into account institutional arrangements that could address the management of upstream and downstream impacts of the project and basin-wide sharing of resources.

Corruption risks may be within the business such as with how finances are managed, or within the public sector such as not addressing licence or permit violations. Public sector corruption risks during project preparation may include, for example, limited options

considered, short-cutting of assessment/preparation requirements, or non-transparent approvals; and at the project implementation and operation may include, for example, a blind eye to licence and permit violations.

Processes to ensure ethical business practices could include, for example: a business Code of Ethics, an employee Code of Conduct, a business Integrity Pact, anti-bribery or anti-corruption policies and procedures for reporting and investigation (such as Transparency International's Business Principles for Countering Bribery (BPCB), a whistle-blowing arrangement, etc.

Compliance is with respect to all relevant laws, policies, permits, agreements, codes of practice and publicly stated commitments.

Independent review refers to expert review by someone not employed by the project and with no financial interest in profits made by the project. An expert is a person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject. Forms of independent review may vary from contracting an expert consultant to provide a written review of a particular assessment, plan or report, to a panel of experts comprising a mix of expertise appropriate to the project and providing periodic assessment and written reports on issues identified to be within its scope of review. Areas of particular sensitivity would be identified in the environmental and social impact assessment; one area is often resettlement arising from a hydropower project, and this may require independent review of the Resettlement Action Plan.

Potential interviewees: a Board member; the project manager; business managers for corporate governance, compliance, internal audit, business risk; experts on public sector governance; other relevant third parties such as anti-corruption civil society organisations

Examples of evidence: business internal website and external website for vision, values, policies, structure, procedures, annual reports; assessment of public sector governance issues; internal audit reports; project compliance plan; reports to Board on ethical business practices and compliance; log of ethical business practices grievance; third party review reports; relevant documentation on public sector governance issues such as reports of Transparency International on National Integrity Systems (NIS) and the Corruption Perceptions Index (CPI)

P-3 Demonstrated Need & Strategic Fit

This topic addresses the contribution of the project in meeting demonstrated needs for water and energy services, as identified through broadly agreed local, national and regional development objectives and in national and regional policies and plans. The intent is that the project can demonstrate its strategic fit with development objectives and relevant policies and plans can be demonstrated, and that the project is a priority option to meet identified needs for water and energy services.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment has been undertaken of needs for water and energy services, of options to meet water and energy needs; and of national and regional policies and plans relevant to those needs, with no significant gaps.
Stakeholder Engagement: The results of the assessment of strategic fit are publicly disclosed.
Outcomes: The strategic fit of the project with needs for water and energy services, and relevant policies and plans can be demonstrated.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment is based on dialogue with government planners, policy makers and key stakeholder groups; and the assessment shows a strong emphasis on social and environmental related needs, policies and plans including the need for sustainable development of the river basin and integrated water resource management.
Stakeholder Engagement: (No addition to basic good practice)
Outcomes: In addition the project is one of the priority options to address demonstrated needs.

Assessment Guidance:

Needs for water and energy services are those identified through broadly agreed local, national and regional development objectives, policies and plans. A hydropower development to meet the energy requirements of an energy-intensive off-taker (e.g. an aluminium smelter) would be considered a demonstrated need if it is included in broadly agreed development objectives, policies and plans.

Water services examples include: water for energy generation, fisheries, floodplain agriculture, food supply, water storage capacity, drinking water supply, sanitation, water for business and industry, irrigation water supply, flood management,

navigation, recreation, domestic needs of riparian dwellers, tourist opportunities, vehicle for transboundary cooperation, ecosystem services (e.g. floodplain maintenance, connectivity for migratory species, maintenance of off-river wetlands, nutrient and sediment balance, delta sediment replenishment, estuarine flushing, spawning ground access and maintenance), etc.

Energy services examples include: provision of electricity to meet local, national and/or regional demand or opportunities; provision of grid stability; provision of peak load; provision of ancillary benefits such as spinning reserve, system regulation and improved thermal efficiency, etc.

National and regional policies and plans examples include: development, energy, water, biodiversity, climate, conservation, transboundary, land use, etc.

Social and environmental related needs, policies and plans examples include: poverty eradication, food security, maintenance of fisheries, protection of high value sites (e.g. national parks, World Heritage sites, Ramsar wetlands, sites of cultural significance, recognised significant landscapes), etc.

Potential interviewees: project manager; government representatives (e.g. energy, water, development departments); stakeholder representatives; project affected communities representatives

Examples of evidence: Energy Master Plan; Water Development Plan; Country Development Report; strategic environmental assessments; options assessments; energy demand projections; local, national or regional development assessments including livelihoods and living standards; conservation plans; climate adaptation plans; report on analysis of relevant policies and plans; report on project demonstrated need and strategic fit; use of multi-criteria analysis in assessing options

P-4 Siting & Design

This topic addresses the evaluation and determination of project siting and design options, including the dam, power house, reservoir and associated infrastructure. The intent is that siting and design are optimised as a result of an iterative and consultative process that has taken into account technical, economic, financial, environmental and social considerations.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Technical information has been analysed at an early stage alongside social, environmental, economic, financial, and regulatory considerations in order to develop a preliminary project design and some options around this.
Management: An optimisation process has been undertaken to assess the project siting and design options.
Stakeholder Engagement: The siting and design optimisation process has involved appropriately timed, and often two-way, engagement with directly affected stakeholders; ongoing processes are in place for stakeholders to raise issues and get feedback.
Outcomes: The final project siting and design has responded to many sustainability considerations for siting and design.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, options take into consideration sustainable river basin design and integrated water resource management.
Management: (No addition to basic good practice)
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive, and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Outcomes: The final project siting and design is optimal with respect to sustainability considerations for siting and design.

Assessment Guidance:

Sustainability considerations for siting and design examples include: prioritising alternatives that provide opportunities for multiple use benefits, that are on already developed river systems, that minimize the area flooded per unit of energy (GWh) produced, that maximize opportunities for and do not pose unsolvable threats to vulnerable social groups, that enhance public health and minimize public health risks, that minimize population displacement, that avoid exceptional natural and

human heritage sites, that have lower impacts on rare, threatened or vulnerable species, that maximize habitat restoration and protect high quality habitats, that achieve or complement community supported objectives in downstream areas (i.e. environmental flows), that have associated catchment management benefits, that have lower sedimentation and erosion risks, that avoid exceptional greenhouse gas emissions from reservoirs, etc.

Technical considerations for siting and design

examples include: geological characteristics, morphology, flow characteristics, access issues, etc.

Optimal in this context means best fit once all identified sustainability considerations have been factored in, based on the outcomes of a consultative process.

Potential interviewees: project manager; project designers; stakeholder representatives; project affected communities representatives; (if relevant) representatives of resettlement or host communities.

Examples of evidence: pre-feasibility studies; feasibility studies; reports on options assessment e.g. multi-criteria analyses; records of design change to avoid or minimize disturbance and/or maximise opportunities; reports on stakeholder input and responses; minutes from public meetings.

P-5 Environmental & Social Impact Assessment & Management

This topic addresses the assessment and planning processes for environmental and social impacts associated with project implementation and operation throughout the area of impact of the project. The intent is that environmental and social impacts are identified and assessed, and avoidance, minimisation, mitigation, compensation and enhancement measures designed and implemented.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Assessments of project environmental and social impacts have been undertaken for project implementation and operation, including evaluation of associated facilities, scoping of cumulative impacts, role and capacity of third parties, and impacts associated with primary suppliers, using appropriate expertise and with no significant gaps; and a baseline has been established and well-documented for the pre-project condition against which post-project changes can be compared.

Management: Environmental and social issues management plans and processes have been developed with appropriate expertise (internal and external) for project implementation and operation with no significant gaps; in addition to key social and environmental issues relating to the hydropower project, plans address construction related waste, noise, air quality, land disturbance and rehabilitation; the environmental and social impact assessment and key associated management plans are publicly disclosed.

Stakeholder Engagement: The environmental and social impact assessment and management planning process has involved appropriately timed, and often two-way, engagement with directly affected stakeholders; ongoing processes are in place for stakeholders to raise issues and get feedback.

Outcomes: Environmental and social plans avoid, minimise and mitigate negative impacts with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition the assessment takes broad considerations into account, and both risks and opportunities; and the social impact assessment incorporates assessment of human rights

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; plans are embedded within an internationally recognised environmental management system which is third party verified, such as ISO 14001; and independent review mechanisms are utilised.

Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.

Outcomes: In addition, environmental and social plans avoid, minimise, mitigate and compensate negative project impacts with no identified gaps; and plans provide for enhancements to pre-project environmental or social conditions or contribute to addressing issues beyond those impacts caused by the project.

Assessment Guidance:

Key environmental issues include aquatic and terrestrial biodiversity, threatened species, critical habitats, ecosystem integrity and connectivity issues, water quality, erosion and sedimentation. Environmental impacts of the project that extend beyond the jurisdictional boundaries in which the project is located would need to be assessed and included in management plans.

Key social issues include project-affected communities, indigenous peoples, ethnic minorities, resettlement, cultural heritage (both physical and non-physical), and public health; and are analysed with respect to socio-economic indicators (including living standards, livelihoods, and health statistics) as well as gender. Social impacts of the project that extend beyond the jurisdictional boundaries in which the project is located would need to be assessed and included in management plans.

Associated facilities are defined as those facilities that would not be constructed if the project did not exist, and where the project would not be viable without the other facility. These facilities may be funded, owned, constructed, and/or operated separately from the project, and in some cases, by third parties. Examples pertinent to a hydropower project could include roads, transmission lines, buildings, etc.

Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Third parties are local and national governments, contractors, and suppliers; an effective assessment should identify the different entities involved and the roles they play, and the corresponding risks they present to the client in order to help achieve environmental and social outcomes.

Primary suppliers are those first-tier suppliers who are providing goods or materials essential for the project, which may incur environmental and social impacts in this supply activity. An example pertinent to a hydropower project could be a quarry supplying construction materials.

Non-physical cultural heritage refers to traditions, festivals, rituals, folklore, storytelling, drama, etc.

Land rehabilitation is the process of returning project-affected land to some degree of its former state after disturbance or damage associated with project implementation.

Appropriate expertise refers to specialists with experience in the key identifiable topical areas of the assessment and management plans, giving particular attention to the differences between environmental areas and social impact areas. These specialists could be internal or external to the project developer; internal expertise in managing environmental and social issues is of particular importance with respect to this topic.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations within the assessment might be exhibited by, for example: a broad view of the project affected area; consideration of the project catchment area; a broad view of relevant issues; a broad interpretation of important concepts such as livelihoods or living standards; a broad range of approaches considered; a broad view of stakeholder perspectives on the various issues; a focus on interrelationships amongst issues; sustainable river

basin development considerations; integrated water resource management considerations; legacy issues; and more detailed analysis of cumulative impacts; etc.

Human rights are the basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Independent review refers to expert review by someone not employed by the project and with no financial interest in profits made by the project. An expert is a person with a high degree of skill in or knowledge of environmental and social subjects relevant to hydropower impacts, as a result of a high degree of experience or training in that subject. Forms of independent review may vary from contracting an expert consultant to provide a written review of a particular assessment, plan or report, to a panel of experts comprising a mix of expertise appropriate to the project and providing periodic assessment and written reports on issues identified to be within its scope of review.

Potential interviewees: project managers responsible for environmental and social issues assessment and management; government representatives responsible for environmental and social issues; stakeholder representatives; project affected communities representatives; external experts

Examples of evidence: regulatory requirements for EIA / SIA; EIA / SIA and associated reports; environmental and social management plans; records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; qualifications of experts utilised; evidence of appropriate separate expertise used for environmental and social issues recognising that in many cases single experts may not have sufficient breadth of expertise to cover both aspects

P-6 Integrated Project Management

This topic addresses the developer's capacity to coordinate and manage all project components, taking into account project construction and future operation activities at all project-affected areas. The intent is that the project meets milestones across all components, delays in any component can be managed, and one component does not progress at the expense of another.

Scoring:

- 1 *There are significant gaps relative to basic good practice.*
- 2 *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3 **Management:** An integrated project management plan and processes have been developed that takes into account all project components and activities with no significant gaps; and a construction management plan has been developed that identifies construction risks and describes processes that contractors and others are required to follow to manage these risks.
Outcomes: The project is likely to meet overall budget and timing objectives and targets, and plans avoid, minimise and mitigate construction risks with no significant gaps.
- 4 *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5 **Management:** In addition, the integrated project management plan sets out measures to manage interface and delay issues without impinging on overall project timetables and budgets; construction management plans ensure that land disturbance and waste generation activities will be managed so that later rehabilitation activities can be undertaken efficiently and effectively; and processes are in place to anticipate and respond to emerging risks and opportunities.
Outcomes: In addition, the project is highly likely to meet overall budget and timing objectives and targets; and plans avoid, minimise, mitigate and compensate construction risks with no identified gaps.

Assessment Guidance:

Project components refers to components of the overall hydropower development programme including design, construction, environmental, social, resettlement, finance, communications and procurement; examples include: design, construction, environmental, social, resettlement, finance, communications and procurement, etc.

Integrated project management plan examples of considerations include: scheduling, interface targets, significant path analysis, communications, cost control, etc.

Construction risks examples include: safety, air, noise and water pollution, land contamination, land disturbance, water management, waste

management, introduced species, health, migratory workforce/local community conflicts, etc. These may be identified and evaluated in the environmental and social impact assessment.

Construction management plan examples of considerations include: chemical and waste storage and handling, pollution, land disturbance, health, safety, community relations, and site zoning for special area protection. The plans may be developed by the project managers, or by the contractors themselves. Early in the preparation stage management of construction risks may be outlined in environmental and social management plans, and later incorporated into construction management plans.

Land disturbance and waste generation activities in the construction management plans can incorporate many measures which are mindful of the later requirements for construction site restoration and rehabilitation; example include: stockpiling of topsoil, seed collection, location of works areas, quarries, spoil heaps below the future minimum water level, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Potential interviewees: project manager; construction manager

Examples of evidence: organisational structure; management team qualifications; integrated programme management plans, analyses and reports; construction management plan; construction contracts

P-7 Hydrological Resource

This topic addresses the level of understanding of the hydrological resource availability and reliability to the project, and the planning for generation operations based on these available water inflows. The intent is that the project's planned power generation takes into account a good understanding of the hydrological resource availability and reliability in the short- and long-term, taking into account other needs, issues or requirements for the inflows and outflows as well as likely future trends (including climate change) that could affect the project.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of hydrological resource availability has been undertaken utilising available data, field measurements, appropriate statistical indicators, and a hydrological model; issues which may impact on water availability or reliability have been identified and factored into the modelling; and scenarios, uncertainties and risks have been evaluated.
Management: A plan and processes for generation operations have been developed to ensure efficiency of water use, based on analysis of the hydrological resource availability, a range of technical considerations, an understanding of power system opportunities and constraints, and social, environmental and economic considerations including downstream flow regimes.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, issues that may impact on water availability or reliability have been comprehensively identified; and uncertainties and risks including climate change have been extensively evaluated over the short- and long-term.
Management: In addition, generation operations planning has a long-term perspective; takes into consideration multiple uses and integrated water resource management; fully optimises and maximises efficiency of water use; and has the flexibility to adapt to anticipate and adapt to future changes.

Assessment Guidance:

Hydrological resource means water inflows to the project.

Issues which may impact on water availability and reliability examples include: upstream hydro operators, future water resource use developments, future development of water-reliant land uses (e.g. agriculture, industry, population growth), catchment condition, climate change, etc. If the project is reliant on water resources that extend beyond the jurisdictional boundaries in which the project is located, the implications of this would need to be fully considered.

Technical considerations for generation planning examples include: water inflow patterns; reservoir characteristics; gate and spillway design, turbine type, number and characteristics, safety issues etc.

Power system opportunities and constraints examples include: patterns of demand for energy (e.g. base vs peak load), power prices, other generators and their capacities and constraints, transmission issues, etc.

An **evaluation of climate change** would be undertaken either as a stand-alone evaluation or as part of the environmental and social impact assessment. It would typically include analysis of site-specific temperature and precipitation changes over the short- and long-term using one or more global climate models (also known as general circulation models), as well as evaporation and runoff modelling to estimate changes in net water yield.

Fully optimise and maximise efficiency of water use means the plan is the best use of the hydrological resource given the opportunities and constraints relating to technical, social, economic, environmental, financial considerations and is based on an iterative and consultative process.

Potential interviewees: company, government and/or independent hydrologists; power system planners; project designers; river basin authority representative; stakeholder representatives; project affected communities representatives; wetland, fisheries and ecosystem specialists; downstream authorities in a transboundary context; climatologist or climate scientist

Examples of evidence: hydrological analyses; analyses of water resource demands affecting the project; analyses of power system and market opportunities; simulation and optimisation model scenarios and outputs; systems operations plan for the project.

P-8 Infrastructure Safety

This topic addresses planning for dam and other infrastructure safety during project preparation, implementation and operation. The intent is that life, property and the environment are protected from the consequences of dam failure and other infrastructure safety risks.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment has been undertaken of dam and other infrastructure safety risks with appropriate expertise during project preparation, construction and operation, with no significant gaps.
Management: Dam and other infrastructure safety management plans and processes have been developed for project implementation and operation in conjunction with relevant regulatory and local authorities with no significant gaps and provide for communication of public safety measures; emergency response plans include awareness and training programs and emergency response simulations; and dam safety is independently reviewed.
Outcomes: Plans avoid, minimise and mitigate safety risks with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment includes consideration of a broad range of scenarios, and includes both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; plans provide for public safety measures to be widely communicated in a timely and accessible manner; and emergency response plans are independently reviewed.
Outcomes: In addition, plans contribute to addressing safety issues beyond those risks caused by the project itself.

Assessment Guidance:

Safety risks examples include: seismic, geotechnical, dam or generation unit failure, electric shock, hydrological risk, drowning, road accidents, accidents arising from community interactions with project activities, etc.

Appropriate expertise refers to specialists with proven experience designing and constructing projects of a similar complexity, giving particular attention to engineering safety competencies such as geotechnical, structural, electrical, mechanical, and fire specialities.

Safety management measures examples include: signage, exclusion zones, emergency

preparedness, monitoring, inspections, training, incident response, communication, allocation of responsibilities, etc.

Communication of public safety measures could be, for example, through public signage, documentation appropriately lodged with local authorities, awareness raising through various types of community engagements, verbal communication by on-site patrolmen or other similar mechanisms, etc.

Emergency response simulations may be undertaken, for example, through training or workshop exercises for company staff, regional authorities, etc.

Independent review refers to expert review by someone not employed by the project and with no financial interest in profits made by the project. An expert is a person with a high degree of skill in or knowledge of dam and infrastructure safety, as a result of a high degree of experience or training in that subject. Forms of independent review may vary from contracting an expert consultant to provide a written review of a particular assessment, plan or report, to inclusion of a safety expert in a panel of experts.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts

Minimisation and mitigation of safety risks can be achieved by, for example, identifying and performing the necessary analyses to determine or eliminate safety risks according to relevant standards and to the extent necessary, implement measures in the project design to mitigate identified safety concerns.

Contributions to safety issues beyond project risks might include, for example, improving the safety of some existing roads or traffic infrastructure, signage in public places about speeding or drowning risks, etc.

Potential interviewees: project manager; project designers; project safety manager; local authorities; stakeholder representatives; project affected community representatives

Examples of evidence: safety risk assessments; safety management plans; emergency preparedness plans; safety standards; independent review reports.

P-9 Financial Viability

This topic addresses both access to finance, and the ability of a project to generate the required financial returns to meet project funding requirements, including funding of measures aimed at ensuring project sustainability. The intent is that projects proceed with a sound financial basis that covers all project funding requirements including social and environmental measures, financing for resettlement and livelihood enhancement, delivery of project benefits, and commitments to shareholders/investors.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of corporate financial viability, including potential project costs and likely revenue streams, has been undertaken using recognised models with no significant gaps; analyses include risk assessment, scenario testing and sensitivity analyses.
Management: Financial management plans and processes have been developed for project implementation and operation with no significant gaps, and opportunities for project financing have been evaluated and pursued.
Outcomes: The project can manage financial issues under a range of scenarios, can service its debt, can pay for all plans and commitments including social and environmental, and access to capital can be demonstrated.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, project costs and revenue streams are fully detailed; and financial viability of the project has been analysed and optimised including extensive scenario testing, risk assessment, and sensitivity analyses.
Management: In addition, financial management plans provide for well-considered contingency measures for all environmental and social mitigation plans and commitments; and processes are in place to anticipate and respond to emerging risks and opportunities.
Outcomes: In addition, the project can manage financial issues under a broad range of scenarios.

Assessment Guidance:

Financial viability is the ability of an entity to continue to achieve its operating objectives and fulfill its mission from a financial perspective over the long term. Some projects may be multi-purpose in which hydropower is not the primary purpose, in which case the financial objective of the hydropower component may be to support delivery of the other purposes of the scheme (e.g. water supply, irrigation water, etc). For some projects the financial contribution is measured from the perspective of the system within which it operates; for example, some pump

storage projects may run at a loss but enable a greater profit to be made from other power stations within the system because of the greater efficiencies gained.

Project costs examples include: costs for construction, operations and maintenance, and includes equipment, supplies, labour, tax, land/water resource rights, and costs of environmental and social mitigation plans.

Revenue streams examples include: the electricity market, the Power Purchase Agreement, and revenue associated with investment drivers for new market entrants (e.g. access to carbon finance).

Financial models at a minimum have the project costs and revenue streams as inputs and financial returns as outputs; examples of uses include: examine implications of various market conditions, trends and risks on financial viability of the project through scenario testing, risk assessment, sensitivity analysis, etc.

Financial issues and risks examples include: very high project costs; inability to meet required costs; uncertainties with respect to revenue streams; currency exchange instability; difficulties in access to project finance; access to renewable incentive schemes; regional pricing; market stability; market access; likelihood of major inflation or depreciation; financial viability of the principal power off-takers etc.

Some **financial information** may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Potential interviewees: project financial officers; corporate financial officers; principal financing institution representative; independent financial expert

Examples of evidence: analysis of financing options; financial modelling reports; financial risk analysis; financial plans; financial status reports; third party review reports; annual financial reports for company, project, and principal off-taker(s)

P-10 Project Benefits

This topic addresses the additional benefits that can arise from a hydropower project, and the sharing of benefits beyond one-time compensation payments or resettlement support for project affected communities. The intent is that opportunities for additional benefits and benefit sharing are evaluated and implemented, in dialogue with affected communities, so that benefits are delivered to communities affected by the project.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of opportunities to increase the development contribution of the project through additional benefits and/or benefit sharing strategies has been undertaken; and the pre-project baseline against which delivery of benefits can be evaluated post-project is well-documented.
Management: Project benefit plans and processes have been developed for project implementation and operation that incorporate additional benefit or benefit sharing commitments; commitments to project benefits are publicly disclosed.
Stakeholder Engagement: The assessment and planning process relating to project benefits has involved appropriately timed, and often two-way, engagement with directly affected stakeholders; ongoing processes are in place for stakeholders to raise issues and get feedback.
Outcomes: Plans deliver benefits for communities affected by the project.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, broad considerations have been taken into account in identifying opportunities.
Management: In addition, processes have been developed to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Outcomes: In addition, plans deliver significant and sustained benefits for communities affected by the project.

Assessment Guidance:

Additional benefits refers to benefits that can be leveraged from the project; examples include: capacity building, training and local employment; infrastructure such as bridges, access roads, boat ramps; improved services such as for health and education; support for other water usages such as irrigation, navigation, flood/drought control, aquaculture, leisure; increased water availability for industrial and municipal water supply; benefits through integrated water resource management; etc.

Benefit sharing is distinct from one-time compensation payments or resettlement support; examples include:

- equitable access to electricity services – project affected communities are among the first to be able to access the benefits of electricity services from the project, subject to contextual constraints (e.g. power safety, preference);
- non-monetary entitlements to enhance resource access – project affected communities receive enhanced local access to natural resources;
- revenue sharing – project affected communities share the direct monetary benefits of hydropower according to a formula and approach defined in regulations; this goes beyond a one-time compensation payment or short-term resettlement support; and trust funds.

Broad considerations might be exhibited by, for example: a broad view of the geographic area under consideration; a breadth of types of benefits or approaches; a breadth of stakeholder interests; an understanding of interrelationships amongst opportunities and policies, plans and development objectives; a broad analysis of trends, approaches and existing and emerging standards relating to benefit sharing; etc.

Potential interviewees: project manager; government representative (e.g. department of economic development); stakeholder representatives; project affected communities representatives

Examples of evidence: analysis of relevant development indicators; analysis of potential project benefits; analysis of benefit sharing options and opportunities; meeting minutes or reports demonstrating stakeholder input and involvement; benefit sharing plan

P-11 Economic Viability

This topic addresses the net economic viability of the project. The intent is that there is a net benefit from the project once all economic, social and environmental costs and benefits are factored in.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of economic viability has been undertaken with no significant gaps; the assessment has involved identification of costs and benefits of the project and either valuation in monetary terms or documentation in qualitative or quantitative dimensions.
Stakeholder Engagement: The results of the economic viability analysis are publicly disclosed.
Outcomes: From an economic perspective, a net benefit can be demonstrated.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and includes sensitivity analyses.
Stakeholder Engagement: The economic viability analysis is publicly disclosed.
Outcomes: In addition, the project benefits outweigh project costs under a wide range of circumstances.

Assessment Guidance:

Cost-benefit analysis seeks to quantify all of the costs and benefits of a proposal in monetary terms, including items for which the market does not provide a satisfactory measure of economic value.

Demonstration of net benefits could be provided through qualitative or quantitative indicators. An example of a quantitative indicator is rate of return. Rate of return from an economic perspective is an indicator for the developmental impact of a project proposal, allowing comparisons with other energy sector investment options. Unlike the financial rate of return, which is mainly of interest to the organisations with commercial stakes in a proposal, the economic rate of return is of interest to society at large. Depending on the perspective of the evaluation, alternative indicators such as the net present value of the project, or the economic costs per unit of capacity installed or power generated, may be used.

Broad considerations might be exhibited by, for example: a broad view on relevant issues requiring costs and benefits; a broad view of stakeholder perspectives on what is a cost or a benefit; a recognition and method of addressing interrelationships amongst issues; a broad analysis of approaches to economic viability analyses as a foundation to the approach taken; etc.

Some **economic information** may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Potential interviewees: project manager; government representative (e.g. department of economic development); funding agency economist; independent experts

Examples of evidence: analysis of economic context; analysis, quantification and valuation of project costs and benefits; loan appraisal reports; economic analyses of natural resources and riparian linked livelihoods

P-12 Procurement

This topic addresses all project-related procurement including works, goods and services. The intent is that procurement processes are equitable, transparent and accountable; support achievement of project timeline, quality and budgetary milestones; support developer and contractor environmental, social and ethical performance; and promote opportunities for local industries.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of major supply needs, supply sources, relevant legislation and guidelines, supply chain risks and corruption risks has been undertaken with no significant gaps.
Management: Procurement plans and processes have been developed for project implementation and operation with no significant gaps.
Conformance/Compliance: Processes and objectives relating to procurement have been and are on track to be met with no major non-compliances or non-conformances, and any procurement related commitments have been or are on track to be met.
Outcomes: Procurement of works, goods and services across major project components is equitable, efficient, transparent, accountable, ethical and timely, and contracts are progressing or have been concluded within budget or that changes on contracts are clearly justifiable.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment includes opportunities for local suppliers and local capacity development.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; sustainability and anti-corruption criteria are specified in the pre-qualification screening; and anti-corruption measures are strongly emphasised in procurement planning processes.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, opportunities for local suppliers including initiatives for local capacity development have been delivered or are on track to be delivered.

Assessment Guidance:

Major supply needs examples include: design, economic, financial, technical, environmental and social consultancies; contractors for project construction works; supply of major goods and complex control equipment for project construction, etc.

Supply chain risks relate to inability to meet the contract provisions (e.g. with respect to cost, time, quality, specifications), corruption, transport impediments, human rights (e.g. child labour, forced labour used by suppliers of suppliers), etc.

Corruption risks at the contracting / bid evaluation stage examples include: non-transparent prequalification, confusing tender documents, non-transparent or non-objective selection procedures, bid clarifications not shared with other bidders, award decisions not made public, or not justified, deception and collusion, unjustified agents' fees, conflicts of interest of officials and consultants, etc.

Procurement plans and processes should address provision of a procurement policy, pre-qualification screening, bidding, awarding

of contracts, anti-corruption measures, and mechanisms to respond to bidder complaints. Development of procurements plans and processes for implementation and operation may not have been done during the project preparation stage in cases where the project is sent to a bidding process at the end of the preparation stage. In such cases, the plan for procurement could consist of a commitment to utilize the corporate entity's procurement plans and processes which would then be required to meet the stated criteria.

Screening could be for, by way of example, quality, reputation, cost, contractor prior performance on meeting contractual obligations (time, cost, specifications), etc.

Contracts have already been awarded during the project preparation stage for investigations, design, environmental and social impact assessments, etc. If contracts have not been concluded within budget, evidence should be provided to show that the changes on contracts are clearly justifiable.

Screening based on sustainability criteria might encompass additional criteria which could include, by way of example, social, environmental, ethics, human rights, health and safety performance, preference and support to local suppliers where they meet other criteria, etc.

Procurement opportunities may relate to new suppliers, new technologies, capacity development opportunities through liaising with government economic development initiatives, grants, R&D initiatives, contractual arrangements, etc.

Local suppliers are those within geographic proximity of the project-affected area who can or have the potential to meet the need to deliver required good and services; the definition of 'local' will be context specific (e.g. those in the project affected area or local government district).

Local capacity development refers to assistance that is provided to entities in the proximity of the project which have an identified need to develop a certain skill or competence or general upgrading of performance ability in order to meet or deliver a desired service.

Screening to address anti-corruption might specify, by way of example, that companies tendering must have a code of conduct addressing anti-corruption.

Anti-corruption measures examples include: open bidding contracting processes to be above a low threshold, contracting authority and its employees commit to an anti-corruption policy, project integrity pacts, mechanisms to report corruption and protect whistleblowers, confidentiality limited to legally protected information, etc.

Potential interviewees: project manager; project procurement officer; representative of an anti-corruption NGO

Examples of evidence: relevant purchasing policy and procedures; project procurement plan; analysis of local supply sources and capacities; tender requirements / specifications; bidding documents; supplier screening criteria; evaluation of supplier performance; bidder grievance log; record of compliance with relevant legislation and guidelines including those of financing agencies

P-13 Project-Affected Communities & Livelihoods*

This topic addresses impacts of the project on project affected communities, including economic displacement, impacts on livelihoods and living standards, and impacts to rights, risks and opportunities of those affected by the project. The intent is that livelihoods and living standards impacted by the project are improved relative to pre-project conditions for project affected communities with the aim of self-sufficiency in the long-term, and that commitments to project affected communities are fully delivered over an appropriate period of time.

Topics P-14 'Resettlement' and P-15 'Indigenous Peoples' that follow specifically address two subsets of project affected communities.

Scoring:

- 1 *There are significant gaps relative to basic good practice.*
- 2 *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3 **Assessment:** An assessment of issues relating to project affected communities has been undertaken with no significant gaps, utilising local knowledge.
Management: Management plans and processes for issues that affect project affected communities have been developed with no significant gaps including monitoring procedures, utilising local expertise when available; and if there are formal agreements with project affected communities these are publicly disclosed.
Stakeholder Engagement: Engagement with project affected communities has been appropriately timed and often two-way; ongoing processes are in place for project affected communities to raise issues and receive feedback.
Stakeholder Support: Affected communities generally support or have no major ongoing opposition to the plans for the issues that specifically affect their community.
Outcomes: Plans provide for livelihoods and living standards impacted by the project to be improved, and economic displacement fairly compensated, preferably through provision of comparable goods, property or services.
- 4 *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5 **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, engagement with project affected communities has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Stakeholder Support: In addition, formal agreements with nearly all the directly affected communities have been reached for the mitigation, management and compensation measures relating to their communities.
Outcomes: In addition plans provide for livelihoods and living standards that are impacted by the project to be improved with the aim of self-sufficiency in the long-term; and the project contributes to addressing issues for project affected communities beyond impacts caused by the project itself.

Assessment Guidance:

Project affected communities are the interacting population of various kinds of individuals in the area surrounding the hydropower project who are affected either positively or negatively by the hydropower project and its associated infrastructure.

Assessment of project affected communities would include their livelihoods, living standards, the nature of the impacts of the project on their livelihoods and living standards, and the degree of economic displacement; analysis of gender and vulnerable groups should be included.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc. **Improvement in living standards** would be demonstrated by improvement in the indicators of the level of material comfort.

Economic displacement refers to the loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii)

changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Issues that affect project affected communities may include, for example: loss or constraints on livelihoods, lowering of living standards, or economic displacement brought about due to changes associated with the project such as changes to river management and flow regimes. Specific examples could include: impacts on health or safety; impacts on cultural practices; impacts on lands, forest and riverbanks; loss of paddy lands, of home gardens, of riverbank gardens; loss of ownership, access to , or use of sacred sites, community forest, or other natural resources, etc. In cases the impacts may result in project affected communities needing to move, but they may not be considered part of the resettlement community because the physical resettlement was a secondary impact and not a primary impact of the project.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Broad considerations might be exhibited by, for example: a broad view of the project affected area; a broad view of relevant issues; a broad interpretation of important concepts such as livelihoods or living standards; a broad range of approaches considered; a broad view of stakeholder perspectives on the various issues; a focus on interrelationships amongst issues; legacy issues; cumulative impacts; a human rights based approach; etc.

Interrelationships amongst issues may include, for example: erosion of riverbanks downstream of the project causing incremental and long-term loss of land essential to sustain livelihoods, or safety concerns due to rapidly fluctuating river flows downstream of the project causing riparian communities to feel unsafe and eventually having to relocate.

Opportunities for project-affected communities may include, for example: training and capacity building; education; health services; employment; transportation; contributions to provide for cultural traditions or events, etc.

Measures to address project affected communities issues may include, for example: works to protect downstream riparian lands; downstream flow regime agreements to enable sustained livelihoods for downstream communities; access agreements to project lands to enable continued access to sacred sites, community forest, traditional medicinal plants; support for new industries; protection of sacred sites; etc.

Potential interviewees: representatives of project affected communities; project social issues manager; government expert; local authority; independent experts

Examples of evidence: assessment report on project affected communities and livelihoods; gender analysis; human rights issues analysis; records of consultation and project affected community involvement; records of response to project affected community issues; third party review report; report on compensation measures; agreements on compensation measures; assessments and agreements on cultural sensitive areas and customs.

* This was a topic with an area of non-consensus in development of the Protocol, relating to the Stakeholder Support criterion. It is the belief of Oxfam that basic good practice (Level 3) should be “Affected communities generally support or have no major ongoing opposition to the project”.

P-14 Resettlement*

This topic addresses physical displacement arising from the hydropower project development. The intent is that the dignity and human rights of those physically displaced are respected; that these matters are dealt with in a fair and equitable manner; and that livelihoods and standards of living for resettles and host communities are improved.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of the resettlement implications of the project has been undertaken early in the project preparation stage to establish the socio-economic baseline for resettlement for potential resettles and host communities, and has included an economic assessment of required resettlement including ongoing costs for improvement in living standards.
Management: A Resettlement Action Plan and associated processes have been developed in a timely manner for project implementation and operation, which includes an up-to-date socio-economic baseline, compensation framework, grievance mechanisms, and monitoring procedures; and formal agreements with resettles and host communities are publicly disclosed.
Stakeholder Engagement: Engagement with directly affected stakeholders has been appropriately timed, culturally appropriate and two-way; ongoing processes are in place for resettles and host communities to raise issues and get feedback; and resettles and host communities have been involved in the decision-making around relevant resettlement options and issues.
Stakeholder Support: Resettles and host communities generally support or have no major on-going opposition to the Resettlement Action Plan.
Outcomes: Plans provide for resettlement to be treated in a fair and equitable manner, and resettles and host communities to experience a timely improvement in livelihoods and living standards.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, engagement with resettles and host communities has been inclusive and participatory; and feedback on issues how raised have been taken into consideration has been thorough and timely.
Stakeholder Support: In addition, there is consent with legally binding agreements by the resettles and host communities for the Resettlement Action Plan.
Outcomes: In addition, plans provide for resettles and host communities to experience a timely improvement in livelihoods and living standards with the aim of self-sufficiency in the long term.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there is no requirement for resettlement arising from the project activities.

Resettlement is the process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Resettlees are those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

Socio-economic baseline for resettlement includes analysis of community structures, gender, vulnerable social groups, living standards and economic valuation of livelihoods and asset loss.

Host communities refers to the communities to which resettlees are relocated.

Resettlement Action Plan refers to a document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange. In cases where resettlees' livelihoods have been land-based, and where consistent with resettlees' preferences, strong consideration may be given to land-for-land compensation.

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Broad considerations might be exhibited by, for example: a broad interpretation of definitional terms; a broad view of relevant issues; a broad view of stakeholder perspectives on the various issues; a broad approach to types of data collection and important indicators; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to resettlement; consideration of legacy issues; consideration of cumulative impacts; etc.

Consent means signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Potential interviewees: community representatives affected by resettlement and land acquisition; representatives from resettlement host communities; project social issues manager; independent reviewer; representative from the responsible governmental authority.

Examples of evidence: assessment report on resettlement and land acquisition; records of consultation and affected stakeholder involvement; records of response to resettlement and land acquisition issues; third party review report; resettlement action plans; land acquisition plans; compensation agreements; agreements on resettlement action plan; baseline social conditions report; livelihood analysis; impoverishment risk analysis; mitigation, resettlement and development action plans, including project benefit sharing mechanisms; NGO reports.

* This was a topic with two areas of non-consensus in development of the Protocol, both relating to the Stakeholder Support criterion. It is the belief of Oxfam that basic good practice (Level 3) should be “Resettlees and host communities generally support or have no major on-going opposition to the project”, and that proven best practice (Level 5) should be “In addition, there is consent with legally binding agreements by the resettlees and host communities for the project”, noting that those forced to resettle and host communities may choose to express that consent through their support for a Resettlement Action Plan.

P-15 Indigenous Peoples*

This topic addresses the rights, risks and opportunities of indigenous peoples with respect to the project, recognising that as social groups with identities distinct from dominant groups in national societies, they are often the most marginalized and vulnerable segments of the population. The intent is that the project respects the dignity, human rights, aspirations, culture, lands, knowledge, practices and natural resource-based livelihoods of indigenous peoples in an ongoing manner throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of the representation of indigenous peoples in the project affected community, their rights, risks and vulnerabilities, and any cultural sensitivities and needs has been undertaken with no significant gaps, utilising local knowledge and expertise.
Management: Plans and processes have been developed for project implementation and operation to address issues that may affect indigenous peoples in relation to the project; and formal agreements with indigenous peoples are publicly disclosed.
Stakeholder Engagement: Engagement with indigenous peoples has been appropriately timed, culturally appropriate and two-way with self-selected community representatives; and ongoing processes are in place for indigenous peoples to raise issues and get feedback.
Stakeholder Support: Directly affected indigenous groups generally support or have no major on-going opposition to the plans for issues that specifically affect their group.
Outcomes: Plans provide for major negative impacts of the project to indigenous peoples and their associated culture, knowledge, access to land and resources, and practices to be avoided, minimised, mitigated or compensated with no significant gaps, and some practicable opportunities for positive impacts to be achieved.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment has been undertaken with the free, prior and informed participation of indigenous peoples; and the assessment takes broad considerations into account, including both risks and opportunities.
Management: In addition, plans and processes have been developed with the free, prior and informed participation of indigenous peoples; processes are in place to anticipate and respond to emerging risks and opportunities; and plans are supported by commitments that are public, formal and legally enforceable.
Stakeholder Engagement: In addition, engagement with indigenous peoples has been inclusive and participatory; feedback on how issues raised have been taken into consideration has been thorough and timely; and directly affected indigenous peoples have been involved in the decision-making around relevant issues and options.
Stakeholder Support: In addition, consent has been sought and gained by directly affected indigenous groups for the project.
Outcomes: In addition, opportunities for positive impacts have been thoroughly identified and maximised as far as practicable.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there are no indigenous peoples in the project affected area.

Indigenous peoples refers to a distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or part of the country within which they reside. In some countries, interactions with indigenous peoples may be required to be conducted through a specific government agency.

Issues that may affect indigenous peoples are ideally self-identified, and may include, for example: impacts of project activities and infrastructure on cultural practices, direct or indirect impacts to traditional lands, impacts to community cohesion, public health risks, disturbance of customary practices, and impeded access to natural resource-based livelihoods.

Measures to address issues that may affect indigenous peoples are ideally self-identified, and may include, for example: avoidance measures, protection of cultural practices, land entitlement and protection, health assistance, scheduling of project activities to not disturb customary practices, support for festivals or traditions, improved or more secure access to natural resource-based livelihoods, etc.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations might be exhibited by, for example: a broad definitional view of indigenous peoples (e.g. including ethnic minorities); a broad view of the project affected area; a broad view of indigenous rights and relevant issues; a broad interpretation of important concepts such as cultural sensitivities; a broad range of approaches considered; a focus on interrelationships amongst issues; legacy issues; cumulative impacts; a broad analysis of trends, approaches and existing and emerging standards relating to indigenous peoples; etc.

Opportunities for indigenous peoples are ideally self-identified, and may include, for example: better access to education, health facilities, fresh water, new land or resource access, new housing or better access to materials for housing, new livelihood opportunities, development of treaties or formal agreements that give greater security over the long-term, etc.

Consent means signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Potential interviewees: representatives of project affected indigenous communities; project social issues manager; independent reviewer; representative from the responsible governmental authority

Examples of evidence: assessment report on indigenous peoples; records of consultation and project affected community involvement; records of response to issues that may affect indigenous peoples; third party review report; indigenous peoples management plans; agreements on measures for indigenous peoples.

* This was a topic of non-consensus in development of the Protocol, relating to the focus of support and consent given by indigenous peoples (whether for management plans or for the project itself). With respect to the Stakeholder Support criterion, it is the belief of IHA that the level 5 language does not represent proven best practice. There is a consensus within the Forum that this issue requires priority focus and attention in the further development and testing of the Protocol. There is a recognition that the language of the scoring statements may need to be refined if there are significant developments in this issue.

P-16 Labour & Working Conditions

This topic addresses labour and working conditions, including employee and contractor opportunity, equity, diversity, health and safety. The intent is that workers are treated fairly and protected.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment has been undertaken of human resource and labour management requirements for the project, including project occupational health and safety (OH&S) issues, risks, and management measures, with no significant gaps.
Management: Human resource and labour management policies, plans and processes have been developed for project implementation and operation that cover all labour management planning components, including those of contractors, subcontractors, and intermediaries, with no significant gaps.
Stakeholder Engagement: Ongoing processes are in place for employees and contractors to raise human resources and labour management issues and get feedback.
Outcomes: There are no identified inconsistencies of labour management policies, plans and practices with internationally recognised labour rights.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely.
Outcomes: In addition, labour management policies, plans and practices are demonstrated to be consistent with internationally recognised labour rights.

Assessment Guidance:

Labour management plan components include: human resources policies, staff and workforce planning, occupational health and safety, equal opportunity, staff development and training, grievance mechanisms, and (where appropriate) collective bargaining mechanisms

Occupational health and safety is about protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Intermediaries are workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection and important indicators; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to labour and working conditions; understanding of relevant human rights; etc.

Internationally recognised labour rights are documented in places such as the IFC Performance Standard 2, the International Labour Organisation standards, and the Human Rights Council 2008 Report of John Ruggie “Protect, Respect and Remedy: a Framework for Business and Human Rights”. They include freedom of association, right to equal pay for equal work, right to organize and participate in collective bargaining, right to equality at work, right to non-discrimination, right to just and favourable remuneration, abolition of slavery and forced labour, right to a safe work environment, abolition of child labour, right to rest and leisure, right to work, right to family life. Evidence of no inconsistencies would be no policies, plans or practices that show workers are prevented from the ability to exercise these rights; evidence of consistency could be for example an analysis of alignment.

Potential interviewees: project human resources staff; company human resources staff; project manager, contracted workforce manager, project safety officer; staff or contractor representatives; external experts; unions and shop stewards; female workers

Examples of evidence: policies, plans and programs relating to human resources, employees, contractors, equity, occupational health & safety, workforce planning, and grievance mechanisms; national and international standards for labour and OH&S

P-17 Cultural Heritage

This topic addresses cultural heritage, with specific reference to physical cultural resources, at risk of damage or loss by the hydropower project and associated infrastructure impacts (e.g. new roads, transmission lines). The intent is that physical cultural resources are identified, their importance is understood, and measures are in place to address those identified to be of high importance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** A cultural heritage assessment has been undertaken with no significant gaps; the assessment includes identification and recording of physical cultural resources, evaluation of the relative levels of importance, and identification of any risks arising from the project.
Management: Plans and processes to address physical cultural resources have been developed for project implementation and operation with no significant gaps; plans include arrangements for chance finds, and ensure that cultural heritage expertise will be on site and regularly liaised with by the project management team during construction.
Stakeholder Engagement: The assessment and planning for cultural heritage issues has involved appropriately timed, and often two-way, engagement with directly affected stakeholders; ongoing processes are in place for stakeholders to raise issues and get feedback.
Stakeholder Support: There is general support or no major ongoing opposition amongst directly affected stakeholder groups for the cultural heritage assessment, planning or implementation measures.
Outcomes: Plans avoid, minimise, mitigate, and compensate negative impacts on cultural heritage arising from project activities with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and plans are supported by public, formal and legally enforceable commitments.
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Stakeholder Support: In addition, formal agreements with the directly affected stakeholder groups have been reached for cultural heritage management measures.
Outcomes: In addition, plans avoid, minimise, mitigate and compensate negative cultural heritage impacts with no identified gaps; and contribute to addressing cultural heritage issues beyond those impacts caused by the project.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there are no physical cultural resources identified in the project affected area.

Cultural heritage refers to the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Physical cultural resources refer to movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Non-physical cultural heritage examples include: traditions, festivals, rituals, folklore, storytelling, drama, etc. These should be addressed under Topic P-5 Environmental & Social Impact Assessment & Management in this Protocol assessment.

Cultural heritage risks may include, for example: inundation of important sites or artefacts under the new reservoir; damage or destruction to important sites or artefacts due to construction activities; loss of access to important sites due to changes to access routes (e.g. new canals or linear infrastructure with barrier fencing, major roads); disturbance of spirits associated with special sites; etc.

Plans and processes to address physical cultural resources may include, for example: documentation and record-keeping; relocation; creation of protected areas; new access routes; appeasement ceremonies; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation

of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Protection means to keep in safety and protect from harm, decay, loss, damage or destruction.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to cultural heritage; a broad perspective with respect to the assessment of significance of the heritage finds; etc.

Interrelationships amongst issues could include, for example, erosion and sedimentation effects on important heritage locations, risks of vandalism or theft by contractors or the public, etc.

Cultural heritage opportunities may include, for example: partnerships with heritage organisations; establishment of initiatives recognising heritage values such as festivals, museums or visiting experts; programmes to preserve traditional activities; access to special grants for heritage protection works; etc.

Potential interviewees: project environmental and social issues manager, local cultural heritage expert, representative from relevant government department (e.g. heritage or environment); external experts; project affected community representatives

Examples of evidence: cultural heritage impact statements; conservation plans; records of consultation and response to stakeholder issues; heritage plans and agreements; national and international standards.

P-18 Public Health

This topic addresses public health issues associated with the hydropower project. The intent is that the project does not create or exacerbate any public health issues, and that improvements in public health can be achieved through the project in project-affected areas where there are significant pre-existing public health issues.

Scoring:

- 1 *There are significant gaps relative to basic good practice.*
- 2 *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3 **Assessment:** A public health issues assessment has been undertaken with no significant gaps; the assessment includes public health system capacities and access to health services, and has considered health needs, issues and risks for different community groups.
Management: Plans and processes to address identified public health issues have been developed for project implementation and operation with no significant gaps.
Stakeholder Engagement: The assessment and planning for public health has involved appropriately timed, and often two-way, engagement with directly affected stakeholders, including health officials and project affected communities; ongoing processes are in place for stakeholders to raise issues and get feedback.
Outcomes: Plans avoid, minimise and mitigate negative public health impacts arising from project activities with no significant gaps.
- 4 *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5 **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Outcomes: In addition, plans avoid, minimise, mitigate and compensate negative public health impacts with no identified gaps; and provide for enhancements to pre-project public health conditions or contribute to addressing public health issues beyond those impacts caused by the project.

Assessment Guidance:

Topic relevance: This topic will always be relevant, because even with the case in which there are no individuals or communities living in the project affected area, there will be residents in the area due to the new project and issues, risks and opportunities should be identified and planned for

Public health issues examples include: disease introduced by construction workforce (e.g. HIV, Aids); vector borne diseases (e.g. malaria, schistosomiasis); communicable and non-communicable diseases, malnutrition, psychological disorders, social well-being; loss or contamination of traditional resources; mercury or heavy metal bio-accumulation; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection and important indicators; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to public health; etc.

Public health opportunities examples include: improved access to electricity, clean water and sanitation; development or upgrading of public health facilities; provision of equipment, training, health education, immunisations; increased access to low-cost, high-quality protein diet through increased availability of fish, etc.

Health needs, issues and risks for different community groups would be with respect to, for example: gender, age, ethnicity, use of and access to traditional medicines, etc.

Public health management measures examples include: measures to reduce mosquito-borne disease risks; storing of medical supplies and immunisations; educational, awareness and disease prevention training; water quality testing; etc.

Potential interviewees: project social issues manager, independent public health expert, representative from government health department, project affected community representatives

Examples of evidence: public health issues and opportunities assessment; public health management plans; national and international standards

P-19 Biodiversity & Invasive Species

This topic addresses ecosystem values, habitat and specific issues such as threatened species and fish passage in the catchment, reservoir and downstream areas, as well as potential impacts arising from pest and invasive species associated with the planned project. The intent is that there are healthy, functional and viable aquatic and terrestrial ecosystems in the project-affected area that are sustainable over the long-term, and that biodiversity impacts arising from project activities are managed responsibly.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of terrestrial biodiversity; aquatic biodiversity including passage of aquatic species and loss of connectivity to significant habitat; and risks of invasive species has been undertaken with no significant gaps.
Management: Plans and processes to address identified biodiversity issues have been developed for project implementation and operation with no significant gaps.
Outcomes: Plans avoid, minimise, mitigate, and compensate negative biodiversity impacts arising from project activities with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and commitments in plans are public, formal and legally enforceable.
Outcomes: In addition, plans avoid, minimise, mitigate and compensate negative biodiversity impacts due to project activities with no identified gaps; and plans provide for enhancements to pre-project biodiversity conditions or contribute to addressing biodiversity issues beyond those impacts caused by the project.

Assessment Guidance:

Biodiversity issues may include, for example: loss of habitat; fish migration barriers; loss of spawning grounds; loss of habitat connectivity; loss or declines in important food chain species; loss of wetlands; poaching, hunting or over-exploitation of significant species; introduction of weed or pest species; etc.

Measures to protect or enhance biodiversity examples include: catchment protection, creation of reserves or protected areas, habitat conservation and improvement, species management plans, translocations, habitat

rehabilitation, new habitat creation, managed flow releases, etc.

Measures to address passage of aquatic species examples include: fish ladders, fish elevators, catch and release programs, fish hatcheries, re-stocking programs, mechanisms for diversion away from turbines for downstream passage, assisted cues (water chemistry, operational conditions), choice of turbine design, etc.

Measures to address invasive species examples include: reservoir vegetation clearing prior to

filing, physical barriers to pest species passage, pollution control, physical removal or containment, chemical treatment, reservoir water residence times, managed flow releases, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Compensate in the context of biodiversity impacts in cases may be in the form of establishing or supporting offset programs. **Offsets** are measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Broad considerations may include, for example: consideration of cumulative impacts; a catchment or river basin perspective; a broad view of the project affected area; a broad view of relevant issues; a broad approach to data collection; a focus on interrelationships amongst issues; etc.

Biodiversity opportunities may include, for example, forming partnerships with wildlife protection groups; catchment management committees and projects; joint research ventures around fish passage or hatcheries; employing or working with local communities to act as wardens for protected areas; creation of business ventures from non-timber forest resources, capacity building and educational initiatives, eco-tourism ventures, creation of bird and waterfowl sanctuaries, fish protection zones, wetland protection, etc.

Potential interviewees: project environmental issues manager; aquatic and terrestrial ecologists; project design engineers (in relation to fish passage); representatives of relevant government departments (e.g. fisheries, wildlife, environment, forests); representatives of local communities; independent experts

Examples of evidence: assessment of terrestrial biodiversity; assessment of aquatic biodiversity; fish studies; fish passage technical feasibility assessments; third party review reports; biodiversity management plans; invasive species management plans; commitments and agreements; economic and livelihood valuation from fish catch and non-timber forest products baselines from local communities

P-20 Erosion & Sedimentation

This topic addresses the management of erosion and sedimentation issues associated with the project. The intent is that erosion and sedimentation caused by the project is managed responsibly and does not present problems with respect to other social, environmental and economic objectives, and that external erosion or sedimentation occurrences which may have impacts on the project are recognised and managed.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An erosion and sedimentation issues assessment has been undertaken with no significant gaps; the assessment identifies impacts that may be caused by the project, issues that may impact on the project, and establishes an understanding of the sediment load and dynamics for the affected river system.
Management: Plans and processes to address identified erosion and sedimentation issues have been developed for project implementation and operation with no significant gaps.
Outcomes: Plans avoid, minimise and mitigate erosion and sedimentation issues arising from project activities and erosion and sedimentation issues that may impact on the project with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Outcomes: In addition, plans avoid, minimise, mitigate and compensate erosion and sedimentation issues due to project activities with no identified gaps; and plans provide for enhancements to pre-project erosion and sedimentation conditions or contribute to addressing erosion and sedimentation issues beyond those impacts caused by the project.

Assessment Guidance:

Erosion and sedimentation issues that may be caused by the project include direct land disturbance due to roads and construction works, or to reservoir shorelines due to fluctuating water levels; and indirect land disturbance due to changed river flows and sediment loads. Consideration of what is an issue needs to take into account that there will be landscape adjustments brought about by the hydropower project that continue for many years until a new equilibrium is reached, particularly in the downstream river channels; negative impacts

would therefore be considered those erosion and sedimentation occurrences caused by the project that present problems with respect to other social, environmental and/or economic objectives, or externally caused occurrences of erosion or sedimentation that impact on the ability of the project to meet its own social, environmental or economic objectives.

Issues that may impact on the project might, for example, be naturally high sediment loads which may impact on the reservoir life, wear & tear of turbines, increased maintenance needs for tunnels, canals and other water conduits; or landslips or land disturbances due to other catchment activities that could increase sediment loads into the project reservoir or adversely affect transport routes on which the project is reliant, etc.

Erosion and sedimentation management measures might include, for example: catchment treatment works such as sediment check structures; project design features such as sediment sluice gates; water management measures such as to avoid turbidity or shoreline erosion; reforestation and re-vegetation activities; measures to address land use practices; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations may include, for example: consideration of cumulative impacts; a broad approach to data collection; a focus on interrelationships amongst issues (e.g. loss of riverbank gardens affecting livelihoods, or long-term erosion affecting cultural heritage features); etc.

Erosion and sedimentation opportunities may include, for example, forming partnerships with land-use protection or catchment management groups; joint research projects around erosion or sedimentation management; new technologies; carbon credits for reforestation with benefits of erosion and sedimentation risk reduction; etc.

Potential interviewees: project environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: erosion and sedimentation assessment reports; erosion and sedimentation management plans for construction and operation.

P-21 Water Quality

This topic addresses the management of water quality issues associated with the project. The intent is that water quality in the vicinity of the project is not adversely impacted by project activities.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** A water quality issues assessment has been undertaken with no significant gaps.
Management: Plans and processes to address identified water quality issues have been developed for project implementation and operation with no significant gaps.
Outcomes: Plans avoid, minimise and mitigate negative water quality impacts arising from project activities with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Outcomes: In addition, plans avoid, minimise, mitigate and compensate negative water quality impacts with no identified gaps; and plans provide for enhancements to pre-project water quality conditions or contribute to addressing water quality issues beyond those impacts caused by the project.

Assessment Guidance:

Water quality issues examples include at the construction stage: turbidity, run-off, and pollutants from construction activity; and at the operation stage: reduced oxygenation, aseasonal temperatures, stratification potential, pollutant inflow, nutrient capture, algal bloom potential, release of toxicants from inundated sediments, etc.

Water quality management measures at the construction stage are often oriented around avoidance or mitigation of spot issues e.g. oil bunding, sediment traps, etc. At the operation stage the measures are often longer-term and may be built into design features; they may include, for example: design features such as a multi-level off-take or aeration features to address dissolved oxygen levels; water management measures

such as to ensure adequate water circulation and through-flow; vegetation management to address organic decomposition; addressing pollutants from non-project activities such as sewage, wastes, contaminated sites, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations may include, for example: consideration of cumulative impacts; a broad approach to data collection; a focus on interrelationships amongst issues (e.g. water quality affecting viability of fishing, access to drinking water, inter-linkages with catchment activities and land-use practices); etc.

Water quality opportunities may include, for example: addressing pollutants from non-project activities such as sewage, wastes, contaminated sites; groundwater stabilisation, improved water quality through oxygenation or temperature dispersion; new technologies; new service providers; partnerships with community waterway health monitoring groups; etc.

Potential interviewees: project environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: water quality monitoring reports; water quality management plans for construction and operation

P-22 Reservoir Planning

This topic addresses the planning for management of environmental, social and economic issues within the reservoir area during project implementation and operation. The intent is that the reservoir will be well managed taking into account power generation operations, environmental and social management requirements, and multi-purpose uses where relevant.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment has been undertaken of the important considerations prior to and during reservoir filling and during reservoir operations, with no significant gaps.
Management: Plans and processes to manage reservoir preparation, filling and operations have been developed.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment is based on dialogue with local community representatives, and takes broad considerations, risks and opportunities into account.
Management: In addition, reservoir plans are based on dialogue with local community and government representatives; and processes are in place to anticipate and respond to emerging risks and opportunities.

Assessment Guidance:

Topic relevance: This topic is relevant if there is any storage of water.

Reservoir refers to any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir area refers to the area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Considerations prior to reservoir filling refers to preparations for any significant timing elements of construction, social or environmental management plans which might have bearing on the reservoir area; examples include: clearing of vegetation, management of contaminated or cultural heritage sites that would be inundated, construction of boat ramps, preparation of areas to receive relocated wildlife, etc.

Considerations during reservoir filling examples include: safety, wildlife management, land or slope stability, timing of reservoir filling in relation to resettlement or other management activities, etc.

Considerations for reservoir operations examples include: optimising power generation, maintenance requirements, debris management (particularly an issue in monsoon prone parts of the world), multiple uses (e.g. commercial, recreational), safety, flood management, shoreline erosion, reservoir sedimentation, public access, water quality, biodiversity, invasive species, water-borne diseases, monitoring, etc.

Broad considerations might be exhibited by, for example: an awareness of climate change issues, multi-purpose considerations, leveraging off the reservoir for other industries (e.g. tourism, aquaculture, irrigation) or as a vehicle for development (e.g. source of clean water, fisheries and other livelihoods, improved water-based transport), etc.

Opportunities may include, for example: additional investors interested in spin-off industries; R&D projects around environmental mitigation measures or greenhouse gas emissions research; pilot testing of design features; etc.

Potential interviewees: project manager; construction manager; project environmental and social issues managers; local government representative

Examples of evidence: integrated project management plans; construction management plans; reservoir design documents; model output for reservoir operations; relevant excerpts of environmental and social impact assessments and management plans

P-23 Downstream Flow Regimes

This topic addresses the flow regimes downstream of hydropower project infrastructure in relation to environmental, social and economic impacts and benefits. The intent is that flow regimes downstream of hydropower project infrastructure are planned and delivered with an awareness of and measures incorporated to address environmental, social and economic objectives affected by those flows.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment of flow regimes downstream of project infrastructure over all potentially affected river reaches, including identification of the flow ranges and variability to achieve different environmental, social and economic objectives, has been undertaken based on relevant scientific and other information with no significant gaps.
Management: Plans and processes for delivery of downstream flow regimes have been developed that include the flow objectives; the magnitude, range and variability of the flow regimes; the locations at which flows will be verified; and ongoing monitoring; and where formal commitments have been made, these are publicly disclosed.
Stakeholder Engagement: The assessment and planning process for downstream flow regimes has involved appropriately timed, and often two-way, engagement with directly affected stakeholders; ongoing processes are in place for stakeholders to raise issues with downstream flow regimes and get feedback.
Outcomes: Plans for downstream flows take into account environmental, social and economic objectives, and where relevant, agreed transboundary objectives.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment is based on field studies, and takes broad considerations, risks and opportunities into account.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and commitments in plans are public, formal and legally enforceable.
Stakeholder Engagement: In addition, engagement with directly affected stakeholders has been inclusive and participatory; and feedback on how issues raised have been taken into consideration has been thorough and timely.
Outcomes: In addition, plans for downstream flow regimes represent an optimal fit amongst environmental, social and economic objectives.

Assessment Guidance:

Flow regimes is with reference to the fact that there may be multiple sites at which flows are affected by project infrastructure, e.g. downstream of a diversion dam as well as downstream of the main dam or the turbines.

Downstream flow regimes might be specified for different components and stages of projects in a manner such as, for example: minimum flows in part of certain seasons, maximum flows in part of certain seasons, or specific flow events such as a flushing flow or a flood intended to inundate flood plains. Individual countries may have laws specifying downstream flow requirements; in such circumstances it will be necessary to see how social, economic and environmental considerations can still be taken into account. In cases where the downstream impact of the project on flow regimes extends beyond the jurisdiction in which the project is found, any implications of this would need to be taken into consideration.

Optimal in this context means best fit once all identified environmental, social and economic considerations have been factored in, based on the outcomes of a consultative process; the best fit may in fact allow relaxed flow targets in a particular river reach because another river reach has objectives that are considered of higher priority. A decision on optimal downstream flow may be reached in many different manners depending on the context; it may come out of a government led public hearing process, for example, or may be proposed by the proponent based on a sound process and accepted by the regulator as part of the project approval, etc.

Broad considerations may include, for example: cumulative impacts, sustainable river basin development, integrated water resource management, a broad view of relevant issues; a broad view of stakeholder perspectives on the various issues; a broad approach to data collection; a focus on interrelationships amongst issues (e.g. linkages between flow and biodiversity, fisheries and food supply with longer term effects on social migration or public health); etc.

Flow-related risks include, for example: declines in biodiversity and abundance, loss of riverine access, safety issues, loss of riverbank gardens and flood recession agriculture opportunities, loss of connectivity of off-river wetlands, etc.

Flow-related opportunities include, for example: design of facilities and operations (including increase of turbine or outlet capacity) that allow for planned high flow releases to benefit flood plain connectivity and other environmental flow targets; establishment of a hydropower compensation fund to allow for improvement in flood plain connectivity, flood risk management and flood plain ecosystem management; etc.

Potential interviewees: project manager; hydrologist; project environmental and social issues managers; aquatic ecologist; independent environmental flows expert; stakeholder representatives; project affected community representatives; downstream riparian community representatives; representative from the responsible governmental authority; downstream transboundary community representatives if relevant

Examples of evidence: assessment of downstream flows in relation to flow-related objectives; downstream flow regime plans specifying range, variability and verification location; system operations plans; design documents in relation to release mechanisms; records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; commitments and agreements

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be misled.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Intermediaries: Workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic. In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.

Understanding the Protocol's Gradational Approach

The gradational approach undertaken in the Preparation, Implementation and Operation assessments tools can be understood by examination of Table 1. This table provides general guidance on characteristics that are likely to be exhibited for these different criteria at the five different scoring levels. The scoring statements found in the Preparation, Implementation and Operation assessment tools have been guided by the approach shown in Table 1. This table is not intended to be the basis for assigning of scores, as sufficient information should be provided on the topic pages. However, this table can be referred to during an assessment if there is insufficient information in the topic scoring statements and in the topic-specific assessment guidance to help the assessor to determine a score. If there are questions in the assessment process about whether the assessment, management and stakeholder engagement approaches are sufficient for basic good practice, Table 1 may be of assistance.

Table 1 - Understanding the Protocol's Gradational Approach

This table captures characteristics that are likely to be exhibited at different scoring levels for each of the criteria used in the Hydropower Sustainability Assessment Protocol.

Level	Assessment	Management
5	<p>Suitable, adequate and effective assessment with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to take a relatively broad, external or regional view or perspective; emphasise opportunities; and show a high level examination of interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to show excellent anticipation of, and response to, emerging issues or opportunities; senior management and/or executive decisions are likely to be timely, efficient and effective in response to monitoring data, investigations and issues arising; and, in cases, commitments in plans are public, formal and legally enforceable.</p>
4	<p>Suitable, adequate and effective assessment with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to exhibit some recognition of broader, external or regional issues; opportunities; and interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to exhibit good anticipation of, and response to, emerging issues or opportunities; and, in cases, commitments in plans are public and formal.</p>
3	<p>Suitable adequate and effective assessment with no significant gaps.</p> <p>This would typically encompass (as appropriate to the topic and life cycle stage) identification of the baseline condition including relevant issues, appropriate geographic coverage, and appropriate data collection and analytical methodologies; identification of relevant organisational roles and responsibilities, and legal, policy and other requirements; appropriate utilisation of expertise and local knowledge; and appropriate budget and time span.</p> <p>At level 3 the assessment encompasses the considerations most relevant to that topic, but tends to have a predominantly project-focussed view or perspective and to give stronger emphasis to impacts and risks than it does to opportunities.</p>	<p>Suitable, adequate and effective management processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage) development and implementation of plans that: integrate relevant assessment or monitoring findings; are underpinned by policies; describe measures that will be taken to address the considerations most relevant to that topic; establish objectives and targets; assign roles, responsibilities and accountabilities; utilise expertise appropriate to that topic; allocate finances to cover implementation requirements with some contingency; outline processes for monitoring, review and reporting; and are periodically reviewed and improved as required.</p>
2	<p>A significant gap in assessment processes relative to basic good practice (Level 3).</p>	<p>A significant gap in management processes relative to basic good practice (Level 3).</p>
1	<p>Significant gaps in assessment processes relative to basic good practice (Level 3)</p>	<p>There are significant gaps in management processes relative to basic good practice (Level 3)</p>

Stakeholder Engagement	Stakeholder Support	Outcomes	Conformance/ Compliance
<p>Suitable, adequate and effective stakeholder engagement processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the engagement is likely to be inclusive and participatory with the directly affected stakeholders; thorough feedback is likely to be available on how directly affected stakeholder issues are taken in to consideration; in cases, there is likely to be directly affected stakeholder involvement in decision-making; and information identified through engagement processes to be of high interest to stakeholders is released publicly in a timely and easily accessible manner.</p>	<p>There is support of nearly all directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no opposition by these stakeholders.</p> <p>In cases formal agreements or consent with the directly affected stakeholder groups have been reached for management measures for that topic.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited enhancements to pre-project conditions; contributions to addressing issues beyond those impacts caused by the project; leveraging of opportunities; or significant contribution to capacity building.</p>	<p>No non-compliances or non-conformances.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), there is likely to be good feedback on how directly affected stakeholder issues have taken into consideration; and information on sustainability topics understood to be of high interest to stakeholders is voluntarily released publicly.</p>	<p>There is support of a large majority of directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or only very low level opposition by these stakeholders.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited full compensation of negative impacts; some positive enhancements; or evidence of capacity building associated with the project.</p>	<p>Very few minor non-compliances and non-conformances that can be readily remedied.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage): Identification of directly affected stakeholders; Appropriate forms, timing, frequency and locations of stakeholder engagement, often two-way; Freedom for affected stakeholders to participate; Attention to special stakeholder engagement considerations relating to gender, minorities, cultural sensitivities, level of literacy, and those who might require particular assistance; Mechanisms by which stakeholders can see that their issues are recognised and acknowledged, and how they have been or are being responded to; and disclosure of information on significant sustainability topics (in cases, this may be on request).</p>	<p>There is general support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no significant ongoing opposition by these stakeholders.</p>	<p>As appropriate to the topic and the life cycle stage, there may be exhibited avoidance of harm, minimisation and mitigation of negative impacts; fair and just compensation; fulfilment of obligations; or effectiveness of implementation plans.</p>	<p>No significant non-compliances and non-conformances.</p>
<p>A significant gap in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is support amongst some directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, with some opposition.</p>	<p>A significant gap relative to basic good practice (Level 3), for example, some deterioration in baseline condition.</p>	<p>A significant non-compliance or non-conformance.</p>
<p>There are significant gaps in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is low support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or a majority oppose.</p>	<p>Significant gaps relative to basic good practice (Level 3), for example deterioration in baseline conditions with delay or difficulties in addressing negative impacts.</p>	<p>Significant non-compliances and non-conformances.</p>

Implementation Assessment Tool

November 2010

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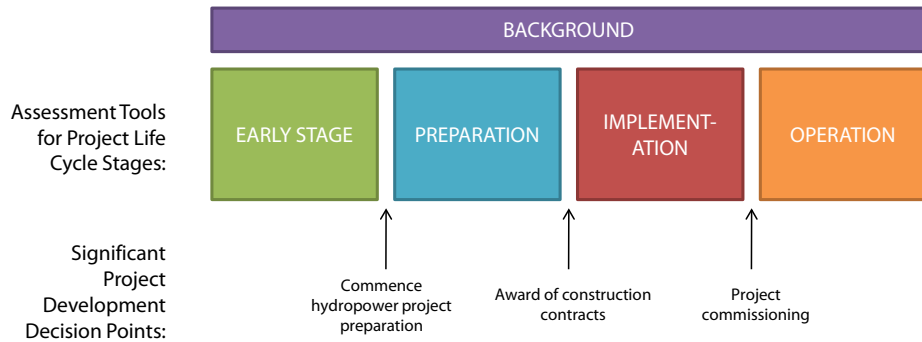
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Contents

The Hydropower Sustainability Assessment Protocol	110
I-1 Communications & Consultation	111
I-2 Governance	113
I-3 Environmental & Social Issues Management	116
I-4 Integrated Project Management	119
I-5 Infrastructure Safety	121
I-6 Financial Viability	123
I-7 Project Benefits	125
I-8 Procurement	127
I-9 Project-Affected Communities & Livelihoods	129
I-10 Resettlement	132
I-11 Indigenous Peoples	135
I-12 Labour & Working Conditions	137
I-13 Cultural Heritage	139
I-14 Public Health	141
I-15 Biodiversity & Invasive Species	143
I-16 Erosion & Sedimentation	145
I-17 Water Quality	147
I-18 Waste, Noise & Air Quality	149
I-19 Reservoir Preparation & Filling	150
I-20 Downstream Flow Regimes	152
Glossary of Terms	154
Understanding the Protocol's Gradational Approach	157

The Hydropower Sustainability Assessment Protocol

The Hydropower Sustainability Assessment Protocol (the “Protocol”) is a sustainability assessment framework for hydropower projects and operations. It outlines the important sustainability considerations for a hydropower project, and enables production of a sustainability profile for that project. The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to be



applicable up to major decision points in the project life cycle, and are most effective where there are repeat applications to help guide continuous improvement measures. The assessment tools and associated decision points are shown in Figure 1.

Figure 1 - Protocol Assessment Tools and Major Decision Points

Overview of the Implementation Assessment Tool

This document provides the Implementation assessment tool, and assumes that the user has already made him or herself familiar with the Protocol Background which describes the overall approach and use of the Protocol assessment tools. The Implementation assessment tool assesses the implementation stage of a hydropower project, during which construction, resettlement, environmental and other management plans and commitments are implemented. Commissioning of the power station enables the project to start to earn money, and in fact often some units (i.e. turbines) of a multiple unit power station are commissioned while others are still being installed to assist in meeting the financial commitments of the project. An assessment made prior to the decision to commission any units would assess whether all commitments have been met, and can inform the timing and conditions of project commissioning.

Implementation Topic Relevance Guide

Not all topics in Implementation assessment tool will be relevant for every project assessment, and their relevance must be considered on a project-by-project basis. The project representative would make a case for a topic to be not relevant and present evidence to support this. The assessor reviews the evidence and draws a conclusion, documenting the evidence cited, the quality of the evidence, and the basis for this conclusion.

Some examples of circumstances that might make topics not relevant, subject to presentation of credible evidence, could be:

- No cultural heritage identified in the project affected area → Cultural Heritage topic is not relevant
- No indigenous peoples in the project affected area → Indigenous Peoples topic is not relevant
- No resettlement required by the project → Resettlement topic is not relevant

I-1 Communications & Consultation

This topic addresses ongoing engagement with project stakeholders, both within the company as well as between the company and external stakeholders (e.g. affected communities, governments, key institutions, partners, contractors, catchment residents, etc). The intent is that stakeholders are identified and engaged in the issues of interest to them, and communication and consultation processes maintain good stakeholder relations throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Communications and consultation requirements and approaches have been identified through an assessment process involving stakeholder mapping, supported by ongoing monitoring.

Management: Communications and consultation plans and processes, including an appropriate grievance mechanism, are in place to manage communications and engagement with stakeholders; these outline communication and consultation needs and approaches for various stakeholder groups and topics.

Stakeholder Engagement: The project implementation stage involves appropriately timed and scoped, and often two-way, engagement with directly affected stakeholders; engagement is undertaken in good faith; ongoing processes are in place for stakeholders to raise issues and get feedback.

Conformance/Compliance: Processes and objectives relating to communications and consultation have been and are on track to be met with no major non-compliances or non-conformances, and communications related commitments have been or are on track to be met.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, the stakeholder mapping takes broad considerations into account.

Management: In addition, communication and consultation plans and processes show a high level of sensitivity to communication and consultation needs and approaches for various stakeholder groups and topics; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, engagement is inclusive and participatory; negotiations are undertaken in good faith; and feedback on how issues raised have been taken into consideration has been thorough and timely.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Assessment Guidance:

Stakeholders are those who are interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder mapping refers to identification and grouping of stakeholders in a meaningful way, for example based on stakeholder rights, risks and responsibilities. An example of “rights” would be land rights.

Directly Affected Stakeholders are those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Needs and approaches for stakeholder groups could include consideration of: cultural norms, gender, literacy level, vulnerable social groups, disabilities, logistical constraints, etc.

Good faith engagement is engagement that is undertaken with an honest intent to reach a mutually satisfactory understanding on the issues of concern.

Broad considerations within stakeholder mapping could be with respect to, for example: the geographic or compositional extent of stakeholder groups identified and considered, the interrelationships amongst stakeholder groups, the level of vulnerability to adverse project impacts and risks; and level of consideration of rights, risks and responsibilities, etc.

Good faith negotiation involves (i) willingness to engage in a process; (ii) provision of information necessary for informed negotiation; (iii) exploration of key areas of importance; (iv) mutually acceptable procedures for negotiation; (v) willingness to modify position; (vi) provision of sufficient time to both parties for decision-making; (vii) agreements on proposed compensation framework, mitigation measures, and development interventions.

Potential interviewees: project communications staff; project manager; stakeholder representatives; project affected communities representatives

Examples of evidence: project stakeholder mapping document; project communications and/or consultation plans; communications protocols; grievance mechanisms; monitoring reports

I-2 Governance

This topic addresses corporate and external governance considerations for the operating hydropower facility. The intent is that the owner/operator has sound corporate business structures, policies and practices; addresses transparency, integrity and accountability issues; can manage external governance issues (e.g. institutional capacity shortfalls, political risks including transboundary issues, public sector corruption risks); and can ensure compliance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Processes are in place to identify any ongoing or emerging political and public sector governance issues, and corporate governance requirements and issues, and to monitor if corporate governance measures are effective.

Management: Processes are in place to manage corporate, political and public sector risks, compliance, social and environmental responsibility, procurement of goods and services, grievance mechanisms, ethical business practices, and transparency; policies and processes are communicated internally and externally as appropriate; and independent review mechanisms are utilised to address sustainability issues in cases of project capacity shortfalls, high sensitivity of particular issues, or the need for enhanced credibility.

Stakeholder Engagement: The business interacts with a range of directly affected stakeholders to understand issues of interest to them; and the business makes significant project reports publicly available, and publicly reports on project performance, in some sustainability areas.

Outcomes: There are no significant unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no significant non-compliances.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, there are no significant opportunities for improvement in the assessment of political and public sector governance issues and corporate governance requirements and issues.

Management: In addition, contractors are required to meet or have consistent policies as the developer; procurement processes include anti-corruption measures as well as sustainability and anti-corruption criteria specified in pre-qualification screening; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, the business makes significant project reports publicly available and publicly reports on project performance in sustainability areas of high interest to its stakeholders.

Outcomes: In addition, there are no unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no non-compliances.

Assessment Guidance:

Governance broadly refers to the combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Corporate governance is a term that refers broadly to the rules, processes, or laws by which businesses are operated, regulated, and controlled

Corporate governance requirements may include, for example: business administration, policies and processes, risk management, corporate social responsibility, ethical business practices, accountability and stakeholder relations, compliance, etc.

Corporate governance issues may relate to, for example: lack of capacity in key external institutional structures, policies and processes important to the project; public sector corruption risks; political risks; internal corruption risks; compliance; management of project risks; etc.

External governance considerations include legal, judicial, and institutional structures, processes and policies relevant to the project. Examples include: the executive, the legislature, political parties, anticorruption organizations, judiciary, grievance addressing mechanisms (e.g. the Ombudsman), specific civil service/public sector agencies, law enforcement agencies, Freedom of Information, media, local and national government, civil society, private sector, international institutions (e.g. some provide peer review of anti-corruption efforts), audit/oversight institutions, public contracting system, etc.

Political risk is a risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Transboundary issues would take into account institutional arrangements that could address the management of upstream and downstream impacts of the project and basin-wide sharing of resources.

Corruption risks may be within the business such as with how finances are managed, or within the public sector such as not addressing licence or permit violations. Public sector corruption risks during project preparation may include, for example, limited options considered, short-cutting of assessment / preparation requirements, or non-transparent approvals; and at the project implementation and operation may include, for example, a blind eye to licence and permit violations.

Processes to ensure ethical business practices could include, for example: a business Code of Ethics, an employee Code of Conduct, a business Integrity Pact, anti-bribery or anti-corruption policies and procedures for reporting and investigation, (such as Transparency International's Business Principles for Countering Bribery (BPCB), a whistle-blowing arrangement, etc.

Procurement plans and processes should address provision of a procurement policy, pre-qualification screening, bidding, awarding of contracts, anti-corruption measures, and mechanisms to respond to bidder complaints. Screening could be for, by way of example, quality, reputation, cost, contractor prior performance on meeting contractual obligations (time, cost, specifications), etc.

Compliance is with respect to all relevant laws, policies, permits, agreements, codes of practice and publicly stated commitments.

Independent review refers to expert review by someone not employed by the project and with no financial interest in profits made by the project. An expert is a person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject. Forms of independent review may vary from contracting an expert consultant to provide a written review of a particular assessment, plan or report, to a panel of experts comprising a mix of expertise appropriate to the project and providing periodic assessment and written reports on issues identified to be within its scope of review. Areas of particular sensitivity would be identified in the environmental and social impact assessment; one area is often resettlement arising from a hydropower project, and this may require independent review of the Resettlement Action Plan.

Anti-corruption measures examples include: open bidding contracting processes to be above a low threshold, contracting authority and its employees commit to an anti-corruption policy, project integrity pacts, mechanisms to report corruption and protect whistleblowers, confidentiality limited to legally protected information, etc.

Screening based on sustainability criteria might encompass additional criteria which could include, by way of example, social, environmental, ethics, human rights, health and safety performance, preference and support to local suppliers where they meet other criteria, etc.

Screening to address anti-corruption might specify, by way of example, that companies tendering must have a code of conduct addressing anti-corruption.

Potential interviewees: a Board member; the project manager; business managers for corporate governance, compliance, internal audit, business risk; experts on public sector governance; other relevant third parties such as anti-corruption civil society organisations

Examples of evidence: business internal website and external website for vision, values, policies, structure, procedures, annual reports; assessment of public sector governance issues; internal audit reports; project compliance plan; reports to Board on ethical business practices and compliance; log of ethical business practices grievance; third party review reports; relevant documentation on public sector governance issues such as reports of Transparency International on National Integrity Systems (NIS) and the Corruption Perceptions Index (CPI)

I-3 Environmental & Social Issues Management

This topic addresses the plans and processes for environmental and social issues management. The intent is that negative environmental and social impacts associated with the hydropower facility are managed; avoidance, minimisation, mitigation, compensation and enhancement measures are implemented; and environmental and social commitments are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Environmental and social issues relevant to project implementation and operation have been identified through an assessment process, including evaluation of associated facilities, scoping of cumulative impacts, role and capacity of third parties, and impacts associated with primary suppliers, using appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to ensure management of identified environmental and social issues utilising appropriate expertise (internal and external), and to meet any environmental and social commitments, relevant to the project implementation stage; plans are in place for the operation stage for ongoing environmental and social issues management; and the environmental and social impact assessment and key associated management plans are publicly disclosed.

Stakeholder Engagement: Ongoing processes are in place for stakeholders to raise issues and get feedback.

Conformance/Compliance: Processes and objectives in the environmental and social management plans have been and are on track to be met with no major non-compliances or non-conformances, and environmental and social commitments have been or are on track to be met.

Outcomes: Negative environmental and social impacts of the project are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of environmental and social issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and plans and processes are embedded within an internationally recognised environmental management system which is third party verified, such as ISO 14001.

Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, negative environmental and social impacts are avoided, minimised, mitigated and compensated with no identified gaps; and enhancements to pre-project environmental or social conditions or contributions to addressing issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Environmental and social issues may include, for example: aquatic and terrestrial biodiversity, threatened species, critical habitats, ecosystem integrity and connectivity issues, water quality, erosion and sedimentation, project-affected communities, indigenous peoples, ethnic minorities, resettlement, cultural heritage (both physical and non-physical), and public health. During the project implementation stage, there is a particular need to monitor and manage waste, noise, dust, air quality, water quality, and hazardous materials directly arising from construction activities; secondary effects of construction and implementation activities on biodiversity, land stability, livelihoods, etc; as well as the implementation of particular environmental and social programs such as resettlement, cultural heritage, public health etc. Environmental and social issues associated with the project that extend beyond the jurisdictional boundaries in which the project is located would need to have been assessed and included in management plans.

Associated facilities are defined as those facilities that would not be constructed if the project did not exist, and where the project would not be viable without the other facility. These facilities may be funded, owned, constructed, and/or operated separately from the project, and in some cases, by third parties. Examples pertinent to a hydropower project could include roads, transmission lines, buildings, etc.

Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Third parties are local and national governments, contractors, and suppliers; an effective assessment should identify the different entities involved and the roles they play, and the corresponding risks they present to the client in order to help achieve environmental and social outcomes.

Primary suppliers are those first-tier suppliers who are providing goods or materials essential for the project, which may incur environmental and social impacts in this supply activity. An example pertinent to a hydropower project could be a quarry supplying construction materials.

Appropriate expertise refers to specialists with experience in the key identifiable topical areas of the assessment and management plans, giving particular attention to the differences between environmental areas and social impact areas. These specialists could be internal or external to the project developer; internal expertise in managing environmental and social issues is of particular importance with respect to this topic.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Inter-relationships amongst issues refers to close attention to how monitoring findings from one stream of investigation may have implications for programs being implemented in other parts of the overall implementation program; an example could be that adverse water quality arising from construction works affects drinking water quality which affects public health and livelihoods.

Potential interviewees: project managers responsible for environmental and social issues assessment and management; government representatives responsible for environmental and social issues; stakeholder representatives; project affected communities representatives; external experts

Examples of evidence: regulatory requirements for EIA / SIA; EIA / SIA and associated reports; environmental and social management plans; hazardous material register listing type, quantities and storage locations HSE internal audits schedule, forms for reporting and non-compliances identification; waste generation and disposal register or equivalent document (including sources & volumes); records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; qualifications of experts utilised; evidence of appropriate separate expertise used for environmental and social issues recognising that in many cases single experts may not have sufficient breadth of expertise to cover both aspects

I-4 Integrated Project Management

This topic addresses the developer's capacity to coordinate and manage all project components, taking into account project construction and future operation activities at all project-affected areas. The intent is that the project meets milestones across all components, delays in any component can be managed, and one component does not progress at the expense of another.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Monitoring of project progress, milestones, budget and interface issues, and of the effectiveness of management of implementation stage plans including construction management, is being undertaken on a regular basis during project implementation.
Management: An integrated project management plan and processes are in place that take into account all project components and activities with no significant gaps; and a construction management plan is in place that describes processes that contractors and others are required to follow to manage construction related activities and risks.
Conformance/Compliance: Processes and objectives in the integrated project management plan and the construction management plan have been and are on track to be met with no major non-compliances or non-conformances.
Outcomes: The project is meeting overall budget and timing objectives and targets; interface issues are managed effectively; and construction risks are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, monitoring of the overall project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.
Management: In addition, the plan identifies a range of potential interface issues and sets out measures to manage interface and delay issues without impinging on overall project timetables and budgets; processes are in place to anticipate and respond to emerging risks and opportunities; and construction management plans ensure that land disturbance and waste generation activities will be managed so that later rehabilitation activities can be undertaken efficiently and effectively.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, interface issues are anticipated, and avoided or minimised; and construction risks are avoided, minimised, mitigated and compensated with no identified gaps.

Assessment Guidance:

Project components refers to components of the overall hydropower development programme including design, construction, environmental, social, resettlement, finance, communications and procurement; examples include: design, construction, environmental, social, resettlement, finance, communications and procurement, etc.

Integrated project management plan examples of considerations include: scheduling, interface targets, significant path analysis, communications, cost control, etc.

Construction risks examples include: safety, air, noise and water pollution, land contamination, land disturbance, water management, introduced species, health, migratory workforce/local community conflicts, etc.

Construction management plan examples of considerations include: chemical and waste storage and handling, pollution, land disturbance, health, safety, community relations, and site zoning for special area protection. The plans may be developed by the project managers, or by the contractors themselves.

Interface issues examples include: that the reservoir is starting to fill before resettlement is fully implemented; that construction activities impinge on significant cultural heritage sites; that the construction workforce introduces public health problems; that social migration into the project-affected area causes social problems for project-affected communities that then require additional management measures; that noise and dust from construction directly impacts on the effectiveness of implementation of biodiversity management plans; etc.

Land disturbance and waste generation activities in the implementation stage can incorporate many measures which are mindful of the later requirements for construction site restoration and rehabilitation; example include: stockpiling of topsoil, seed collection, location of works areas, quarries, spoil heaps below the future minimum water level, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Potential interviewees: project manager; construction manager

Examples of evidence: organisational structure; management team qualifications; integrated programme management plans, analyses and reports; construction management plan; construction contracts; construction camp management plan; records of training for all contractors; contractors weekly monitoring reports

I-5 Infrastructure Safety

This topic addresses management of dam and other infrastructure safety during project implementation and operation. The intent is that life, property and the environment are protected from the consequences of dam failure and other infrastructure safety risks.

Scoring:

1

There are significant gaps relative to basic good practice.

2

Most relevant elements of basic good practice have been undertaken, but there is one significant gap.

3

Assessment: Dam and other infrastructure safety risks relevant to project implementation and operation have been identified through an assessment process; and safety monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to address identified dam and other infrastructure safety issues, and to meet any safety related commitments, relevant to the project implementation stage, including providing for communication of public safety measures; a formal quality control program is in place for construction; safety management plans for the operation stage have developed in conjunction with relevant regulatory and local authorities; and emergency response plans include awareness and training programs and emergency response simulations.

Conformance/Compliance: Processes and objectives relating to safety have been and are on track to be met with no major non-compliances or non-conformances, and safety related commitments have been or are on track to be met.

Outcomes: Safety risks have been avoided, minimised and mitigated with no significant gaps.

4

All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.

5

Assessment: In addition, consideration of safety issues takes into account a broad range of scenarios and both risks and opportunities.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and public safety measures are widely communicated in a timely and accessible manner.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: Safety risks have been avoided, minimised and mitigated; and safety issues have been addressed beyond those risks caused by the project itself.

Assessment Guidance:

Safety risks examples include: seismic, geotechnical, dam or generation unit failure, electric shock, hydrological risk, drowning, road accidents, accidents arising from community interactions with project activities, etc. At the implementation stage, particular safety risks are those arising from construction activities such as use of heavy machinery, transport of goods and services, hazards due to adverse weather conditions, etc. Also at the implementation stage, poor quality of the actual construction is a major safety risk for the ongoing life of the project.

Safety management measures examples include: signage, exclusion zones, emergency preparedness, monitoring, inspections, training, incident response, communication, allocation of responsibilities, etc. One of the major safety measures for the project implementation period is a formal quality control program for the actual construction.

Communication of public safety measures could be, for example, through public signage, documentation appropriately lodged with local authorities, awareness raising through various types of community engagements, verbal communication by on-site patrolmen or other similar mechanisms, etc.

Emergency response simulations may be undertaken, for example, through training or workshop exercises for company staff, regional authorities, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Contributions to safety issues beyond project risks might include, for example, improving the safety of some existing roads or traffic infrastructure, signage in public places about speeding or drowning risks, etc.

Potential interviewees: project manager; project designers; project safety manager; local authorities; stakeholder representatives; project affected community representatives

Examples of evidence: safety risk assessments; safety management plans; emergency preparedness plans; monitoring reports; independent reviews

I-6 Financial Viability

This topic addresses project financial management, including funding of measures aimed at ensuring project sustainability, and the ability of the project to generate the required financial returns to meet project funding requirements. The intent is that the project is proceeding with a sound financial basis that covers all project funding requirements including social and environmental measures and commitments, financing for resettlement and livelihood enhancement, and delivery of project benefits to project affected communities.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** An assessment has been undertaken of project financial viability, including project costs and revenue streams, using recognised models and including risk assessment, scenario testing and sensitivity analyses; and monitoring of the financial situation during project implementation is being undertaken on a regular basis.
Management: Measures are in place for financial management of project implementation; plans are in place for financial management of the future operating hydropower facility.
Conformance/Compliance: Processes and objectives relating to financial management have been and are on track to be met with no major non-compliances or non-conformances, and funding commitments have been or are on track to be met.
Outcomes: The project or the corporate entity to which it belongs can manage financial issues under a range of scenarios, can service its debt, and can pay for all plans and commitments including social and environmental.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, project costs and revenue streams are fully detailed; and financial viability of the project has been analysed and optimised including extensive scenario testing, risk assessment and sensitivity analyses.
Management: In addition, financial management plans provide for well-considered contingency measures for all environmental and social mitigation plans and commitments; and processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: The project can manage financial issues under a broad range of scenarios.

Assessment Guidance:

Financial viability is the ability of an entity to continue to achieve its operating objectives and fulfill its mission from a financial perspective over the long term. Some projects may be multi-purpose in which hydropower is not the primary purpose, in which case the financial objective of the hydropower component may be to support delivery of the other purposes of the scheme (e.g. water supply, irrigation water, etc). For some projects the financial contribution is measured from the perspective of the system within which it operates; for example, some pump storage projects may run at a loss but enable a greater profit to be made from other power stations within the system because of the greater efficiencies gained.

Project costs examples include: costs for construction, operations and maintenance, and includes equipment, supplies, labour, tax, land/ water resource rights, and costs of environmental and social mitigation plans.

Revenue streams examples include: the electricity market, the Power Purchase Agreement, and revenue associated with investment drivers for new market entrants (e.g. access to carbon finance).

Financial models at a minimum have the project costs and revenue streams as inputs and financial returns as outputs; examples of uses include: examine implications of various market conditions, trends and risks on financial viability of the project through scenario testing, risk assessment, sensitivity analysis, etc.

Financial issues and risks examples include: very high project costs; inability to meet required costs; uncertainties with respect to revenue streams; currency exchange instability; difficulties in access to project finance; access to renewable incentive schemes; regional pricing; market stability; market access; likelihood of major inflation or depreciation; financial viability of the principal power off-takers etc.

Measures for financial management at the project implementation stage may include, for example: cash flow requirements; ensuring procurement of goods and services, and costs for implementation of construction, social and environmental management plans, stay within budget; ensuring adequate contingencies in budgets to cover emerging issues; handling claims and contingencies; liaison with investors and ensuring their information requirements and any conditions on the project are met; updating financial planning in light of any scheduling issues arising in relation to the date of commissioning; obtaining additional finance if required; etc.

Some **financial information** may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Potential interviewees: project financial officers; corporate financial officers; principal financing institution representative; independent financial expert

Examples of evidence: analysis of financing options; financial modelling reports; financial risk analysis; financial plans; financial status reports; third party review reports; annual financial reports for company, project, and principal off-taker(s)

I-7 Project Benefits

This topic addresses the additional benefits that can arise from a hydropower project, and the sharing of benefits beyond one-time compensation payments or resettlement support for project affected communities. The intent is that opportunities for additional benefits and benefit sharing are evaluated and implemented, in dialogue with affected communities, so that benefits are delivered to communities affected by the project.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Opportunities to increase the development contribution of the project through additional benefits and/or benefit sharing have been assessed. In the case that commitments to additional benefits or benefit sharing have been made, monitoring is being undertaken on delivery of these commitments.

Management: Measures are in place to deliver commitments by the project to additional benefits or benefit sharing; and commitments to project benefits are publicly disclosed.

Conformance/Compliance: Processes and objectives relating to project benefits have been and are on track to be met with no major non-compliances or non-conformances, and any additional benefits or benefit sharing commitments have been or are on track to be met.

Outcomes: Communities directly affected by the development of the hydropower project have received or are on track to receive benefits.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, the assessment of delivery of project benefits takes into consideration both risks and opportunities.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, benefits are significant and the project has delivered or is on track to deliver significant and sustained benefits for communities affected by the project

Assessment Guidance:

Topic relevance: This topic is always relevant. If no commitments have been made to project benefits, then the Assessment and Outcomes criteria apply. If commitments have been made to project benefits, then all criteria apply.

Benefits may take the form of additional benefits, or benefit-sharing strategies.

Additional benefits refers to benefits that can be leveraged from the project; examples include: capacity building, training and local employment; infrastructure such as bridges, access roads, boat ramps; improved services such as for health and education; support for other water usages such as irrigation, navigation, flood/drought control, aquaculture, leisure; increased water availability for industrial and municipal water supply; benefits through integrated water resource management; etc.

Benefit sharing is distinct from one-time compensation payments or resettlement support; examples include:

- equitable access to electricity services – project affected communities are among the first to be able to access the benefits of electricity services from the project, subject to contextual constraints (e.g. power safety, preference);
- non-monetary entitlements to enhance resource access – project affected communities receive enhanced local access to natural resources;
- revenue sharing – project affected communities share the direct monetary benefits of hydropower according to a formula and approach defined in regulations; this goes beyond a one-time compensation payment or short-term resettlement support; and trust funds.

Commitments to additional benefits or benefit sharing may be the responsibility of other agencies and not the project developer.

Potential interviewees: project manager; government representative (e.g. department of economic development); stakeholder representatives; project affected communities representatives

Examples of evidence: analysis of relevant development indicators; analysis of potential project benefits; analysis of benefit sharing options and opportunities; meeting minutes or reports demonstrating stakeholder input and involvement; benefit sharing plan; monitoring

I-8 Procurement

This topic addresses all project-related procurement including works, goods and services. The intent is that procurement processes are equitable, transparent and accountable; support achievement of project timeline, quality and budgetary milestones; support developer and contractor environmental, social and ethical performance; and promote opportunities for local industries.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Major supply needs, supply sources, relevant legislation and guidelines, supply chain risks and corruption risks have been identified through an assessment process; ongoing monitoring is being undertaken to monitor effectiveness of procurement plans and processes.
Management: Measures are in place to guide procurement of project goods, works and services and address identified issues or risks, and to meet procurement related commitments.
Conformance/Compliance: Processes and objectives relating to procurement have been and are on track to be met with no major non-compliances or non-conformances, and any procurement related commitments have been or are on track to be met.
Outcomes: Procurement of works, goods and services across major project components is equitable, efficient, transparent, accountable, ethical and timely, and contracts are progressing or have been concluded within budget or that changes on contracts are clearly justifiable.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment includes opportunities for local suppliers and local capacity development.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; sustainability and anti-corruption criteria are specified in the pre-qualification screening; and anti-corruption measures are strongly emphasised in procurement planning processes.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, opportunities for local suppliers including initiatives for local capacity development have been delivered or are on track to be delivered.

Assessment Guidance:

Major supply needs examples include: design, economic, financial, technical, environmental and social consultancies; contractors for project construction works; supply of major goods and complex control equipment for project construction, etc.

Supply chain risks relate to inability to meet the contract provisions (e.g. with respect to cost, time, quality, specifications), corruption, transport impediments, human rights (e.g. child labour, forced labour used by suppliers of suppliers), etc.

Corruption risks at the contracting / bid evaluation stage examples include: non-transparent prequalification, confusing tender documents, non-transparent or non-objective selection procedures, bid clarifications not shared with other bidders, award decisions not made public, or not justified, deception and collusion, unjustified agents' fees, conflicts of interest of officials and consultants, etc.

Procurement plans and processes should address provision of a procurement policy, pre-qualification screening, bidding, awarding of contracts, anti-corruption measures, and mechanisms to respond to bidder complaints.

Screening could be for, by way of example, quality, reputation, cost, contractor prior performance on meeting contractual obligations (time, cost, specifications), etc.

Contracts have already been awarded during the project preparation stage for investigations, design, environmental and social impact assessments, etc. If contracts have not been concluded within budget, evidence should be provided to show that the changes on contracts are clearly justifiable.

Screening based on sustainability criteria might encompass additional criteria which could include, by way of example, social, environmental, ethics, human rights, health and safety performance, preference and support to local suppliers where they meet other criteria, etc.

Procurement opportunities may relate to new suppliers, new technologies, capacity development opportunities through liaising with government economic development initiatives, grants, R&D initiatives, contractual arrangements, etc.

Local suppliers are those within the geographic proximity of the project-affected area who can or have the potential to meet the need to deliver required good and services; the definition of 'local' will be context specific (e.g. those in the project affected area or local government district).

Local capacity development refers to assistance that is provided to entities in the proximity of the project which have an identified need to develop a certain skill or competence or general upgrading of performance ability in order to meet or deliver a desired service.

Screening to address anti-corruption might specify, by way of example, that companies tendering must have a code of conduct addressing anti-corruption.

Anti-corruption measures examples include: open bidding contracting processes to be above a low threshold, contracting authority and its employees commit to an anti-corruption policy, project integrity pacts, mechanisms to report corruption and protect whistleblowers, confidentiality limited to legally protected information, etc.

Potential interviewees: project manager; project procurement officer; representative of an anti-corruption NGO

Examples of evidence: relevant purchasing policy and procedures; project procurement plan; analysis of local supply sources and capacities; tender requirements / specifications; bidding documents; supplier screening criteria; evaluation of supplier performance; bidder grievance log; record of compliance with relevant legislation and guidelines including those of financing agencies; monitoring or third party review reports

I-9 Project-Affected Communities & Livelihoods*

This topic addresses impacts of the project on project affected communities, in relation to economic displacement, impacts on livelihoods and living standards, and impacts to rights, risks and opportunities of those affected by the project. The intent is that livelihoods and living standards impacted by the project are improved relative to pre-project conditions for project affected communities with the aim of self-sufficiency in the long-term, and that commitments to project affected communities are fully delivered.

Topics I-10 'Resettlement' and I-11 'Indigenous Peoples' that follow specifically address two sub-sets of project affected communities.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Issues relating to project affected communities have been identified through an assessment process utilising local knowledge; and monitoring of project impacts and effectiveness of management measures is being undertaken during project implementation appropriate to the identified issues.

Management: Measures are in place to address identified issues that affect project affected communities, and to meet commitments made to address these issues; and if there are any formal agreements with project affected communities these are publicly disclosed.

Stakeholder Engagement: Ongoing processes are in place for project affected communities to raise issues and get feedback.

Stakeholder Support: Affected communities generally support or have no major ongoing opposition to the plans for the issues that specifically affect their community.

Conformance/Compliance: Processes and objectives relating to project affected communities issues have been and are on track to be met with no major non-compliances or non-conformances, and commitments have been or are on track to be met.

Outcomes: Livelihoods and living standards impacted by the project have been or are on track to be improved, and economic displacement is fairly compensated, preferably through provision of comparable goods, property or services.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of project-affected communities issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, feedback on how issues raised are taken into consideration is thorough and timely, and project affected communities have been involved in decision-making around relevant issues and options.

Stakeholder Support: In addition, formal agreements with nearly all the directly affected communities have been reached for the mitigation, management and compensation measures relating to their communities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, the measures put in place to improve livelihoods and living standards are on track to promote self-sufficiency in the long-term.

Assessment Guidance:

Project affected communities are the interacting population of various kinds of individuals in the area surrounding the hydropower project who are affected either positively or negatively by the hydropower project and its associated infrastructure.

Issues that affect project affected communities may include, for example: loss or constraints on livelihoods, lowering of living standards, or economic displacement brought about due to changes associated with the project such as changes to river management and flow regimes. Specific examples could include: impacts on health or safety; impacts on cultural practices; impacts on lands, forest and riverbanks; loss of paddy lands, of home gardens, of riverbank gardens; loss of access to sacred sites, to community forest etc. In cases the impacts may result in project affected communities needing to move, but they may not be considered part of the resettlement community because the physical resettlement was a secondary impact and not a primary impact of the project.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc. Improvement in living standards would be demonstrated by improvement in the indicators of the level of material comfort.

Economic displacement refers to the loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Measures to address project affected communities issues may include, for example: works to protect downstream riparian lands; downstream flow regime agreements to enable sustained livelihoods for downstream communities; access agreements to project lands to enable continued access to sacred sites, community forest, traditional medicinal plants; support for new industries; protection of sacred sites; etc.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Opportunities for project-affected communities may include, for example: training and capacity building; education; health services; employment; transportation; contributions to provide for cultural traditions or events, etc.

Interrelationships amongst issues may include, for example: erosion of riverbanks downstream of the project causing incremental and long-term loss of land essential to sustain livelihoods, or safety concerns due to rapidly fluctuating river flows downstream of the project causing riparian communities to feel unsafe and eventually having to relocate.

Potential interviewees: representatives of project affected communities; project social issues manager; government expert; independent experts

Examples of evidence: assessment report on project affected communities and livelihoods; gender analysis; human rights issues analysis; records of consultation and project affected community involvement; records of response to project affected community issues; third party review report; report on compensation measures; agreements on compensation measures; assessments and agreements on cultural sensitive areas and customs

* This was a topic with an area of non-consensus in development of the Protocol, relating to the Stakeholder Support criterion. It is the belief of Oxfam that basic good practice (Level 3) should be "Affected communities generally support or have no major ongoing opposition to the project"

I-10 Resettlement*

This topic addresses physical displacement arising from a hydropower project development. The intent is that the dignity and human rights of those physically displaced are respected; that these matters are dealt with in a fair and equitable manner; that livelihoods and standards of living for resettles and host communities are improved; and that commitments made to resettles are fully delivered.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: An assessment of the resettlement implications of the project has been undertaken that establishes the pre-project socio-economic baseline for resettles and host communities; monitoring is being undertaken of implementation of the resettlement plans, and to see if commitments made to resettles and host communities have been delivered and are effective and to identify any ongoing or emerging issues.

Management: Measures to address resettlement are documented in a Resettlement Action Plan; measures are in place to deliver commitments to resettles and host communities, and to manage any identified issues relating to resettlement, including provision of grievance mechanisms; and formal agreements with resettles and host communities are publicly disclosed.

Stakeholder Engagement: Ongoing processes are in place for resettles and host communities to raise issues and get feedback.

Stakeholder Support: Resettles and host communities generally support or have no major on-going opposition to the Resettlement Action Plan.

Conformance/Compliance: Processes and objectives in the Resettlement Action Plan have been and are on track to be met with no major non-compliances or non-conformances, and any resettlement related commitments have been or are on track to be met.

Outcomes: Resettlement has been and is being treated in a fair and equitable manner, and resettles and host communities have experienced or are on track to experience a timely improvement in livelihoods and living standards relative to the pre-project baseline.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, the assessment of delivery of commitments to resettles and host communities takes into consideration both risks and opportunities.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely, and resettles and host communities have been involved in decision-making around relevant issues and options.

Stakeholder Support: In addition, there is consent with legally binding agreements by the resettles and host communities for the Resettlement Action Plan.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, the measures put in place to improve livelihoods and living standards are on track to promote self-sufficiency in the long-term.

Assessment Guidance:

Topic relevance: This topic will not be relevant if there is no requirement for resettlement arising from the project activities.

Resettlement is the process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Resettlees are those people who are required to be resettled, and including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

Host communities refers to the communities to which resettlees are relocated.

The socio-economic baseline for resettlement would include analysis of community structures, gender, vulnerable social groups, living standards, and economic valuation of livelihoods and asset loss.

Resettlement Action Plan refers to a document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange. In cases where resettlees' livelihoods have been land-based, and where consistent with resettlees' preferences, strong consideration may be given to land-for-land compensation.

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Consent means signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Potential interviewees: community representatives affected by resettlement and land acquisition; representatives from resettlement host communities; project social issues manager; representative from the responsible governmental authority; independent reviewer

Examples of evidence: assessment report on resettlement and land acquisition; records of consultation and affected stakeholder involvement; records of response to resettlement and land acquisition issues; third party review report; resettlement action plans; land acquisition plans; compensation agreements; agreements on resettlement action plan; baseline social conditions report; livelihood analysis; impoverishment risk analysis; mitigation, resettlement and development action plans, including project benefit sharing mechanisms; NGO reports; monitoring reports

* This was a topic with two areas of non-consensus in development of the Protocol, both relating to the Stakeholder Support criterion. It is the belief of Oxfam that basic good practice (Level 3) should be "Resettlees and host communities generally support or have no major on-going opposition to the project", and that proven best practice (Level 5) should be "In addition, there is consent with legally binding agreements by the resettlees and host communities for the project", noting that those forced to resettle and host communities may choose to express that consent through their support for a Resettlement Action Plan.

I-11 Indigenous Peoples*

This topic addresses the rights, risks and opportunities of indigenous peoples with respect to the project, recognising that as social groups with identities distinct from dominant groups in national societies, they are often the most marginalized and vulnerable segments of the population. The intent is that the project respects the dignity, human rights, aspirations, culture, lands, knowledge, practices and natural resource-based livelihoods of indigenous peoples in an ongoing manner throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Issues that may affect indigenous peoples in relation to the project have been identified through an assessment process utilising local knowledge; and monitoring of project impacts and effectiveness of management measures is being undertaken during project implementation appropriate to the identified issues.

Management: Measures are in place to address identified issues that may affect indigenous peoples in relation to the project, and to meet commitments made to address these issues; and formal agreements with indigenous peoples are publicly disclosed.

Stakeholder Engagement: Ongoing and mutually agreed processes are in place for indigenous peoples to raise issues and get feedback.

Stakeholder Support: Directly affected indigenous groups generally support or have no major on-going opposition to the plans for issues that specifically affect their group.

Conformance/Compliance: Processes and objectives relating to issues that may affect indigenous peoples have been and are on track to be met with no major non-compliances or non-conformances, and any indigenous peoples related commitments have been or are on track to be met.

Outcomes: Plans provide for major negative impacts of the project to indigenous peoples and their associated culture, knowledge, access to land and resources, and practices to be avoided, minimised, mitigated or compensated with no significant gaps, and some practicable opportunities for positive impacts to be achieved.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, identification of issues that may affect indigenous peoples is undertaken with the free, prior and informed participation of indigenous peoples; and monitoring during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, measures for issues that may affect indigenous peoples have been developed with the free, prior and informed participation of indigenous peoples; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely; and directly affected indigenous peoples have been involved in decision-making around relevant issues and options.

Stakeholder Support: In addition, consent has been sought and gained by directly affected indigenous groups for the project.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, opportunities for positive impacts have been thoroughly identified and maximised as far as practicable.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there are no indigenous peoples in the project affected area.

Indigenous peoples refers to a distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or part of the country within which they reside. In some countries, interactions with indigenous peoples may be required to be conducted through a specific government agency.

Issues that may affect indigenous peoples are ideally self-identified, and may include, for example: impacts of project activities and infrastructure on cultural practices, direct or indirect impacts to traditional lands, impacts to community cohesion, public health risks, disturbance of customary practices, and impeded access to natural resource-based livelihoods.

Measures to address issues that may affect indigenous peoples are ideally self-identified, and may include, for example: avoidance measures, protection of cultural practices, land entitlement and protection, health assistance, scheduling of project activities to not disturb customary practices, support for festivals or traditions, improved or more secure access to natural resource-based livelihoods, etc.

Stakeholder support may be expressed through community members or their representatives, and may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Consent means signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Potential interviewees: representatives of project affected indigenous communities; project social issues manager; independent reviewer; representative from the responsible governmental authority

Examples of evidence: assessment report on indigenous peoples; records of consultation and project affected community involvement; records of response to issues that may affect indigenous peoples; third party review report; indigenous peoples management plans; agreements on measures for indigenous peoples; monitoring reports

* This was a topic of non-consensus in development of the Protocol, relating to the focus of support and consent given by indigenous peoples (whether for management plans or for the project itself). With respect to the Stakeholder Support criterion, it is the belief of IHA that the level 5 language does not represent proven best practice. There is a consensus within the Forum that this issue requires priority focus and attention in the further development and testing of the Protocol. There is a recognition that the language of the scoring statements may need to be refined if there are significant developments in this issue.

I-12 Labour & Working Conditions

This topic addresses labour and working conditions, including employee and contractor opportunity, equity, diversity, health and safety. The intent is that workers are treated fairly and protected.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Human resources and labour management requirements have been identified through an assessment process, including occupational health and safety (OH&S) issues and risks; and processes are in place to identify any emerging or ongoing issues, and to monitor if management measures are effective.
Management: Human resource and labour management policies, plans and processes are in place that address all labour management planning components, including those of contractors, subcontractors, and intermediaries, with no significant gaps.
Stakeholder Engagement: Ongoing processes are in place for employees and contractors to raise human resources and labour management issues and get feedback.
Conformance/Compliance: Processes and objectives relating to human resource and labour management have been and are on track to be met with no major non-compliances or non-conformances, and any labour related commitments have been or are on track to be met.
Outcomes: There are no identified inconsistencies of labour management policies, plans and practices with internationally recognised labour rights.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, the assessment takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, labour management policies, plans and practices are demonstrated to be consistent with internationally recognised labour rights.

Assessment Guidance:

Labour management planning components include: human resources policies, staff and workforce planning, occupational health and safety, equal opportunity, staff development and training, grievance mechanisms, and (where appropriate) collective bargaining mechanisms

Occupational health and safety is about protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Intermediaries are workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection and important indicators; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to labour and working conditions; understanding of relevant human rights; etc.

Internationally recognised labour rights are documented in places such as the IFC Performance Standard 2, the International Labour Organisation standards, and the Human Rights Council 2008 Report of John Ruggie “Protect, Respect and Remedy: a Framework for Business and Human Rights”. They include freedom of association, right to equal pay for equal work, right to organize and participate in collective bargaining, right to equality at work, right to non-discrimination, right to just and favourable remuneration, abolition of slavery and forced labour, right to a safe work environment, abolition of child labour, right to rest and leisure,

right to work, right to family life. Evidence of no inconsistencies would be no policies, plans or practices that show workers are prevented from the ability to exercise these rights; evidence of consistency could be for example an analysis of alignment.

Potential interviewees: project human resources staff; company human resources staff; project manager, contracted workforce manager, project safety officer; staff or contractor representatives; external experts; unions and shop stewards; female workers

Examples of evidence: policies, plans and programs relating to human resources, employees, contractors, equity, occupational health & safety, workforce planning, and grievance mechanisms; national and international standards for labour and OH&S; HSE monitoring records, including accident and incident investigation reports and investigation procedures

I-13 Cultural Heritage

This topic addresses cultural heritage, with specific reference to physical cultural resources, associated with the hydropower facility. The intent is that physical cultural resources are identified, their importance is understood, and measures are in place to address those identified to be of high importance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Cultural heritage issues, with respect to physical cultural resources, that are relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to ensure management of identified cultural heritage issues, and to meet commitments, relevant to the project implementation stage; plans are in place for the operation stage for ongoing cultural heritage issues management.

Stakeholder Support: There is general support or no major ongoing opposition amongst directly affected stakeholder groups for the cultural heritage assessment, planning or implementation measures.

Conformance/Compliance: Processes and objectives in place to manage cultural heritage issues have been and are on track to be met with no significant non-compliances or non-conformances, and cultural heritage related commitments have been or are on track to be met.

Outcomes: Negative cultural heritage impacts arising from project implementation are avoided, minimised, mitigated and compensated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of cultural heritage issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Support: In addition, formal agreements with the directly affected stakeholder groups have been reached for cultural heritage management measures.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, negative cultural heritage impacts arising from project implementation are avoided, minimised, mitigated and compensated with no identified gaps; and contributions to addressing cultural heritage issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there were no physical cultural resources identified in the project-affected area, and that there are no physical cultural resources identified in the area affected by the operating hydropower facility.

Cultural heritage refers to the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Physical cultural resources refer to movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Non-physical cultural heritage examples include: traditions, festivals, rituals, folklore, storytelling, drama, etc. If of relevance, these should be addressed under Topic I-3 Environmental & Social Issues Management in this Protocol assessment.

Cultural heritage issues may include, for example: inundation of important sites or artefacts under the new reservoir; damage or destruction to important sites or artefacts due to construction activities; loss of access to important sites due to changes to access routes (e.g. new canals or linear infrastructure with barrier fencing, major roads); disturbance of spirits associated with special sites; etc.

Processes to manage cultural heritage issues may include, for example: documentation and record-keeping; relocation; creation of protected areas; new access routes; appeasement ceremonies; etc.

Stakeholder support may be expressed through community members or their representatives, and

may be evident through means such as surveys, signatures on plans, records of meetings, verbal advice, public hearing records, public statements, governmental license, court decisions, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Protection means to keep in safety and protect from harm, decay, loss, damage or destruction.

Interrelationships amongst issues could include, for example, erosion and sedimentation effects on important heritage locations, risks of vandalism or theft by contractors or the public, etc.

Cultural heritage opportunities may include, for example: partnerships with heritage organisations; establishment of initiatives recognising heritage values such as festivals, museums or visiting experts; programmes to preserve traditional activities; access to special grants for heritage protection works; exhibits; educational initiatives; etc.

Potential interviewees: project environmental and social issues manager, local cultural heritage expert, representative from relevant government department (e.g. heritage or environment); external experts; project affected community representatives

Examples of evidence: cultural heritage impact statements; conservation plans; records of consultation and response to stakeholder issues; heritage plans and agreements; national and international standards; monitoring and inspection reports; record of training of employees on chance find procedure

I-14 Public Health

This topic addresses public health issues associated with the hydropower project. The intent is that the project does not create or exacerbate any public health issues, that improvements in public health are achieved through the project in project-affected areas where there are significant pre-existing public health issues, and that commitments made by the project to implement public health measures are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Public health issues relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to ensure management of identified public health issues, and to meet commitments, relevant to the project implementation stage; plans are in place for the operation stage for ongoing public health issues management including hand-over to local authorities as appropriate.

Conformance/Compliance: Processes and objectives in place to manage public health issues have been and are on track to be met with no significant non-compliances or non-conformances, and public health related commitments have been or are on track to be met.

Outcomes: Negative public health impacts arising from project activities are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of public health issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities for different community groups that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, negative public health impacts arising from project implementation are avoided, minimised, mitigated and compensated with no identified gaps; and enhancements to pre-project public health conditions or contributions to addressing public health issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Topic relevance: This topic will always be relevant, because even in with the case in which there are no individuals or communities living in the project affected area, there will be residents in the area due to the new project and issues, risks and opportunities should be identified and planned for

Public health issues examples include: disease introduced by construction workforce (e.g. HIV, Aids); vector borne diseases (e.g. malaria, schistosomiasis); communicable and non-communicable diseases, malnutrition, psychological disorders, social well-being; loss or contamination of traditional resources; mercury or heavy metal bio-accumulation; etc.

Risks and opportunities for different community groups could be with respect to, for example: gender, age, ethnicity, use of and access to traditional medicines, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Public health opportunities examples include: improved access to electricity, clean water and sanitation; development or upgrading of public health facilities; provision of equipment, training, health education, immunisations; increased access to low-cost, high-quality protein diet through increased availability of fish, etc.

Health needs, issues and risks for different community groups would be with respect to, for example: gender, age, ethnicity, use of and access to traditional medicines, etc.

Public health management measures examples include: measures to reduce mosquito-borne disease risks; storing of medical supplies and immunisations; educational, awareness and disease prevention training; water quality testing; etc.

Potential interviewees: project social issues manager, independent public health expert, representative from government health department, project affected community representatives

Examples of evidence: public health issues and opportunities assessment; public health management plans; national and international standards; regional statistics

I-15 Biodiversity & Invasive Species

This topic addresses ecosystem values, habitat and specific issues such as threatened species and fish passage in the catchment, reservoir and downstream areas, as well as potential impacts arising from pest and invasive species associated with the project. The intent is that there are healthy, functional and viable aquatic and terrestrial ecosystems in the project-affected area that are sustainable over the long-term; that biodiversity impacts arising from project activities are managed responsibly; and that commitments to implement biodiversity and invasive species measures are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Biodiversity issues relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to ensure management of identified biodiversity issues, and to meet commitments, relevant to the project implementation stage; and plans are in place for the operation stage for ongoing biodiversity issues management.

Conformance/Compliance: Processes and objectives in place to manage biodiversity issues have been and are on track to be met with no significant non-compliances or non-conformances, and biodiversity related commitments have been or are on track to be met.

Outcomes: Negative biodiversity impacts arising from project activities are avoided, minimised, mitigated, and compensated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of biodiversity issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, negative biodiversity impacts arising from project implementation are avoided, minimised, mitigated and compensated with no identified gaps; and enhancements to pre-project biodiversity conditions or contribution to addressing biodiversity issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Biodiversity issues may include, for example: loss of habitat; fish migration barriers; loss of spawning grounds; loss of habitat connectivity; loss or declines in important food chain species; loss of wetlands; poaching, hunting or over-exploitation of significant species; introduction of weed or pest species; etc.

Measures to address biodiversity may include, for example: catchment protection, creation of reserves, habitat conservation and improvement, species management plans, translocations, habitat rehabilitation, new habitat creation, managed flow releases, etc. Measures to address passage of aquatic species may include, for example: fish ladders, fish elevators, catch and release programs, fish hatcheries, re-stocking programs, mechanisms for diversion away from turbines for downstream passage, assisted cues (water chemistry, operational conditions), etc. Measures to address invasive species may include, for example: physical barriers to pest species passage, pollution control, physical removal or containment, chemical treatment, reservoir water residence times, managed flow releases, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Compensate in the context of biodiversity impacts in cases may be in the form of establishing or supporting offset programs. **Offsets** are

measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Biodiversity opportunities may include, for example, forming partnerships with wildlife protection groups; catchment management committees and projects; joint research ventures around fish passage or hatcheries; employing or working with local communities to act as wardens for protected areas; creation of business ventures from non-timber forest resources, capacity building and educational initiatives, eco-tourism ventures, creation of bird and waterfowl sanctuaries, fish protection zones, wetland protection, etc.

Potential interviewees: project environmental issues manager; aquatic and terrestrial ecologists; project design engineers (in relation to fish passage); representatives of relevant government departments (e.g. fisheries, wildlife, environment, forests); representatives of local communities; independent experts

Examples of evidence: assessment of terrestrial biodiversity; assessment of aquatic biodiversity; fish studies; fish passage technical feasibility assessments; third party review reports; biodiversity management plans; invasive species management plans; commitments and agreements; economic and livelihood valuation from fish catch and non-timber forest products baselines from local communities; monitoring reports

I-16 Erosion & Sedimentation

This topic addresses the management of erosion and sedimentation issues associated with the project. The intent is that erosion and sedimentation caused by the project is managed responsibly and does not present problems with respect to other social, environmental and economic objectives; that external erosion or sedimentation occurrences which may have impacts on the project are recognised and managed; and that commitments to implement measures to address erosion and sedimentation are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Erosion and sedimentation issues relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.
Management: Processes are in place to ensure management of identified erosion and sedimentation issues, and to meet commitments, relevant to the project implementation stage; plans are in place for the operation stage for ongoing erosion and sedimentation issues management.
Conformance/Compliance: Processes and objectives in place to manage erosion and sedimentation issues have been and are on track to be met with no significant non-compliances or non-conformances, and erosion and sedimentation related commitments have been or are on track to be met.
Outcomes: Erosion and sedimentation issues during project implementation are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, monitoring of erosion and sedimentation issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, erosion and sedimentation issues during project implementation are avoided, minimised, mitigated and compensated with no identified gaps; and enhancements to pre-project erosion and sedimentation conditions or contribution to addressing erosion and sedimentation issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Erosion and sedimentation issues include impacts that may be caused by project construction and other implementation activities, and issues that may impact on the project over its life. Impacts that may be caused by project implementation may include direct land disturbance due to construction activities, or indirect land disturbances such as landslips arising from blasting. Consideration of what is an issue needs to take into account that there will be landscape adjustments brought about by the hydropower project that continue for many years until a new equilibrium is reached, particularly in the downstream river channels; negative impacts would therefore be considered those erosion and sedimentation occurrences caused by the project that present problems with respect to other social, environmental and/or economic objectives, or externally caused occurrences of erosion or sedimentation that impact on the ability of the project to meet its own social, environmental or economic objectives.

Issues that may impact on the project over its life might, for example, be naturally high sediment loads which may impact on the reservoir life, wear & tear of turbines, increased maintenance needs for tunnels, canals and other water conduits; or landslips or land disturbances due to other catchment activities or natural events that could increase sediment loads into the reservoir or adversely affect transport routes, etc.

Measures to address erosion and sedimentation issues might include, for example: catchment treatment works such as sediment check structures; water management measures such as to avoid turbidity or shoreline erosion; reforestation and re-vegetation activities; measures to address land use practices; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Erosion and sedimentation opportunities may include, for example, forming partnerships with land-use protection or catchment management groups; joint research projects around erosion or sedimentation management; new technologies; carbon credits for reforestation with benefits of erosion and sedimentation risk reduction; etc.

Potential interviewees: project environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: erosion and sedimentation assessment reports; erosion and sedimentation management plans for construction and operation; records of monitoring of surface waters

I-17 Water Quality

This topic addresses the management of water quality issues associated with the project. The intent is that water quality in the vicinity of the project is not adversely impacted by project activities; that water quality issues are monitored and addressed as required; and commitments to implement measures to address water quality are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Water quality issues relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.

Management: Processes are in place to ensure management of identified water quality issues, and to meet commitments, relevant to the project implementation stage; and plans are in place for the operation stage for ongoing water quality issues management.

Conformance/Compliance: Processes and objectives in place to manage water quality issues have been and are on track to be met with no significant non-compliances or non-conformances, and water quality related commitments have been or are on track to be met.

Outcomes: Negative water quality impacts arising from project activities are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, monitoring of water quality issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.

Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, negative water quality impacts arising from project implementation are avoided, minimised, mitigated and compensated with no identified gaps; and enhancements to pre-project water quality conditions or contribution to addressing water quality issues beyond those impacts caused by the project are achieved or are on track to be achieved.

Assessment Guidance:

Water quality issues examples at the construction stage include: turbidity, elevated nutrients, pollutants from construction activity such as oil, chemical or lubricant spills, etc. River pollution during construction is generically addressed by this topic and is often detected by water quality monitoring. A water quality issue during construction could be elevated turbidity levels caused by erosion or soil disturbance issues, in which case there is overlap with Topic I-16 and it may be best addressed by erosion plans. It could be elevated nutrient levels caused by sewage problems, in which case there is overlap with Topic I-18 and it is best addressed in waste management plans. This topic also covers planning for water quality issues at the operation stage, which could include for example: reduced oxygenation, aseasonal temperatures, stratification potential, pollutant inflow, nutrient capture, algal bloom potential, release of toxicants from inundated sediments, etc.

Measures to address water quality at the construction stage are often oriented around avoidance or mitigation of spot issues e.g. oil bunding, sediment traps, etc. At the operation stage the measures are often longer-term and may be built into design features; they may include, for example: design features such as a multi-level off-take; water management measures such as to ensure adequate water circulation and through-flow; vegetation management to address organic decomposition; addressing pollutants from non-project activities such as sewage, wastes, contaminated sites, etc.

Monitoring for water quality may be built into other plans and processes, e.g. visual inspections undertaken for operational purposes.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Water quality opportunities may include, for example: addressing pollutants from non-project activities such as sewage, wastes, contaminated sites; groundwater stabilisation, improved water quality through oxygenation or temperature dispersion; new technologies; new service providers; partnerships with community waterway health monitoring groups; participating in or forming catchment management groups to address water quality issues at the catchment level; etc.

Potential interviewees: project environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: water quality monitoring reports; water quality management plans for construction and operation

I-18 Waste, Noise & Air Quality

This topic addresses the management of waste, noise and air quality issues associated with the project. The intent is that noise and air quality in the vicinity of the project are of a high quality and not adversely impacted by project activities, and that project wastes are responsibly managed.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Waste, noise and air quality issues relevant to project implementation and operation have been identified through an assessment process utilising appropriate expertise; and monitoring is being undertaken during the project implementation stage appropriate to the identified issues.
Management: Processes are in place to ensure management of identified waste, noise and air quality issues, and to meet commitments, relevant to the project implementation stage; and plans are in place for the operation stage for ongoing waste management.
Conformance/Compliance: Processes and objectives relating to waste, noise and air quality have been and are on track to be met with no significant non-compliances or non-conformances, and any related commitments have been or are on track to be met.
Outcomes: Negative noise and air quality impacts arising from project activities are avoided, minimised and mitigated with no significant gaps, and project wastes managed responsibly
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, monitoring of waste, noise and air quality issues during project implementation takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, negative noise and air quality impacts arising from project activities are avoided, minimised, mitigated and compensated with no identified gaps; project wastes are managed responsibly; and the project contributes to addressing waste management issues beyond those impacts caused by the project.

Assessment Guidance:

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Potential interviewees: project environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: waste, noise and air quality monitoring reports; waste, noise and air quality management plans for construction and operation

I-19 Reservoir Preparation & Filling

This topic addresses management of environmental, social and economic issues within the reservoir area during project implementation, and planning for reservoir management for the operating hydropower facility. The intent is that reservoir preparation and filling is well managed, taking into account construction, environmental and social management requirements, and future power generation operation, maintenance and multi-purpose uses where relevant.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** The important considerations prior to and during reservoir filling and during operations have been identified through an assessment process; and monitoring of implementation activities is being undertaken appropriate to any identified issues.
Management: Measures are in place to address identified needs during reservoir preparation and filling; and plans are in place to manage the reservoir and any associated issues for the operating hydropower facility.
Conformance/Compliance: Processes and objectives in place for reservoir management have been and are on track to be met with no significant non-compliances or non-conformances, and reservoir management related commitments have been or are on track to be met.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, monitoring of reservoir preparation and filling activities takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances

Assessment Guidance:

Topic relevance: This topic is relevant if there is any storage of water.

Reservoir refers to any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir area refers to the area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Considerations prior to reservoir filling refers to preparations for any significant timing elements of construction, social or environmental management plans which might have bearing on the reservoir

area; examples include: clearing of vegetation, management of contaminated or cultural heritage sites that would be inundated, construction of boat ramps, preparation of areas to receive relocated wildlife, etc.

Considerations during reservoir filling examples include: safety, wildlife management, land or slope stability, timing of reservoir filling in relation to resettlement or other management activities, etc.

Considerations for reservoir operations examples include: optimising power generation, maintenance requirements, debris management (particularly an issue in monsoon prone parts of the world),

multiple uses (e.g. commercial, recreational), safety, flood management, shoreline erosion, reservoir sedimentation, public access, water quality, biodiversity, invasive species, water-borne diseases, monitoring, etc.

Potential interviewees: project manager; construction manager; project environmental and social issues managers; local government representative

Examples of evidence: integrated project management plans; construction management plans; reservoir design documents; model output for reservoir operations; relevant excerpts of environmental and social impact assessments and management plans; reservoir operating rules

I-20 Downstream Flow Regimes

This topic addresses the flow regimes downstream of project infrastructure during the project implementation stage. The intent is that flow regimes downstream of project infrastructure are planned and delivered with an awareness of and measures incorporated to address environmental, social and economic objectives affected by those flows.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Issues in relation to flow regimes downstream of project infrastructure during the project implementation stage have been identified and assessed; and monitoring is undertaken to assess effectiveness of flow management measures or any emerging issues during project implementation.
Management: In the case that a need to address downstream flow regimes has been identified, measures are in place to manage identified downstream flow issues; and where formal commitments have been made, these are publicly disclosed.
Conformance/Compliance: In the case that a need to address downstream flow regimes has been identified, processes and objectives in place to manage downstream flows have been and are on track to be met with no significant non-compliances or non-conformances, and downstream flow related commitments have been or are on track to be met.
Outcomes: In the case that a need to address downstream flow regimes has been identified and commitments to downstream flow regimes have been made, these take into account environmental, social and economic objectives, and where relevant, agreed transboundary objectives.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, monitoring of downstream flow issues takes into account inter-relationships amongst issues, and both risks and opportunities that become evident during implementation.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In the case that a need to address downstream flow regimes has been identified and commitments to downstream flow regimes have been made, in addition these represent an optimal fit amongst environmental, social and economic objectives within practical constraints of the present circumstances.

Assessment Guidance:

Topic relevance: This topic will always be relevant, because processes should be in place to identify any ongoing or emerging issues relating to downstream flow regimes during project implementation. If there are no issues identified, then the topic is scored on the Level 3 statement for the Assessment criterion, and the Level 5 statements for the Assessment, Management and Conformance/ Compliance criteria. If issues are identified, then all other statements are relevant.

Flow regimes is with reference to the fact that there may be multiple sites at which flows are affected by project infrastructure, e.g. downstream of a diversion dam as well as downstream of the main dam or the turbines.

Downstream flow regimes might be specified for different components and stages of projects in a manner such as, for example: minimum flows in part of certain seasons, maximum flows in part of certain seasons. Individual countries may have laws specifying downstream flow requirements; in such circumstances it will be necessary to see how social, economic and environmental considerations can still be taken into account. In cases where the downstream impact of the project on flow regimes extends beyond the jurisdiction in which the project is found, any implications of this would need to be taken into consideration.

Optimal in this context means best fit once all identified environmental, social and economic considerations have been factored in, based on the outcomes of a consultative process; the best fit may in fact be no flow at all in a particular river reach because another river reach has objectives that are considered of higher priority.

Potential interviewees: project manager; hydrologist; project environmental and social issues managers; aquatic ecologist; independent environmental flows expert; stakeholder representatives; project affected community representatives; downstream riparian community representatives; representative from the responsible governmental authority; downstream transboundary community representatives if relevant

Examples of evidence: assessment of downstream flows in relation to flow-related objectives; downstream flow regime plans specifying range, variability and verification location; system operations plans; design documents in relation to release mechanisms; records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; commitments and agreements; monitoring reports

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be misled.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Intermediaries: Workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic. In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettlees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.

Understanding the Protocol's Gradational Approach

The gradational approach undertaken in the Preparation, Implementation and Operation assessments tools can be understood by examination of Table 1. This table provides general guidance on characteristics that are likely to be exhibited for these different criteria at the five different scoring levels. The scoring statements found in the Preparation, Implementation and Operation assessment tools have been guided by the approach shown in Table 1. This table is not intended to be the basis for assigning of scores, as sufficient information should be provided on the topic pages. However, this table can be referred to during an assessment if there is insufficient information in the topic scoring statements and in the topic-specific assessment guidance to help the assessor to determine a score. If there are questions in the assessment process about whether the assessment, management and stakeholder engagement approaches are sufficient for basic good practice, Table 1 may be of assistance.

Table 1 - Understanding the Protocol's Gradational Approach

This table captures characteristics that are likely to be exhibited at different scoring levels for each of the criteria used in the Hydropower Sustainability Assessment Protocol.

Level	Assessment	Management
5	<p>Suitable, adequate and effective assessment with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to take a relatively broad, external or regional view or perspective; emphasise opportunities; and show a high level examination of interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to show excellent anticipation of, and response to, emerging issues or opportunities; senior management and/or executive decisions are likely to be timely, efficient and effective in response to monitoring data, investigations and issues arising; and, in cases, commitments in plans are public, formal and legally enforceable.</p>
4	<p>Suitable, adequate and effective assessment with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to exhibit some recognition of broader, external or regional issues; opportunities; and interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to exhibit good anticipation of, and response to, emerging issues or opportunities; and, in cases, commitments in plans are public and formal.</p>
3	<p>Suitable adequate and effective assessment with no significant gaps.</p> <p>This would typically encompass (as appropriate to the topic and life cycle stage) identification of the baseline condition including relevant issues, appropriate geographic coverage, and appropriate data collection and analytical methodologies; identification of relevant organisational roles and responsibilities, and legal, policy and other requirements; appropriate utilisation of expertise and local knowledge; and appropriate budget and time span.</p> <p>At level 3 the assessment encompasses the considerations most relevant to that topic, but tends to have a predominantly project-focussed view or perspective and to give stronger emphasis to impacts and risks than it does to opportunities.</p>	<p>Suitable, adequate and effective management processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage) development and implementation of plans that: integrate relevant assessment or monitoring findings; are underpinned by policies; describe measures that will be taken to address the considerations most relevant to that topic; establish objectives and targets; assign roles, responsibilities and accountabilities; utilise expertise appropriate to that topic; allocate finances to cover implementation requirements with some contingency; outline processes for monitoring, review and reporting; and are periodically reviewed and improved as required.</p>
2	<p>A significant gap in assessment processes relative to basic good practice (Level 3).</p>	<p>A significant gap in management processes relative to basic good practice (Level 3).</p>
1	<p>Significant gaps in assessment processes relative to basic good practice (Level 3)</p>	<p>There are significant gaps in management processes relative to basic good practice (Level 3)</p>

Stakeholder Engagement	Stakeholder Support	Outcomes	Conformance/ Compliance
<p>Suitable, adequate and effective stakeholder engagement processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the engagement is likely to be inclusive and participatory with the directly affected stakeholders; thorough feedback is likely to be available on how directly affected stakeholder issues are taken in to consideration; in cases, there is likely to be directly affected stakeholder involvement in decision-making; and information identified through engagement processes to be of high interest to stakeholders is released publicly in a timely and easily accessible manner.</p>	<p>There is support of nearly all directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no opposition by these stakeholders.</p> <p>In cases formal agreements or consent with the directly affected stakeholder groups have been reached for management measures for that topic.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited enhancements to pre-project conditions; contributions to addressing issues beyond those impacts caused by the project; leveraging of opportunities; or significant contribution to capacity building.</p>	<p>No non-compliances or non-conformances.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), there is likely to be good feedback on how directly affected stakeholder issues have taken into consideration; and information on sustainability topics understood to be of high interest to stakeholders is voluntarily released publicly.</p>	<p>There is support of a large majority of directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or only very low level opposition by these stakeholders.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited full compensation of negative impacts; some positive enhancements; or evidence of capacity building associated with the project.</p>	<p>Very few minor non-compliances and non-conformances that can be readily remedied.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage): Identification of directly affected stakeholders; Appropriate forms, timing, frequency and locations of stakeholder engagement, often two-way; Freedom for affected stakeholders to participate; Attention to special stakeholder engagement considerations relating to gender, minorities, cultural sensitivities, level of literacy, and those who might require particular assistance; Mechanisms by which stakeholders can see that their issues are recognised and acknowledged, and how they have been or are being responded to; and disclosure of information on significant sustainability topics (in cases, this may be on request).</p>	<p>There is general support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no significant ongoing opposition by these stakeholders.</p>	<p>As appropriate to the topic and the life cycle stage, there may be exhibited avoidance of harm, minimisation and mitigation of negative impacts; fair and just compensation; fulfilment of obligations; or effectiveness of implementation plans.</p>	<p>No significant non-compliances and non-conformances.</p>
<p>A significant gap in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is support amongst some directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, with some opposition.</p>	<p>A significant gap relative to basic good practice (Level 3), for example, some deterioration in baseline condition.</p>	<p>A significant non-compliance or non-conformance.</p>
<p>There are significant gaps in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is low support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or a majority oppose.</p>	<p>Significant gaps relative to basic good practice (Level 3), for example deterioration in baseline conditions with delay or difficulties in addressing negative impacts.</p>	<p>Significant non-compliances and non-conformances.</p>

Operation Assessment Tool

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Contents

The Hydropower Sustainability Assessment Protocol	164
O-1 Communications & Consultation	167
O-2 Governance	169
O-3 Environmental & Social Issues Management	172
O-4 Hydrological Resource	175
O-5 Asset Reliability & Efficiency	177
O-6 Infrastructure Safety	179
O-7 Financial Viability	181
O-8 Project Benefits	183
O-9 Project-Affected Communities & Livelihoods	185
O-10 Resettlement	188
O-11 Indigenous Peoples	191
O-12 Labour & Working Conditions	193
O-13 Cultural Heritage	195
O-14 Public Health	197
O-15 Biodiversity & Invasive Species	199
O-16 Erosion & Sedimentation	201
O-17 Water Quality	203
O-18 Reservoir Management	205
O-19 Downstream Flow Regimes	206
Glossary of Terms	208
Understanding the Protocol's Gradational Approach	211

The Hydropower Sustainability Assessment Protocol

The Hydropower Sustainability Assessment Protocol (the “Protocol”) is a sustainability assessment framework for hydropower projects and operations. It outlines the important sustainability considerations for a hydropower project, and enables production of a sustainability profile for that project. The four Protocol assessment tools – Early Stage, Preparation, Implementation, and Operation – are designed to be stand-alone assessments applied at particular stages of the project life cycle. An assessment with one tool does not depend on earlier stage assessments to have been undertaken. The assessment tools are designed to be applicable up to major decision points in the project life cycle, and are most effective where there are repeat applications to help guide continuous improvement measures. The assessment tools and associated decision points are shown in Figure 1.

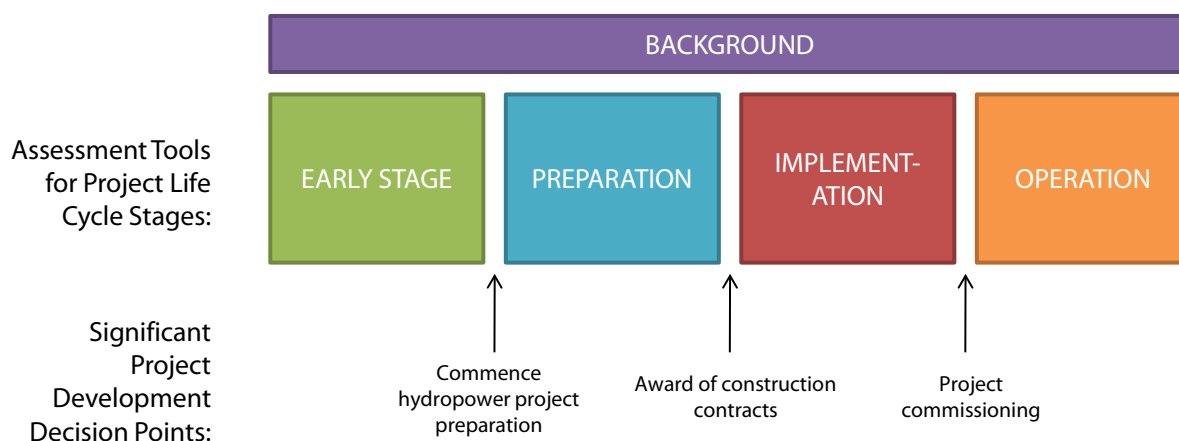


Figure 1 - Protocol Assessment Tools and Major Decision Points

Overview of the Operation Assessment Tool

This document provides the Operation assessment tool, and assumes that the user has already made him or herself familiar with the Protocol Background which describes the overall approach and use of the Protocol assessment tools. The Operation assessment tool assesses the operation of a hydropower facility. This Protocol assessment tool can be used to inform the view that the facility is operating on a sustainable basis with active measures in place towards monitoring, compliance and continuous improvement.

Recognising that hydropower facilities can be in operation for a period as long as a century, this section addresses quite a broad set of circumstances, ranging from newly commissioned projects to those that have been in operation for many decades. Many operational projects may have been prepared and commissioned prior to any legislative requirements for environmental impact assessments, and the systems they have in place are oriented around the conditions of their licence to operate. First and foremost, an operating hydropower facility is expected to comply with the laws and concessions/permits of the government. The Protocol offers a complementary tool, on a voluntary basis and in the spirit of continuous improvement, that identifies opportunities for improvement with respect to sustainability criteria relevant to an international context.

The approach of the Operations assessment tool is similar to that of ISO 14001, in that the existing condition is taken as the baseline, and risks are assessed against that condition. The Assessment criterion looks in many cases to see if any ongoing or emerging issues have been identified. Identification processes could take many forms, for example through field inspections, review of data collected in-house or by other agencies, national and international policy scans, mechanisms to be aware of stakeholder issues and concerns, etc. The processes in place to identify issues may not be specific to that issue (e.g. not necessarily dedicated monitoring programs for water quality, cultural heritage, etc) but may be general processes that enable issues to be identified (e.g. policy scans, visual inspections, meetings with regulators, and stakeholder issue raising mechanisms could all be processes which enable any specific type of issue to be identified). Ongoing issues refer to unresolved issues associated with the operation of the hydropower facility that have been of concern for a period of time. They could be legacy issues. Emerging issues could be those arising from changes to policies, legislation, standards, stakeholder expectations, or physical changes to the environment in which the facility operates.

If issues are identified, the Management criterion looks to see if measures have been put in place to manage these issues. Measures could take many forms; for example continued monitoring, more intensive monitoring, a risk assessment or scenario analyses, improvement to communications, negotiations, commissioning studies, implementation of management responses, development of plans for future implementation if the risks continue to emerge, etc.

The Operations assessment tool also refers to commitments, which would be with respect to those made by the present owner/operator or predecessor entity where those commitments are transferred to the new owner, or made by another agency with the primary responsibility for delivery. If there are no relevant commitments with respect to that topic, then references to commitments can be ignored. If there are disputes about the currency of historical commitments (i.e. legacy issues), these should be treated as an ongoing issue. In many cases changes incurred due to project development may not be able to be remediated, so measures to address legacy issues may need to take the form of new initiatives that recognise the importance of the changes that occurred in the past and make some other form of contribution or recognition of this.

Given the potential for a very long life for operating hydropower facilities, there is likely to be some completion, hand-over or other closure of management of issues at some point in time. At some point, delivery of commitments or management programs should be considered complete, ideally at a point at which the management measures are seen to be effective and self-sustaining. This would need to be understood in the assessment process. For example, in many cases a project may make commitments to public health issues around the time and for a period after project development and commissioning, but at some point responsibility for these issues would go to the appropriate government agency. The assessment is focussed on current issues and risks in relation to the operations of the hydropower facility, and how these are being addressed.

Monitoring to assess if management measures are effective could also take many forms, and must take into account that over the life of a project it cannot be assumed that issues will be monitored forever. If a condition such as water quality is shown by evidence to be in a sustainable good quality condition, then processes in place to identify any emerging issues may not need to be met by water quality monitoring conducted by the operating facility, but rather could be through visual inspections, data collected by other agencies, good stakeholder relations with community water watch groups, etc. Involvement of the facility in a catchment management committee or other such community groups can be a good way to keep abreast of any concerns or emerging issues.

Operation Topic Relevance Guide

Not all topics in the Operation assessment tool will be relevant for every operating hydropower facility. The representative of the hydropower facility would make a case for a topic to be not relevant and present evidence to support this. The assessor reviews the evidence and draws a conclusion, documenting the evidence cited, the quality of the evidence, and the basis for this conclusion. Some examples could be:

- No cultural heritage issues associated with the operating facility → Cultural Heritage topic is not relevant
- No indigenous peoples in the area affected by the operating facility → Indigenous Peoples topic is not relevant

Three topics are included that have particular relevance only in the case that there were well-documented commitments made at the time of project approval, and data on the pre-project baseline against which to compare post-project. These are O-8 Project Benefits, O-9 Project-Affected Communities & Livelihoods, and O-10 Resettlement. In the case that there are issues for these topics but do not meet the relevance requirements under the Assessment Guidance for that topic, the issues are assessed in Topic O-3 Environmental & Social Issues Management.

O-1 Communications & Consultation

This topic addresses ongoing engagement with project stakeholders, both within the company as well as between the company and external stakeholders (e.g. affected communities, governments, key institutions, partners, contractors, catchment residents, etc). The intent is that stakeholders are identified and engaged in the issues of interest to them, and communication and consultation processes maintain good stakeholder relations throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Ongoing or emerging issues relating to hydropower facility communications and consultation have been identified; requirements and approaches are determined through a periodically updated assessment process involving stakeholder mapping; and effectiveness is monitored.

Management: Communications and consultation plans and processes, including an appropriate grievance mechanism, are in place to manage communications and engagement with stakeholders; these outline communication and consultation needs and approaches for various stakeholder groups and topics.

Stakeholder Engagement: The operation stage involves appropriately timed and scoped, and often two-way, engagement with directly affected stakeholders; engagement is undertaken in good faith; ongoing processes are in place for stakeholders to raise issues and get feedback.

Conformance/Compliance: Processes and objectives relating to communications and consultation have been and are on track to be met with no major non-compliances or non-conformances, and communications related commitments have been or are on track to be met.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, the stakeholder mapping takes broad considerations into account.

Management: In addition, communication and consultation plans and processes show a high level of sensitivity to communication and consultation needs and approaches for various stakeholder groups and topics; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, engagement is inclusive and participatory; negotiations are undertaken in good faith; and feedback on how issues raised have been taken into consideration has been thorough and timely.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Assessment Guidance:

Stakeholders are those who are interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder mapping refers to identification and grouping of stakeholders in a meaningful way, for example based on stakeholder rights, risks and responsibilities. An example of “rights” would be land rights.

Directly Affected Stakeholders are those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Needs and approaches for stakeholder groups could be with respect to, for example: cultural norms, gender, literacy level, vulnerable social groups, disabilities, logistical constraints, etc.

Good faith engagement is engagement that is undertaken with an honest intent to reach a mutually satisfactory understanding on the issues of concern.

Processes in place for stakeholders to raise issues could include, for example: a contact person on the company website, public meetings, periodic public briefings or question/answer opportunities, participation of company staff on stakeholder or catchment committees, etc.

Feedback on stakeholder issues could be demonstrated by means such as, for example: emails, records of telephone conversations, written correspondence, meeting minutes, media releases, provision of responses to frequently asked questions on company website, etc.

Broad considerations could be with respect to, for example: the geographic or compositional extent of stakeholder groups identified and considered, the interrelationships amongst stakeholder groups, the level of consideration of rights, risks and responsibilities, etc.

Processes to anticipate emerging risks and opportunities could include, for example, participation of project representatives in a catchment management committee.

Good faith negotiation involves (i) willingness to engage in a process; (ii) provision of information necessary for informed negotiation; (iii) exploration of key areas of importance; (iv) mutually acceptable procedures for negotiation; (v) willingness to modify position; (vi) provision of sufficient time to both parties for decision-making; (vii) agreements on proposed compensation framework, mitigation measures, and development interventions.

Potential interviewees: power station or company communications or public relations staff; stakeholder representatives; project affected communities representatives

Examples of evidence: project stakeholder mapping document; project communications and/or consultation plans; communications protocols; grievance mechanisms; monitoring reports

O-2 Governance

This topic addresses corporate and external governance considerations for the operating hydropower facility. The intent is that the owner/operator has sound corporate business structures, policies and practices; addresses transparency, integrity and accountability issues; can manage external governance issues (e.g. institutional capacity shortfalls, political risks including transboundary issues, public sector corruption risks); and can ensure compliance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Ongoing or emerging political and public sector governance issues, and corporate governance requirements and issues have been identified, and monitoring is being undertaken to assess if corporate governance measures are effective.

Management: Processes are in place to manage corporate, political and public sector risks, compliance, social and environmental responsibility, procurement of goods and services, grievance mechanisms, ethical business practices, and transparency; policies and processes are communicated internally and externally as appropriate; in case of capacity shortfalls, appropriate external expertise is contracted for additional support.

Stakeholder Engagement: The business interacts with a range of directly affected stakeholders to understand issues of interest to them; and the business makes significant project reports publicly available, and publicly reports on project performance, in some sustainability areas.

Outcomes: There are no significant unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no significant non-compliances
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, there are no significant opportunities for improvement in the assessment of political and public sector governance issues and corporate governance requirements and issues.

Management: In addition, contractors are required to meet or have consistent policies as the developer; procurement processes include anti-corruption measures as well as sustainability and anti-corruption criteria specified in pre-qualification screening; and processes are in place to anticipate and respond to emerging risks and opportunities.

Stakeholder Engagement: In addition, the business makes significant project reports publicly available and publicly reports on project performance in sustainability areas of high interest to its stakeholders.

Outcomes: In addition, there are no unresolved corporate and external governance issues identified.

Conformance/Compliance: The project has no non-compliances.

Assessment Guidance:

Governance broadly refers to the combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Corporate governance is a term that refers broadly to the rules, processes, or laws by which businesses are operated, regulated, and controlled

Corporate governance requirements may include, for example: business administration, policies and processes, risk management, corporate social responsibility, ethical business practices, accountability and stakeholder relations, compliance, etc.

Corporate governance issues may relate to, for example: lack of capacity in key external institutional structures, policies and processes important to the project; public sector corruption risks; political risks; internal corruption risks; compliance; management of project risks; etc.

External governance considerations include legal, judicial, and institutional structures, processes and policies relevant to the project. Examples include: the executive, the legislature, political parties, anticorruption organizations, judiciary, grievance addressing mechanisms (e.g. the Ombudsman), specific civil service/public sector agencies, law enforcement agencies, Freedom of Information, media, local and national government, civil society, private sector, international institutions (e.g. some provide peer review of anti-corruption efforts), audit/oversight institutions, public contracting system, etc.

Political risk is a risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency

inconvertibility, politically-motivated interference, government instability, or war.

Transboundary issues would take into account institutional arrangements that could address the management of upstream and downstream impacts of the project and basin-wide sharing of resources.

Corruption risks may be within the business such as with how finances are managed, or within the public sector such as not addressing licence or permit violations. **Public sector corruption risks** during project preparation may include, for example, limited options considered, short-cutting of assessment / preparation requirements, or non-transparent approvals; and at the project implementation and operation may include, for example, a blind eye to licence and permit violations.

Processes to ensure ethical business practices could include, for example: a business Code of Ethics, an employee Code of Conduct, a business Integrity Pact, anti-bribery or anti-corruption policies and procedures for reporting and investigation, (such as Transparency International's Business Principles for Countering Bribery (BPCB), a whistle-blowing arrangement, etc.

Procurement plans and processes should address provision of a procurement policy, pre-qualification screening, bidding, awarding of contracts, anti-corruption measures, and mechanisms to respond to bidder complaints. Screening could be for, by way of example, quality, reputation, cost, contractor prior performance on meeting contractual obligations (time, cost, specifications), etc.

Compliance is with respect to all relevant laws, policies, permits, agreements, codes of practice and publicly stated commitments.

Anti-corruption measures examples include: open bidding contracting processes to be above a low threshold, contracting authority and its employees commit to an anti-corruption policy, project integrity pacts, mechanisms to report corruption and protect whistleblowers, confidentiality limited to legally protected information, etc.

Screening based on sustainability criteria might encompass additional criteria which could include, by way of example, social, environmental, ethics, human rights, health and safety performance, preference and support to local suppliers where they meet other criteria, etc.

Screening to address anti-corruption might specify, by way of example, that companies tendering must have a code of conduct addressing anti-corruption.

Potential interviewees: a Board member; the operating facility manager; business managers for corporate governance, compliance, internal audit, business risk; experts on public sector governance; other relevant third parties such as anti-corruption civil society organisations

Examples of evidence: business internal website and external website for vision, values, policies, structure, procedures, annual reports; assessment of public sector governance issues; internal audit reports; project compliance plan; reports to Board on ethical business practices and compliance; log of ethical business practices grievance; third party review reports; relevant documentation on public sector governance issues such as reports of Transparency International on National Integrity Systems (NIS) and the Corruption Perceptions Index (CPI)

O-3 Environmental & Social Issues Management

This topic addresses the plans and processes for environmental and social issues management. The intent is that negative environmental and social impacts associated with the hydropower facility are managed; avoidance, minimisation, mitigation, compensation and enhancement measures are implemented; and environmental and social commitments are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Systematic processes are in place to identify any ongoing or emerging environmental and social issues associated with the operating hydropower facility, utilising appropriate expertise; and monitoring programs are in place for identified issues.
Management: An environmental and social management system is in place to manage measures to address identified environmental and social issues, and is implemented utilising appropriate expertise (internal and external).
Stakeholder Engagement: Ongoing processes are in place for stakeholders to raise issues and get feedback.
Conformance/Compliance: Processes and objectives in environmental and social management plans have been and are on track to be met with no major non-compliances or non-conformances, and environmental and social commitments have been or are on track to be met.
Outcomes: Negative environmental and social impacts associated with hydropower facility operations are avoided, minimised and mitigated with no significant gaps; and land disturbance associated with development of the hydropower project is rehabilitated or mitigated.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, processes to identify ongoing and emerging environmental and social issues take broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and plans and processes are embedded within an internationally recognised environmental management system which is third party verified, such as ISO 14001.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, negative environmental and social impacts associated with hydropower facility operations are avoided, minimised, mitigated and compensated with no identified gaps.

Assessment Guidance:

Environmental and social issues may include, for example: aquatic and terrestrial biodiversity, threatened species, critical habitats, ecosystem integrity and connectivity issues, water quality, erosion and sedimentation, project-affected communities, indigenous peoples, ethnic minorities, resettlement, cultural heritage (both physical and non-physical), and public health. For operating hydropower facilities, the baseline is understood to be the existing condition and risks are assessed against this condition; exceptions may be for topics where there was very good documentation of the pre-project condition and commitments were made for changes that would be measured against this pre-project baseline (e.g. resettles experiencing improved living standards). Environmental and social issues associated with the operating hydropower facility that extend beyond the jurisdictional boundaries in which the facility is located would need to have been identified and included in management plans.

Ongoing issues are issues that have been of concern repeatedly for a given area over a longer period of time, and may relate to legacy issues.

Legacy issue refers to impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Emerging issues may relate to on-site changes (e.g. riverbank erosion exposing cultural heritage artefacts or impacting on land-use or livelihood activities) or to broader circumstances (e.g. policy changes, changes in relevant legislation or standards, trends in emerging practice, changing community expectations, etc).

Processes in place for stakeholders to raise issues could include, for example: a contact person on the company website, public meetings, periodic public briefings or question/answer opportunities, participation of company staff on stakeholder or catchment committees, etc.

Feedback on stakeholder issues could be demonstrated by means such as, for example: emails, records of telephone conversations, written correspondence, meeting minutes, media releases, provision of responses to frequently asked questions on company website, etc. Where identified or ongoing issues have been resolved through a mediation, legal, approval or licensing process, facility owner/operators would need to have some clear communication on the issue and the resolution so stakeholders understand the issue was recognised, evaluated and resolved.

Land rehabilitation is the process of returning project-affected land to some degree of its former state after disturbance or damage associated with project implementation.

Appropriate expertise refers to specialists with experience in the key identifiable topical areas of the assessment and management plans, giving particular attention to the differences between environmental areas and social impact areas. These specialists could be internal or external to the project developer; internal expertise in managing environmental and social issues is of particular importance with respect to this topic.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised,

and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Broad considerations might be exhibited by, for example: a broad view of the project affected area; a broad view of relevant issues; a broad interpretation of important concepts such as livelihoods or living standards; a broad range of approaches considered; a broad view of stakeholder perspectives on the various issues; a focus on interrelationships amongst issues; sustainable river basin development considerations; integrated water resource management considerations; legacy issues; cumulative impacts; etc.

Commitments would be those of the present owner/operator (or predecessor entity where those commitments are transferred to the new owner), or other agency with the primary responsibility for delivery. If there are disputes about the currency of historical commitments, these should be treated as an ongoing issue and measures put in place to

address the issue. In many cases changes incurred due to project development may not be able to be remediated, so measures may need to take the form of new initiatives that recognise the importance of the changes that occurred in the past and make some other form of contribution or recognition of this.

Potential interviewees: power station or company managers responsible for environmental and social issues assessment and management; government representatives responsible for environmental and social issues; stakeholder representatives; project affected communities representatives; external experts

Examples of evidence: regulatory requirements for EIA / SIA; EIA / SIA and associated reports; environmental and social management plans; records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; qualifications of experts utilised; evidence of appropriate separate expertise used for environmental and social issues recognising that in many cases single experts may not have sufficient breadth of expertise to cover both aspects

O-4 Hydrological Resource

This topic addresses the level of understanding of the hydrological resource availability and reliability to the operating hydropower facility. The intent is that power generation planning and operations take into account a good understanding of the hydrological resource availability and reliability in the short- and long-term, taking into account other needs, issues or requirements for the inflows and outflows as well as likely future trends (including climate change) that could affect the facility.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Monitoring is being undertaken of hydrological resource availability and reliability, and ongoing or emerging issues have been identified; inputs include field measurements, appropriate statistical indicators, issues which may impact on water availability or reliability, and a hydrological model.
Management: Measures are in place to guide generation operations that are based on analysis of the hydrological resource availability, a range of technical considerations, an understanding of power system opportunities and constraints, and social, environmental and economic considerations.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, issues that may impact on water availability or reliability have been comprehensively identified; and scenarios, uncertainties and risks are routinely and extensively evaluated over the short- and long-term.
Management: In addition, generation operations planning has a long-term perspective; fully optimises and maximises efficiency of water use; and has the flexibility to adapt to anticipate and adapt to future changes.

Assessment Guidance:

Hydrological resource means water inflows to the project.

Issues which may impact on water availability and reliability examples include: upstream hydro operators, future water resource use developments, future development of water-reliant land uses (e.g. agriculture, industry, population growth), catchment condition, climate change, negotiations over water allocation, etc. If the operating hydropower facility is reliant on water resources that extend beyond the jurisdictional boundaries in which the facility is located, the implications of this would need to be fully considered.

Technical considerations for generation operations examples include: water inflow patterns; reservoir characteristics; gate and spillway design, turbine type, number and characteristics, safety issues etc

Power system opportunities and constraints examples include: patterns of demand for energy (e.g. base vs peak load), power prices, other generators and their capacities and constraints, transmission issues, etc.

Fully optimise and maximise efficiency of water use means the plan is the best use of the hydrological resource given the opportunities and

constraints relating to technical, social, economic, environmental, financial considerations and is based on an iterative and consultative process.

Potential interviewees: company, government and/or independent hydrologists; power system planners; river basin authority representative; stakeholder representatives; project affected communities representatives; wetland, fisheries and ecosystem specialists; downstream authorities in a transboundary context; climatologist or climate scientist

Examples of evidence: inflow data; monitoring program and data sources; hydrological analyses; analyses of water resource demands affecting the project; analyses of power system and market opportunities; simulation and optimisation model scenarios and outputs; systems operations plan for the project; generation data

O-5 Asset Reliability & Efficiency

This topic addresses the reliability and efficiency of the hydropower facility and associated network assets. The intent is that assets are maintained to deliver optimal performance in the short- and long-term in accordance with the overall electricity generation and supply strategy of the owner/operator.

Scoring:

- 1 *There are significant gaps relative to basic good practice.*
- 2 *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3 **Assessment:** Routine monitoring of asset condition, availability and reliability is being undertaken to identify risks and assess the effectiveness of management measures; and ongoing or emerging asset maintenance and management issues have been identified.
Management: Measures are in place to address routine monitoring and maintenance requirements of the operating facility in accordance with the overall electricity generation and supply strategy of the owner/operator.
Conformance/Compliance: Processes and objectives relating to asset maintenance and management have been and are on track to be met with no major non-compliances or non-conformances, and any asset related commitments have been or are on track to be met.
Outcomes: Asset reliability and efficiency performance is in line with the objectives of the owner/operator and any asset performance guarantees with only minor gaps.
- 4 *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5 **Assessment:** In addition, identification of ongoing or emerging asset maintenance and management issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and asset maintenance management plans include a long-term program for efficiency improvements and asset upgrades.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: Asset reliability and efficiency performance is fully in line with the objectives of the owner/operator and any asset performance guarantees.

Assessment Guidance:

Asset refers to the infrastructure, plant and equipment on which the hydropower station generation operations are reliant

Asset maintenance requirements could include, for example: changing of lubricants or filters, replacement of parts, painting, cleaning, debris removal, etc.

Asset reliability and efficiency issues could include, for example: normal wear and tear,

pitting or abrasion of parts, changes to machinery configuration over time which reduces efficiency, difficulties with valves due to lack of use, rust, corrosion, etc.

Asset related opportunities could include, for example: new technologies, market opportunities for replacement parts, R&D opportunities, partnerships with universities or research institutions for tests of trials, etc.

Potential interviewees: power station station manager; power station operator; generation manager; asset maintenance program manager

Examples of evidence: maintenance programs; record of asset performance; power station asset management strategies and program; asset performance guarantees; asset reliability assessment and monitoring program; program of asset upgrades; information on asset efficiency;

information on comparative equipment and system performance; information on practicability of constraint removal; information on the operational efficiency of the individual power station or groups of power stations in the context of the broader system and relevant market arrangements; power station revenues for generation and for availability; operational efficiency identification, measurement and assessment process; machine specifications; monitoring data.

O-6 Infrastructure Safety

This topic addresses management of dam and other infrastructure safety. The intent is that life, property and the environment are protected from the consequences of dam failure and other infrastructure safety risks.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Routine monitoring of dam and infrastructure safety is being undertaken to identify risks and assess the effectiveness of management measures; and ongoing or emerging dam and other infrastructure safety issues have been identified.
Management: Dam and other infrastructure safety management plans and processes have been developed in conjunction with relevant regulatory and local authorities with no significant gaps, and provide for communication of public safety measures; emergency response plans and processes include awareness and training programs and emergency response simulations.
Conformance/Compliance: Processes and objectives relating to safety have been and are on track to be met with no major non-compliances or non-conformances, and safety related commitments have been or are on track to be met.
Outcomes: Safety risks have been avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging safety issues takes into account consideration of a broad range of scenarios and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and public safety measures are widely communicated in a timely and accessible manner.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, safety risks have been avoided, minimised and mitigated with no identified gaps; and safety issues have been addressed beyond those risks caused by the operating facility itself.

Assessment Guidance:

Safety risks examples include: seismic, geotechnical, dam or generation unit failure, electric shock, hydrological risk, drowning, road accidents, accidents arising from community interactions with project activities, etc.

Safety management measures examples include: signage, exclusion zones, emergency preparedness, monitoring, inspections, training, incident response, communication, allocation of responsibilities, etc.

Communication of public safety measures could be, for example, through public signage, documentation appropriately lodged with local authorities, awareness raising through various types of community engagements, verbal communication by on-site patrolmen or other similar mechanisms, etc.

Emergency response simulations may be undertaken, for example, through training or workshop exercises for company staff, regional authorities, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Contributions to safety issues beyond project risks might include, for example, improving the safety of some existing roads or traffic infrastructure, signage in public places about speeding or drowning risks, etc.

Potential interviewees: power station or company safety manager; local authorities; stakeholder representatives; project affected community representatives

Examples of evidence: safety risk assessments; safety management plans; emergency preparedness plans; monitoring reports; independent reviews

O-7 Financial Viability

This topic addresses financial management of the operating hydropower facility, including funding of measures aimed at ensuring project sustainability, and the ability of the project to generate the required financial returns to meet funding requirements as well as to optimise its financial opportunities. The intent is that the operations of the hydropower facility are proceeding on a sound financial basis that covers all funding requirements including social and environmental measures and commitments, and that it is aware of and responding to market trends which may influence its long-term viability.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Routine monitoring of the operating hydropower facility's finances is being undertaken to identify risks and assess the effectiveness of management measures; and ongoing or emerging financial management issues have been identified.
Management: Measures are in place for financial management of the operating hydropower facility.
Conformance/Compliance: Processes and objectives relating to financial management have been and are on track to be met with no major non-compliances or non-conformances, and funding commitments have been or are on track to be met.
Outcomes: The operating hydropower facility or the corporate entity to which it belongs can manage financial issues under a range of scenarios, can service its debt, and can pay for all plans and commitments including social and environmental.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging financial management issues takes into account both risks and opportunities including factors and trends that might influence future demand for electricity, water and ancillary services.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities; and financial contingency measures can be implemented for environmental and social management plans if required.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, the operating hydropower facility or the corporate entity to which it belongs can manage financial issues under a range of scenarios, and has optimised or is on track to optimise its market position with respect to supply and demand for electricity, water and ancillary services.

Assessment Guidance:

Financial viability is the ability of an entity to continue to achieve its operating objectives and fulfill its mission from a financial perspective over the long term. Some operating facilities may be multi-purpose in which hydropower is not the primary purpose, in which case the financial objective of the hydropower component may be to support delivery of the other purposes of the scheme (e.g. water supply, irrigation water, etc). For some operating facilities the financial contribution is measured from the perspective of the system within which it operates; for example, some pump storage facilities may run at a loss but enable a greater profit to be made from other power stations within the system because of the greater efficiencies gained.

Financial issues and risks examples include: very high operating costs; inability to meet required costs; uncertainties with respect to revenue streams; currency exchange instability; difficulties in access to finance; access to renewable incentive schemes; regional pricing; market stability; market access; likelihood of major inflation or depreciation; financial viability of the principal power off-takers etc.

Market refers to the situation of supply and demand for electricity, water and ancillary services in which the hydropower project operates.

Ancillary services refers to operations provided by hydroelectric plants that ensure stable electricity delivery and optimize transmission system efficiency, including the provision of reactive power, frequency control and load following.

Opportunities may include, for example: development or upgrade of transmission lines to enter new markets; changing customer, pricing and

contract strategies; refurbishments and upgrades; changing operational patterns to meet higher priced electricity demand, renewable developments in synergy with hydropower to provide grid stability and attract renewable energy certificates; enhancement of social and environmental benefit linked to corporate reputation and brand linked to customer attraction strategies; etc.

Optimises in this context means best market position that the facility is able to achieve, once all considerations have been factored in.

Some **financial information** may have a high degree of commercial sensitivity, and evidence for this topic may need to be viewed under a confidentiality agreement.

Potential interviewees: power station or company financial officers; principal financing institution representative; independent financial expert; company representative from business development, marketing, consulting, trading, strategy, policy; company generation manager

Examples of evidence: analysis of financing options; financial modelling reports; financial risk analysis; financial plans; financial status reports; third party review reports; annual financial reports for company, project, and principal off-taker(s); market research; research and development program; evidence of application of new solutions; awards and external recognition for innovation and/or research and development program; examples of new products; examples of expansion into new markets; examples of response to market demands.

O-8 Project Benefits

This topic addresses the benefits that were committed to alongside development of the hydropower facility, in cases where these commitments are well-documented against a pre-project baseline. The intent is that commitments to additional benefits and benefit sharing strategies made during development of the hydropower facility are fulfilled, and that communities affected by the hydropower development have benefitted. In the case of older projects where there is an absence of well-documented commitments to project benefits made at the time of project approval or an absence of data on the pre-project baseline against which to compare post-project, this topic is not relevant; in this case, issues in relation to project benefits should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Monitoring is being undertaken to assess if commitments to project benefits have been delivered and if management measures are effective; and ongoing or emerging issues relating to delivery of project benefits have been identified.

Management: Measures are in place to deliver commitments to project benefits, and to manage any identified issues relating to these commitments; and commitments to project benefits are publicly disclosed.

Conformance/Compliance: Processes and objectives in place to manage project benefits have been and are on track to be met with no significant non-compliances or non-conformances, and commitments have been or are on track to be met.

Outcomes: Communities directly affected by the development of the hydropower facility and any other identified beneficiary of the facility have received or are on track to receive benefits.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, identification of ongoing or emerging issues relating to project benefits takes into account both risks and opportunities.

Management: In addition, processes are in place to anticipate and respond to risks and opportunities.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, benefits are significant and sustained for communities affected by the project.

Assessment Guidance:

Topic relevance: This topic is not relevant for operating hydropower facilities that do not have well-documented commitments to delivery of project benefits made at the time of project approval, or data on the pre-project baseline against which to compare delivery of benefits. In the case of older projects where there are issues in relation to project benefits but this topic is not relevant, this should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Benefits may take the form of additional benefits, or benefit-sharing strategies.

Additional benefits refers to benefits that can be leveraged from the project; examples include: capacity building, training and local employment; infrastructure such as bridges, access roads, boat ramps; improved services such as for health and education; support for other water usages such as irrigation, navigation, flood/drought control, aquaculture, leisure; increased water availability for industrial and municipal water supply; benefits through integrated water resource management; etc.

Benefit sharing is distinct from one-time compensation payments or resettlement support; examples include:

- equitable access to electricity services – project affected communities are among the first to be able to access the benefits of electricity services from the project, subject to contextual constraints (e.g. power safety, preference);
- non-monetary entitlements to enhance resource access – project affected communities receive enhanced local access to natural resources;
- revenue sharing – project affected communities share the direct monetary benefits of hydropower according to a formula and approach defined in regulations; this goes beyond a one-time compensation payment or short-term resettlement support; and trust funds.

Commitments to additional benefits or benefit sharing may be the responsibility of other agencies and not the owner/operator.

Potential interviewees: relevant power station or company manager; government representative (e.g. department of economic development); stakeholder representatives; project affected communities representatives

Examples of evidence: pre-project analysis of relevant development indicators; pre-project analysis of potential project benefits; pre-project analysis of benefit sharing options and opportunities; pre-project meeting minutes or reports demonstrating stakeholder input and involvement; benefit sharing plan; commitments to project benefits; monitoring reports on delivery and status of project benefits.

O-9 Project-Affected Communities & Livelihoods

This topic addresses how impacts of development of the hydropower facility on project affected communities have been addressed, in cases where these commitments are well-documented against a pre-project baseline. The intent is that livelihoods and living standards impacted by the project have been improved relative to pre-project conditions for project affected communities with the aim of self-sufficiency in the long-term, and that commitments to project affected communities have been fully fulfilled. In the case of older projects where there is an absence of well-documented commitments to project-affected communities made at the time of project approval or an absence of data on the pre-project baseline against which to compare post-project, this topic is not relevant; in this case, issues in relation to project affected communities should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3**

Assessment: Monitoring is being undertaken to assess if commitments to project affected communities have been delivered and if management measures are effective; and ongoing or emerging issues that affect project affected communities have been identified.

Management: Measures are in place to deliver commitments to project affected communities, and to manage any identified issues relating to these commitments; and if there are any formal agreements with project affected communities these are publicly disclosed.

Stakeholder Engagement: Ongoing processes are in place for project affected communities to raise issues and get feedback.

Conformance/Compliance: Processes and objectives in place to manage delivery of commitments to project affected communities have been and are on track to be met with no significant non-compliances or non-conformances, and commitments have been or are on track to be met.

Outcomes: Livelihoods and living standards impacted by the project have been or are on track to be improved; and economic displacement has been fairly compensated, preferably through provision of comparable goods, property or services.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5**

Assessment: In addition, identification of ongoing or emerging issues for project affected communities takes into consideration both risks and opportunities, and interrelationships amongst issues.

Management: In addition, processes are in place to anticipate and respond to risks and opportunities.

Stakeholder Engagement: In addition, feedback on how issues raised are taken into consideration is thorough and timely, and project affected communities have been involved in decision-making around relevant issues and options.

Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Outcomes: In addition, the measures put in place to improve livelihoods and living standards are on track to become self sustaining in the long-term.

Assessment Guidance:

Topic relevance: This topic is not relevant for operating hydropower facilities that do not have well-documented commitments to project-affected communities made at the time of project approval, or data on the pre-project baseline against which to compare post-project. In the case of older projects where there are issues in relation to project affected communities but this topic is not relevant, this should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Project affected communities are the interacting population of various kinds of individuals in the area surrounding the hydropower project who have been affected either positively or negatively by the hydropower facility development and its associated infrastructure.

Issues that affect project affected communities may include, for example: loss or constraints on livelihoods, lowering of living standards, or economic displacement brought about due to changes associated with the project such as changes to river management and flow regimes. Specific examples could include: impacts on health or safety; impacts on cultural practices; impacts on lands, forest and riverbanks; loss of paddy lands, of home gardens, of riverbank gardens; loss of access to sacred sites, to community forest etc. In cases the impacts may result in project affected communities needing to move, but they may not be considered part of the resettlement community because the physical resettlement was a secondary impact and not a primary impact of the project.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities

or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc. Improvement in living standards would be demonstrated by improvement in the indicators of the level of material comfort.

Economic displacement refers to the loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Measures to address project affected communities issues may include, for example: works to protect downstream riparian lands; downstream flow regime agreements to enable sustained livelihoods for downstream communities; access agreements to project lands to enable continued access to sacred sites, community forest, traditional medicinal plants; support for new industries; protection of sacred sites; etc.

Opportunities for project-affected communities may include, for example: training and capacity building; education; health services; employment; transportation; contributions to provide for cultural traditions or events, etc.

Interrelationships amongst issues may include, for example: erosion of riverbanks downstream of the project causing incremental and long-term loss of land essential to sustain livelihoods, or safety concerns due to rapidly fluctuating river flows downstream of the project causing riparian communities to feel unsafe and eventually having to relocate.

Potential interviewees: representatives of project affected communities; power station or company social issues manager; government expert; independent experts

Examples of evidence: assessment report on project affected communities and livelihoods; gender analysis; human rights issues analysis; records of consultation and project affected community involvement; records of response to project affected community issues; third party review report; report on compensation measures; agreements on compensation measures; assessments and agreements on cultural sensitive areas and customs

O-10 Resettlement

This topic addresses how the physical displacement arising from development of the hydropower facility has been addressed, in cases where resettlement occurred and commitments are well-documented against a pre-project baseline. The intent is that the dignity and human rights of those physically displaced have been respected; that these matters have been dealt with in a fair and equitable manner; that livelihoods and standards of living for resettlees and host communities have been improved; and that commitments made to resettlees and host communities have been fully fulfilled. In the case of older projects where there is an absence of well-documented commitments in relation to resettlement made at the time of project approval or an absence of data on the pre-project baseline against which to compare post-project, this topic is not relevant; in this case, issues in relation to resettlement should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Monitoring is being undertaken to assess if commitments made to resettlees and host communities have been delivered and if management measures are effective; and ongoing or emerging issues relating to resettlement have been identified.
Management: Measures to address resettlement are documented in a Resettlement Action Plan; measures are in place to deliver commitments to resettlees and host communities, and to manage any issues relating to resettlement, including provision of grievance mechanisms; and formal agreements with resettlees and host communities are publicly disclosed.
Stakeholder Engagement: Ongoing processes are in place for resettlees and host communities to raise issues and get feedback.
Conformance/Compliance: Processes and objectives in the Resettlement Action Plan have been and are on track to be met with no major non-compliances or non-conformances, and any resettlement related commitments have been or are on track to be met.
Outcomes: Resettlement has been and is being treated in a fair and equitable manner, and resettlees and host communities have experienced or are on track to experience a timely improvement in livelihoods and living standards relative to the pre-project baseline.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging resettlement issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely, and resettlees and host communities have been involved in decision-making around relevant issues and options.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, the measures put in place to improve livelihoods and living standards are on track to become self-sustaining in the long-term.

Assessment Guidance:

Topic relevance: This topic will not be relevant if there was no requirement for resettlement arising from the project development, or for operating hydropower facilities that do not have well-documented commitments to resettlement made at the time of project approval, or for operating hydropower facilities that do not have data on the pre-project baseline against which to compare post-project. In the case of older projects where there are issues in relation to resettlement but this topic is not relevant, this should be taken into consideration under topic O-3 Environmental & Social Issues Management.

Resettlement is the process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Livelihood refers to the capabilities, assets (stores, resources, claims and access) and activities required for a means of living. **Improvement of livelihoods** refers to compensatory measures taken to address impacts of the project on pre-project livelihoods so that those affected are able to move forward with viable livelihoods with improved capabilities or assets relative to the pre-project conditions; for example supporting farmers to continue to be able to farm or to pursue alternatives, accompanied by sufficient support mechanisms that not only enable any changes to livelihoods to be well-established but also so that they have increased capabilities or access to the necessary resources (including training, information, materials, access, supplies etc).

Living standards refer to the level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Resettlees are those people who are required to be resettled, and including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

Host communities refers to the communities to which resettleees are relocated.

Resettlement Action Plan refers to a document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettleees; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange. In cases where resettleees' livelihoods have been land-based, and where consistent with resettleees' preferences, strong consideration may be given to land-for-land compensation.

Grievance mechanisms refer to the processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Potential interviewees: community representatives affected by resettlement and land acquisition; representatives from resettlement host communities; power station or company social issues manager; representative from the responsible governmental authority, independent reviewer.

Examples of evidence: assessment report on resettlement and land acquisition; records of consultation and affected stakeholder involvement; records of response to resettlement and land acquisition issues; third party review report; resettlement action plans; land acquisition plans; compensation agreements; agreements on

resettlement action plan; baseline social conditions report; livelihood analysis; impoverishment risk analysis; mitigation, resettlement and development action plans, including project benefit sharing mechanisms; NGO reports; monitoring reports.

O-11 Indigenous Peoples

This topic addresses the rights, risks and opportunities of indigenous peoples with respect to the hydropower facility, recognising that as social groups with identities distinct from dominant groups in national societies, they are often the most marginalized and vulnerable segments of the population. The intent is that the operating facility respects the dignity, human rights, aspirations, culture, lands, knowledge, practices and natural resource-based livelihoods of indigenous peoples in an ongoing manner throughout the project life.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging issues relating to the operating hydropower facility that may affect indigenous peoples have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified issues; and formal agreements with indigenous peoples are publicly disclosed.
Stakeholder Engagement: Ongoing and mutually agreed processes are in place for indigenous peoples to raise issues and get feedback.
Conformance/Compliance: Processes and objectives in place to manage issues that may affect indigenous peoples have been and are on track to be met with no significant non-compliances or non-conformances, and commitments made to indigenous peoples have been or are on track to be met.
Outcomes: The rights of indigenous peoples affected by the operating hydropower facility are respected in an ongoing manner.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of issues that may affect indigenous peoples is undertaken with the free, prior and informed participation of indigenous peoples; and takes into account both risks and opportunities.
Management: In addition, measures to address ongoing or emerging issues that may affect indigenous peoples have been developed with the free, prior and informed participation of indigenous peoples; and processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely; and directly affected indigenous peoples have been involved in decision-making around relevant issues and options.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, where opportunities have been identified, measures to address issues that may affect indigenous peoples beyond those impacts caused by the operating hydropower facility have been or are on track to be achieved.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there are no indigenous peoples in the area affected by the operating hydropower facility.

Indigenous peoples refers to a distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or part of the country in which they reside. In some countries, interactions with indigenous peoples may be required to be conducted through a specific government agency.

Issues that may affect indigenous peoples are ideally self-identified, and may include, for example: impacts of the operating hydropower facility activities and infrastructure on cultural practices, direct or indirect impacts to traditional lands, impacts to community cohesion, public health risks, disturbance of customary practices, and impeded access to natural resource-based livelihoods, potential land use conflicts.

Measures to address issues that may affect indigenous peoples are ideally self-identified, and may include, for example: avoidance measures, protection of cultural practices, land entitlement and protection, health assistance, scheduling of activities of the operating hydropower facility to not disturb customary practices, support for festivals or traditions, improved or more secure access to natural resource-based livelihoods, etc.

Potential interviewees: representatives of project affected indigenous communities; power station or company social issues manager; representative from the responsible governmental authority, independent reviewer

Examples of evidence: assessment report on indigenous peoples; records of consultation and project affected community involvement; records of response to issues that may affect indigenous peoples; third party review report; indigenous peoples management plans; agreements on measures for indigenous peoples; monitoring reports

O-12 Labour & Working Conditions

This topic addresses labour and working conditions, including employee and contractor opportunity, equity, diversity, health and safety. The intent is that workers are treated fairly and protected.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** A periodically updated assessment has been undertaken of human resource and labour management requirements for the operating facility, including occupational health and safety (OH&S) issues, risks, and management measures, with no significant gaps; monitoring is being undertaken to assess if management measures are effective; and ongoing or emerging labour management issues have been identified.
Management: Human resource and labour management policies, plans and processes are in place to address all labour management planning components, including those of contractors, subcontractors, and intermediaries, with no significant gaps.
Stakeholder Engagement: Ongoing processes are in place for employees and contractors to raise human resources and labour management issues and get feedback.
Conformance/Compliance: Processes and objectives relating to human resource and labour management have been and are on track to be met with no major non-compliances or non-conformances, and any labour related commitments have been or are on track to be met.
Outcomes: There are no identified inconsistencies of labour management policies, plans and practices with internationally recognised labour rights.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging labour management issues takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Stakeholder Engagement: In addition, feedback on how issues raised have been taken into consideration has been thorough and timely.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, labour management policies, plans and practices are demonstrated to be consistent with internationally recognised labour rights.

Assessment Guidance:

Labour management planning components include: human resources policies, staff and workforce planning, occupational health and safety, equal opportunity, staff development and training, grievance mechanisms, and (where appropriate) collective bargaining mechanisms

Occupational health and safety is about protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Intermediaries are workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection and important indicators; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to labour and working conditions; understanding of relevant human rights; etc.

Internationally recognised labour rights are documented in places such as the IFC Performance Standard 2, the International Labour Organisation standards, and the Human Rights Council 2008 Report of John Ruggie "Protect, Respect and

Remedy: a Framework for Business and Human Rights". They include freedom of association, right to equal pay for equal work, right to organize and participate in collective bargaining, right to equality at work, right to non-discrimination, right to just and favourable remuneration, abolition of slavery and forced labour, right to a safe work environment, abolition of child labour, right to rest and leisure, right to work, right to family life. Evidence of no inconsistencies would be no policies, plans or practices that show workers are prevented from the ability to exercise these rights; evidence of consistency could be for example an analysis of alignment.

Potential interviewees: power station or company human resources staff; contracted workforce manager, power station or company safety officer; staff or contractor representatives; external experts; unions and shop stewards; female workers

Examples of evidence: policies, plans and programs relating to human resources, employees, contractors, equity, occupational health & safety, workforce planning, and grievance mechanisms; national and international standards for labour and OH&S

O-13 Cultural Heritage

This topic addresses cultural heritage, with specific reference to physical cultural resources, associated with the hydropower facility. The intent is that physical cultural resources are identified, their importance is understood, and measures are in place to address those identified to be of high importance.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging cultural heritage issues with respect to physical cultural resources have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified cultural heritage issues.
Conformance/Compliance: Processes and objectives in place to manage cultural heritage issues have been and are on track to be met with no significant non-compliances or non-conformances, and cultural heritage related commitments have been or are on track to be met.
Outcomes: Negative cultural heritage impacts arising from activities of the operating hydropower facility are avoided, minimised, mitigated and compensated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging cultural heritage issues takes broad considerations into account, and both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, where opportunities have been identified, measures to address cultural heritage issues beyond those impacts caused by the facility have been or are on track to be achieved.

Assessment Guidance:

Topic relevance: This topic will not be relevant if credible evidence provided shows that there were no physical cultural resources identified in the project-affected area, and that there are no physical cultural resources identified in the area affected by the operating hydropower facility.

Cultural heritage refers to the legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Physical cultural resources refer to movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community.

Non-physical cultural heritage examples include: traditions, festivals, rituals, folklore, storytelling, drama, etc. If of relevance, these should be addressed under Topic O-3 Environmental & Social Issues Management in this Protocol assessment.

Cultural heritage issues may be ongoing issues that arose during project development and have not been resolved, such as for example: inundation of important sites or artefacts under the new reservoir; damage or destruction to important sites or artefacts due to construction activities; loss of access to important sites due to changes to access routes (e.g. new canals or linear infrastructure with barrier fencing, major roads); disturbance of spirits associated with special sites; etc; or they may be emerging issues such as erosion of riverbanks exposing new artefacts, or developments in policies, legislation or standards changing expectations on how cultural heritage issues will be addressed.

Measures to address cultural heritage issues may include, for example: documentation and record-keeping; relocation; creation of protected areas; new access routes; appeasement ceremonies; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Protection means to keep in safety and protect from harm, decay, loss, damage or destruction.

Broad considerations might be exhibited by, for example: a broad view of relevant issues; a broad approach to types of data collection; a focus on interrelationships amongst issues; a broad analysis of trends, approaches and existing and emerging standards relating to cultural heritage; a broad perspective with respect to the assessment of significance of heritage finds; etc.

Interrelationships amongst issues could include, for example, erosion and sedimentation effects on important heritage locations, risks of vandalism or theft by contractors or the public, etc.

Cultural heritage opportunities may include, for example: partnerships with heritage organisations; establishment of initiatives recognising heritage values such as festivals, museums or visiting experts; programmes to preserve traditional activities; access to special grants for heritage protection works; exhibits; educational initiatives; etc.

Potential interviewees: power station or company environmental and social issues manager, local cultural heritage expert, representative from relevant government department (e.g. heritage or environment); external experts; project affected community representatives

Examples of evidence: cultural heritage impact statements; conservation plans; records of consultation and response to stakeholder issues; heritage plans and agreements; national and international standards; monitoring and inspection reports

O-14 Public Health

This topic addresses public health issues associated with the operating hydropower facility. The intent is that the operating facility has not created or exacerbated any public health issues; that ongoing or emerging public health issues associated with the facility are identified and addressed as required; and commitments to implement measures to address public health are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging public health issues associated with the operating hydropower facility have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified public health issues.
Conformance/Compliance: Processes and objectives in place to manage public health issues have been and are on track to be met with no significant non-compliances or non-conformances, and public health related commitments have been or are on track to be met.
Outcomes: Negative public health impacts arising from activities of the operating hydropower facility are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging public health issues takes into account public health system capacities, access to health services, and health needs, risks and opportunities for different community groups.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, where opportunities have been identified, measures to address public health issues beyond those impacts caused by the operating hydropower facility have been or are on track to be achieved.

Assessment Guidance:

Topic relevance: This topic will always be relevant, because it should be captured by processes in place to identify any ongoing or emerging public health issues associated with the operating hydropower facility.

Public health issues include, for example: vector borne diseases (e.g. malaria, schistosomiasis); communicable and non-communicable diseases, malnutrition, psychological disorders, social well-being; loss or contamination of traditional resources; mercury or heavy metal bio-accumulation; etc.

Measures to address public health issues could include, for example: measures to reduce mosquito-borne disease risks; storing of medical supplies and immunisations; educational, awareness and disease prevention training; water quality testing; etc.

Health needs, issues and risks for different community groups could be with respect to, for example: gender, age, ethnicity, use of and access to traditional medicines, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Public health opportunities could include, for example: improved access to electricity, clean water and sanitation; development or upgrading of public health facilities; provision of equipment, training, health education, immunisations; new service providers; new medical technologies; new vaccinations or approaches to public health issues; increased access to low-cost, high-quality protein diet through increased availability of fish, etc.

Potential interviewees: power station or company social issues manager, independent public health expert, representative from government health department, project affected community representatives

Examples of evidence: public health issues and opportunities assessment; public health management plans; national and international standards; monitoring reports; regional statistics before and after the project

O-15 Biodiversity & Invasive Species

This topic addresses ecosystem values, habitat and specific issues such as threatened species and fish passage in the catchment, reservoir and downstream areas, as well as potential impacts arising from pest and invasive species associated with the operating hydropower facility. The intent is that there are healthy, functional and viable aquatic and terrestrial ecosystems in the area that are sustainable over the long-term; that biodiversity impacts arising from the operating hydropower facility are managed responsibly; that ongoing or emerging biodiversity issues are identified and addressed as required; and that commitments to implement biodiversity and invasive species measures are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging biodiversity issues have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified biodiversity issues.
Conformance/Compliance: Processes and objectives in place to manage biodiversity issues have been and are on track to be met with no significant non-compliances or non-conformances, and biodiversity related commitments have been or are on track to be met.
Outcomes: Negative biodiversity impacts arising from activities of the operating facility are avoided, minimised, mitigated, and compensated with no significant gaps
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging biodiversity issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, there are healthy, functional and viable aquatic and terrestrial ecosystems in the area affected by the hydropower facility that are sustained over the long-term; or the facility has contributed or is on track to contribute to addressing biodiversity issues beyond those impacts caused by the operating hydropower facility.

Assessment Guidance:

Biodiversity issues may include, for example: loss of habitat; fish migration barriers; loss of spawning grounds; loss of habitat connectivity; loss or declines in important food chain species; loss of wetlands; poaching, hunting or over-exploitation of significant species; introduction of weed or pest species; etc.

Measures to address biodiversity may include, for example: catchment protection, creation of reserves, habitat conservation and improvement, species management plans, translocations, habitat rehabilitation, new habitat creation, managed flow releases, etc. Measures to address passage of aquatic species may include, for example: fish ladders, fish elevators, catch and release programs, fish hatcheries, re-stocking programs, mechanisms for diversion away from turbines for downstream passage, assisted cues (water chemistry, operational conditions), etc. Measures to address invasive species may include, for example: physical barriers to pest species passage, pollution control, physical removal or containment, chemical treatment, reservoir water residence times, managed flow releases, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Compensate in the context of biodiversity impacts in cases may be in the form of establishing or supporting offset programs. **Offsets** are measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project

development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Biodiversity opportunities may include, for example, forming partnerships with wildlife protection groups; catchment management committees and projects; joint research ventures around fish passage or hatcheries; employing or working with local communities to act as wardens for protected areas; creation of business ventures from non-timber forest resources, capacity building and educational initiatives, eco-tourism ventures, creation of bird and waterfowl sanctuaries, fish protection zones, wetland protection, etc.

Potential interviewees: power station or company environmental manager; aquatic and terrestrial ecologists; design engineers (in relation to fish passage); representatives of relevant government departments (e.g. fisheries, wildlife, environment, forests); representatives of local communities; independent experts

Examples of evidence: assessment of terrestrial biodiversity; assessment of aquatic biodiversity; fish studies; fish passage technical feasibility assessments; third party review reports; biodiversity management plans; invasive species management plans; commitments and agreements; economic and livelihood valuation from fish catch and non-timber forest products baselines from local communities; monitoring reports

O-16 Erosion & Sedimentation

This topic addresses the management of erosion and sedimentation issues associated with the operating hydropower facility. The intent is that erosion and sedimentation caused by the operating hydropower facility is managed responsibly and does not present problems with respect to other social, environmental and economic objectives; that external erosion or sedimentation occurrences which may have impacts on the operating hydropower facility are recognised and managed; and that commitments to implement measures to address erosion and sedimentation are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging erosion and sedimentation issues have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified erosion and sedimentation issues.
Conformance/Compliance: Processes and objectives in place to manage erosion and sedimentation issues have been and are on track to be met with no significant non-compliances or non-conformances, and erosion and sedimentation related commitments have been or are on track to be met.
Outcomes: Erosion and sedimentation issues are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging erosion and sedimentation issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, erosion and sedimentation associated with operating facility do not present ongoing problems for environmental, social and economic objectives of the facility or the project affected areas.

Assessment Guidance:

Erosion and sedimentation issues include impacts that may be caused by operation of the hydropower facility, and issues that may impact on the facility. Impacts that may be caused by project operation may include direct land disturbance due to maintenance works, or to reservoir shorelines due to fluctuating water levels; and indirect land disturbance due to changed river flows. Consideration of what is an issue needs to take into account that there will be landscape adjustments brought about by the hydropower project that continue for many years until a new equilibrium is reached, particularly in the downstream river channels; negative impacts would therefore be considered those erosion and sedimentation occurrences caused by the project that present problems with respect to other social, environmental and/or economic objectives, or externally caused occurrences of erosion or sedimentation that impact on the ability of the project to meet its own social, environmental or economic objectives.

Issues that may impact on the operating hydropower facility might, for example, be naturally high sediment loads which may impact on the reservoir life, wear & tear of turbines, increased maintenance needs for tunnels, canals and other water conduits; or landslips or land disturbances due to other catchment activities or natural events that could increase sediment loads into the reservoir or adversely affect transport routes, etc.

Assessment processes for **erosion and sedimentation** may be built into other plans and processes, e.g. visual inspections undertaken for operational purposes.

Measures to address erosion and sedimentation issues might include, for example: catchment treatment works such as sediment check structures; water management measures such as to avoid turbidity or shoreline erosion; reforestation and re-vegetation activities; measures to address land use practices; etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Erosion and sedimentation opportunities may include, for example, forming partnerships with land-use protection or catchment management groups; joint research projects around erosion or sedimentation management; new technologies; carbon credits for reforestation with benefits of erosion and sedimentation risk reduction; etc.

Potential interviewees: power station or company environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: erosion and sedimentation assessment reports; erosion and sedimentation management plans; monitoring reports

O-17 Water Quality

This topic addresses the management of water quality issues associated with the operating hydropower facility. The intent is that water quality in the vicinity of the operating hydropower facility is not adversely impacted by activities of the operator; that ongoing or emerging water quality issues are identified and addressed as required; and commitments to implement measures to address water quality are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging water quality issues have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified water quality issues.
Conformance/Compliance: Processes and objectives in place to manage water quality issues have been and are on track to be met with no significant non-compliances or non-conformances, and water quality related commitments have been or are on track to be met.
Outcomes: Negative water quality impacts arising from activities of the operating hydropower facility are avoided, minimised and mitigated with no significant gaps.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging water quality issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.
Outcomes: In addition, water quality in the area affected by the operating hydropower facility is of a high quality; or the facility has contributed or is on track to contribute to addressing water quality issues beyond those impacts caused by the operating hydropower facility.

Assessment Guidance:

Water quality issues examples at the operation stage include: reduced oxygenation, aseasonal temperatures, stratification potential, pollutant inflow, nutrient capture, algal bloom potential, release of toxicants from inundated sediments, chemical or waste spills, etc.

Assessment processes for water quality may be built into other plans and processes, e.g. visual inspections undertaken for operational purposes.

Measures to address water quality at the operation stage may include, for example: aeration features to address dissolved oxygen levels; water management measures such as to ensure adequate water circulation and through-flow; vegetation management to address organic decomposition; addressing pollutants from non-project activities such as sewage, wastes, contaminated sites, etc.

Avoid, minimise, mitigate and compensate is a concise expression for what is understood to be a sequential process. Measures to avoid or prevent

negative or adverse impacts are always prioritised, and where avoidance is not practicable, then minimisation of adverse impacts is sought. Where avoidance and minimisation are not practicable, then mitigation and compensation measures are identified and undertaken commensurate with the project's risks and impacts.

Water quality opportunities may include, for example: addressing pollutants from non-project activities such as sewage, wastes, contaminated sites; groundwater stabilisation, improved water quality through oxygenation or temperature dispersion; new technologies; new service providers; partnerships with community waterway health monitoring groups; participating in or forming catchment management groups to address water quality issues at the catchment level; etc.

Potential interviewees: power station or company environmental manager; government representative (e.g. from environment department), independent expert

Examples of evidence: water quality monitoring reports; water quality management plans

O-18 Reservoir Management

This topic addresses management of environmental, social and economic issues within the reservoir area during hydropower facility operation. The intent is that the reservoir is well managed taking into account power generation operations, environmental and social management requirements, and multi-purpose uses where relevant.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging reservoir management issues have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: Measures are in place to manage identified issues.
Conformance/Compliance: Processes and objectives in place for reservoir management have been and are on track to be met with no significant non-compliances or non-conformances, and reservoir management related commitments have been or are on track to be met.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, identification of ongoing or emerging reservoir management issues takes into account both risks and opportunities.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities.
Conformance/Compliance: In addition, there are no non-compliances or non-conformances.

Assessment Guidance:

Topic relevance: This topic is relevant if there is any storage of water.

Reservoir refers to any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir area refers to the area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Reservoir management issues include, for example: optimising power generation, maintenance requirements, debris management (particularly an issue in monsoon prone parts of the world), multiple uses (e.g. commercial, recreational), safety, flood management, shoreline erosion, reservoir sedimentation, public access, water quality, biodiversity, invasive species, water-borne diseases, monitoring, etc.

Emerging risks or opportunities may be in relation to, for example, climate change related issues, multi-purpose considerations, leveraging of the reservoir for other industries (e.g. tourism, aquaculture, irrigation) or as a vehicle for development (e.g. source of clean water, fisheries and other livelihoods, improved water-based transport), etc.

Potential interviewees: relevant power station or company managers; power station or company environmental and social issues managers; local government representative

Examples of evidence: modelled and actual output for reservoir operations; relevant excerpts of environmental and social issues management plans; reservoir operating rules; time series plots of reservoir operations

O-19 Downstream Flow Regimes

This topic addresses the flow regimes downstream of the operating hydropower facility infrastructure in relation to environmental, social and economic objectives. The intent is that issues with respect to the operating hydropower facility's downstream flow regimes are identified and addressed, and commitments with respect to downstream flow regimes are fulfilled.

Scoring:

- 1** *There are significant gaps relative to basic good practice.*
- 2** *Most relevant elements of basic good practice have been undertaken, but there is one significant gap.*
- 3** **Assessment:** Ongoing or emerging issues relating to the operating hydropower facility's downstream flow regimes have been identified, and if management measures are required then monitoring is being undertaken to assess if management measures are effective.
Management: In the case of a need to address downstream flow regimes, measures are in place to address identified downstream flow issues; and where formal commitments have been made, these are publicly disclosed.
Conformance/Compliance: In the case of a need to address downstream flow regimes, processes and objectives in place to manage downstream flows have been and are on track to be met with no significant non-compliances or non-conformances, and downstream flow related commitments have been or are on track to be met.
Outcomes: In the case of a need to address downstream flow regimes and commitments to downstream flow regimes have been made, these take into account environmental, social and economic objectives, and where relevant, agreed transboundary objectives.
- 4** *All relevant elements of basic good practice have been undertaken and in one or more cases exceeded, but there is one significant gap in the requirements for proven best practice.*
- 5** **Assessment:** In addition, issues identification takes into account both risks and opportunities. In the case of a need to address downstream flow regimes, an assessment has been undertaken that includes identification of the flow ranges and variability to achieve different environmental, social and economic objectives based on field studies as well as relevant scientific and other information.
Management: In addition, processes are in place to anticipate and respond to emerging risks and opportunities. In the case of a need to address downstream flow regimes, in addition commitments are made in relation to downstream flow regimes that include the flow objectives; the magnitude, range and variability of the flow regimes; the locations at which flows will be verified; and ongoing monitoring.
Stakeholder Engagement: In the case of a need to address downstream flow regimes, in addition the assessment and management process for downstream flow regimes has involved appropriately timed and two-way engagement with directly affected stakeholders, and ongoing processes are in place for stakeholders to raise issues with downstream flow regimes and get feedback.
Conformance/Compliance: In the case of a need to address downstream flow regimes, in addition there are no non-compliances or non-conformances.
Outcomes: In the case of a need to address downstream flow regimes and commitments to downstream flow regimes have been made, in addition these represent an optimal fit amongst environmental, social and economic objectives within practical constraints of the present circumstances.

Assessment Guidance:

Topic relevance: This topic will always be relevant, because it should be captured by processes in place to identify any ongoing or emerging issues relating to the operating hydropower facility's downstream flow regimes. If there are no issues identified, then the topic is scored on the first sentence in the Level 3 statement for the Assessment criterion, and the first sentence in the Level 5 statements for the Assessment and Management criteria. If issues are identified, then all other statements are relevant.

Flow regimes is with reference to the fact that there may be multiple sites at which flows are affected by project infrastructure, e.g. downstream of a diversion dam as well as downstream of the main dam or the turbines.

Ongoing or emerging issues might be with respect to concerns about downstream impacts arising from water discharge or management activities, or changing policies, legislation or community expectations, or changing community values or uses of the downstream waterways.

Downstream flow regimes might be specified for different components and stages of projects in a manner such as, for example: minimum flows in part of certain seasons, maximum flows in part of certain seasons. Individual countries may have laws specifying downstream flow requirements; in such circumstances it will be necessary to see how social, economic and environmental considerations can still be taken into account. In cases where the downstream impact of the operating hydropower facility on flow regimes extends beyond the jurisdiction in which the facility is found, any implications of this would need to be taken into consideration.

Optimal in this context means best fit once all identified environmental, social and economic considerations have been factored in, based on the outcomes of a consultative process; the best fit may in fact be no flow at all in a particular river reach because another river reach has objectives that are considered of higher priority.

Potential interviewees: relevant power station or company managers; hydrologist; power station or company environmental and social issues managers; aquatic ecologist; independent environmental flows expert; stakeholder representatives; project affected community representatives; downstream riparian community representatives; representative from the responsible governmental authority; downstream transboundary community representatives if relevant

Examples of evidence: assessment of downstream flows in relation to flow-related objectives; downstream flow regime plans specifying range, variability and verification location; system operations plans; design documents in relation to release mechanisms; records of consultation and stakeholder involvement; records of response to stakeholder issues; third party review report; commitments and agreements; monitoring reports

Glossary of Terms

Additional Benefits: Benefits for the region that can be leveraged from the project.

Accountability: Obligation of an individual, firm, or institution to account for its activities, accept responsibility for them, and to disclose the results in a transparent manner.

Accountable: Responsible to or liable to account for someone or for some activity.

Adequate: Sufficient or enough to satisfy a requirement or meet a need.

Agreement: A recorded understanding between individuals, groups or entities to follow a specific course of conduct or action. It may be incorporated into, for example, a memorandum of understanding, minutes of a meeting, a letter of intent, a joint statement of principles, a contract, an operating licence, etc.

Appropriate: Suitable for a particular person, condition, occasion, or place; fitting; meeting identified needs or requirements.

Baseline: A set of measurements, statistics, or conditions used as a basis for later comparison. The baseline refers to the pre-project conditions, prior to the initiation of the project, against which post-project changes can be compared. For operating hydropower facilities, if a pre-project baseline does not exist then the present condition is taken as the baseline.

Commitment: A binding pledge or promise to do, give, or refrain from doing something.

Community Groups: Groups of people with common characteristics or interests living together within the larger society. There are many different ways to view these groups, and these will need to be defined in meaningful ways for the project. These may include, by way of example, urban dwellers, rural dwellers, indigenous peoples, ethnic minorities, people of a common profession or religion, disabled, elderly, illiterate, women, men, children, etc.

Compliance: Adherence to legal requirements, policies and public commitments.

Comprehensive: All relevant components have been considered and addressed.

Conformance: Addresses the level of conformance of implementation measures with most up-to-date project-related plans.

Consent: Signed agreements with community leaders or representative bodies who have been authorised by the affected communities which they represent, through an independent and self-determined decision-making process undertaken with sufficient time and in accordance with cultural traditions, customs and practices.

Corruption: Lack of integrity or honesty (especially susceptibility to bribery); use of a position of trust for dishonest gain.

Credible: Capable of being believed; plausible; worthy of confidence; reliable.

Cultural Heritage: The legacy of physical artefacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cumulative Impacts: Cumulative impacts are those that result from the incremental impact of the project when added to other past, present, and reasonably foreseeable future actions. Effects should be assessed in terms of the capacity of the water resource, ecosystem, and/or affected communities to accommodate such impacts. Analyses need to be defined within realistic boundaries.

Deception: The fact or state of being deceived; to be given cause to believe what is not true; to be misled.

Developer: The lead entity or consortium of entities investing in the development of a hydropower project.

Directly Affected Stakeholder: Those stakeholders with substantial rights, risks and responsibilities in relation to the issue. These may be inside the project affected area (e.g. project affected communities) or outside the project-affected area (e.g. government regulators, finance institution representatives, or investment partners).

Disclosure: Made publicly available (see also "Publicly disclosed").

Economic Displacement: Loss of assets, access to assets, or income sources or means of livelihoods as a result of (i) acquisition of land, (ii) changes in land use or access to land, (iii) restriction on land use or access to natural resources including water resources, legally designated parks, protected areas or restricted access areas such as reservoir catchments and (iv) changes in environment leading to health concerns or impacts on livelihoods. Economic displacement applies whether such losses and restrictions are full or partial, and permanent or temporary.

Effective: Producing or capable of producing an intended, expected and/or desired effect.

Engaged: Interacted with, often through consultation processes.

Equitable: Fair, just or impartial

Evidence: Evidence provided by an auditee and used by an assessor to verify whether and to what degree a criterion has been met. Evidence can be qualitative or quantitative information, records or statements of fact, either verbal or documented. It is retrievable or reproducible; not influenced by emotion or prejudice; based on facts obtained through observation, measurements, documentation, tests or other means; factual; reproducible; objective and verifiable.

Expert: A person with a high degree of skill in or knowledge of a certain subject, as a result of a high degree of experience or training in that subject.

Gender Analysis: The process of assessing the impact that an activity may have on females and males, and on gender relations. It can be used to ensure that men and women are not disadvantaged by development activities, to enhance the sustainability and effectiveness of activities, or to assess and build capacity and commitment to gender sensitive planning.

Governance: The combination of processes and structures that inform, direct, manage and monitor the activities of the project toward the achievement of its objectives.

Grievance Mechanisms: The processes by which stakeholders are able to raise concerns, grievances and legitimate complaints, as well as the project procedures to track and respond to any grievances.

Human Rights: The basic rights and freedoms to which all humans are entitled, encompassing civil, political, economic, social, and cultural rights, and enshrined in international declarations such as the Universal Declaration on Human Rights 1948.

Hydrological Resource: Water inflows to the project.

Impact: Effect or consequence of an action or event; the degree to which an impact is interpreted as negative or positive depends on context and perspective.

Independent Review: Expert review by someone not employed by the project and with no financial interest in profits made by the project.

Indigenous Peoples: A distinct social and cultural group possessing the following characteristics in varying degrees: self-identification as members of a distinct indigenous cultural group and recognition of this identity by others; collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories; customary cultural, economic, social or political institutions that are separate from those of the dominant society or culture; an indigenous language, often different from the official language of the country or region.

Integrated: Merged, interspersed, embedded into something.

Integrated Water Resources Management (IWRM): A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.

Intermediaries: Workers engaged through third parties who are either performing work directly related to the functions essential for the project for a substantial duration, or who are geographically working at the project location.

Invasive Species: A species that does not naturally occur in a specific area and whose introduction does or is likely to cause economic or environmental harm or harm to human health.

Land Rehabilitation: The process of returning the land to some degree of its former state after disturbance or damage associated with project implementation.

Legacy Issues: Impacts of previous projects that are unmitigated or not compensated with a similar good or service, or long-standing issues with a present (existing) project, or pre-existing issues in the present location of a new project.

Livelihood: The capabilities, assets (stores, resources, claims and access) and activities required for a means of living.

Living Standards: The level of material comfort as measured by the goods, services, and luxuries available to an individual, group, or nation; indicators of household well-being; examples include: consumption, income, savings, employment, health, education, nutrition, housing, and access to electricity, clean water, sanitation, health services, educational services, transport, etc.

Local: Administrative subdivisions of a national territory (e.g. with reference to local land use plans)

Long-Term: The planned life of the hydropower project.

Maintenance: The work of keeping something in proper condition; upkeep.

Management Plan: A management plan is a tool used as a reference for managing a particular project issue, and establishes the why, what, how, who, how much, and when for that issue.

Management System: The framework of processes and procedures used to ensure that an organisation can fulfil all tasks required to achieve its objectives.

Maximised: Achieved to as great an extent practicable, taking into account all constraints.

Minimised: Achieved to as little an extent practicable, taking into account all constraints.

Mitigation: Moderation, alleviation, and/or relief of a negative impact

Non-Compliance: Not meeting legal, licence, contractual or permit obligations

Non-Conformance: Not meeting targets and objectives in the management plans; these may or may not be publicly stated commitments, but they are not legally binding and violation can not incur legal action.

Non-Critical: Not essential for something to be suitable, adequate and/or effective

Occupational Health and Safety: Protecting the safety, health and welfare of people engaged in work or employment, for example through preventing disease or injury that might arise as a direct result of the workplace activities.

Offset: Measurable conservation outcomes resulting from actions designed to compensate for significant adverse biodiversity impacts arising from project development and persisting after appropriate avoidance, minimization, and restoration measures have been taken. Generally, these are not within the project site.

Optimal: Best fit, once all considerations have been factored in, based on the outcomes of a consultative process

Optimisation Process: The process by which alternatives have been considered towards determining the best fit

Outstanding: Not settled or resolved.

Plans: Management measures to address an identified issue, that may or may not be formalised into business management plans. Plans can include documented planned arrangements, for example based on agreements for forward actions made at meetings. Plans may also be those of the developer, owner or operator, or plans of the relevant government agency or other institution which has the primary responsibility for that sustainability topic. Plans can also be those developed by the contractor responsible for implementation.

Political Risk: A risk of financial loss or inability to conduct business faced by investors, corporations, and governments due to government policy changes, government action preventing entry of goods, expropriation or confiscation, currency inconvertibility, politically-motivated interference, government instability, or war.

Practicable: Capable of being done with means at hand and circumstances as they are.

Process: A series of actions, changes, or functions bringing about a result.

Procurement: The acquisition of goods and/or services at the best possible cost, in the right quality and quantity, at the right time, in the right place and from the right source for the direct benefit or use of the hydropower project or operating facility, generally via a contract.

Programme: Relates to the hydropower development programme, which encompasses all project components (construction, environmental, social, resettlement, finance and procurement, and communications, etc.).

Project-Affected Area: The catchment, reservoir, and downstream of the project site and associated dams, and the area affected by any associated developments (e.g. roads, transmissions lines, quarries, construction villages, relocation areas, etc).

Project Affected Communities: The interacting population of various kinds of individuals in the project affected area who are affected either positively or negatively by the hydropower project preparation, implementation and/or operation.

Project Catchment: The portion of the river basin that drains into the project reservoirs, either to pass ultimately through the generation turbines or to spill over the dams into the downstream rivers.

Project Components: Components of the overall hydropower development programme, including design, construction, environmental, social, resettlement, finance, communications and procurement.

Project Lands: The land that is owned, utilised and/or affected by the project.

Protection: To keep in safety and protect from harm, decay, loss, damage or destruction.

Publicly Disclosed: The public is informed that the agreement, commitment, assessment, management plan or significant report has been made or completed, and it is made publicly available either voluntarily (e.g. posted on a website) or on request in a timely manner.

Refurbishment: The state of being restored to its former good condition.

Regional: Refers to a supranational entity in an international context. To refer to administrative subdivisions of a national territory (e.g. with reference to local land use plans) this protocol uses the designation of local.

Relevant: Directly related, connected, applicable, current or pertinent to a topic. In the Protocol, relevance will be determined based on project-specific considerations and analyses. Project representatives make a case for what is relevant and provide evidence to support this, e.g. support of regulatory authorities; the assessor views and seeks evidence to affirm relevance.

Reservoir: Any artificial pondage or lake used by the project for the storage and regulation of water.

Reservoir Area: The area that is inundated when the reservoir is at its maximum expected level and the dry buffer zone above this level.

Resettlement: The process of moving people to a different place to live, because due to the project they are no longer allowed to stay in the area where they used to live.

Resettlees: Those people who are required to be resettled, including those who have formal legal rights, customary or traditional rights, as well as those who have no recognizable rights to the land.

River Basin: The area drained by a river and all its tributaries

Resettlement Action Plan: A document or set of documents specifically developed to identify the actions that will be taken to address resettlement. It would typically include identification of those being resettled; the socio-economic baseline for the resettles; the measures to be implemented as part of the resettlement process including those relating to resettlement assistance and livelihood support; the legal and compensation frameworks; organisational roles and responsibilities; budget allocation and financial management; the timeframe, objectives and targets; grievance redress mechanisms; monitoring, reporting and review provisions; and understandings around consultation, participation and information exchange.

Sensitivity Analysis: Investigation into how projected performance varies along with changes in the key assumptions on which the projections are based

Short-Term: Covers day-to-day operations.

Significant: Important in effect or consequence, or relatively large.

Stakeholder: One who is interested in, involved in or affected by the hydropower project and associated activities.

Stakeholder Group: A set of stakeholders with common characteristics or interests.

Strategic Fit: The compatibility of the project with local, national and regional needs identified through the priorities and objectives put forth in options assessments and other relevant local, national and regional and multi-national policies and plans.

Suitable: Appropriate for the desired purpose, condition or occasion.

Timely: Occurring at a suitable or opportune time

Transboundary Agreements: Agreements made amongst riparian states about how shared water resources will be utilized by the parties involved, and the processes that will be followed to sustain these understandings.

Transparent / Transparency: Open to public scrutiny, publicly available, and/or able to be viewed or disclosed to the public on request.

Upgrade: To improve to a higher grade or standard.

Vulnerable Social Groups: Social groups who are marginalised or impoverished with very low capacity and means to absorb change.

Understanding the Protocol's Gradational Approach

The gradational approach undertaken in the Preparation, Implementation and Operation assessments tools can be understood by examination of Table 1. This table provides general guidance on characteristics that are likely to be exhibited for these different criteria at the five different scoring levels. The scoring statements found in the Preparation, Implementation and Operation assessment tools have been guided by the approach shown in Table 1. This table is not intended to be the basis for assigning of scores, as sufficient information should be provided on the topic pages. However, this table can be referred to during an assessment if there is insufficient information in the topic scoring statements and in the topic-specific assessment guidance to help the assessor to determine a score. If there are questions in the assessment process about whether the assessment, management and stakeholder engagement approaches are sufficient for basic good practice, Table 1 may be of assistance.

Table 1 - Understanding the Protocol's Gradational Approach

This table captures characteristics that are likely to be exhibited at different scoring levels for each of the criteria used in the Hydropower Sustainability Assessment Protocol.

Level	Assessment	Management
5	<p>Suitable, adequate and effective assessment with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to take a relatively broad, external or regional view or perspective; emphasise opportunities; and show a high level examination of interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to show excellent anticipation of, and response to, emerging issues or opportunities; senior management and/or executive decisions are likely to be timely, efficient and effective in response to monitoring data, investigations and issues arising; and, in cases, commitments in plans are public, formal and legally enforceable.</p>
4	<p>Suitable, adequate and effective assessment with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), the assessment is likely to exhibit some recognition of broader, external or regional issues; opportunities; and interrelationships amongst relevant sustainability issues.</p>	<p>Suitable, adequate and effective management processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), management plans and processes are likely to exhibit good anticipation of, and response to, emerging issues or opportunities; and, in cases, commitments in plans are public and formal.</p>
3	<p>Suitable adequate and effective assessment with no significant gaps.</p> <p>This would typically encompass (as appropriate to the topic and life cycle stage) identification of the baseline condition including relevant issues, appropriate geographic coverage, and appropriate data collection and analytical methodologies; identification of relevant organisational roles and responsibilities, and legal, policy and other requirements; appropriate utilisation of expertise and local knowledge; and appropriate budget and time span.</p> <p>At level 3 the assessment encompasses the considerations most relevant to that topic, but tends to have a predominantly project-focussed view or perspective and to give stronger emphasis to impacts and risks than it does to opportunities.</p>	<p>Suitable, adequate and effective management processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage) development and implementation of plans that: integrate relevant assessment or monitoring findings; are underpinned by policies; describe measures that will be taken to address the considerations most relevant to that topic; establish objectives and targets; assign roles, responsibilities and accountabilities; utilise expertise appropriate to that topic; allocate finances to cover implementation requirements with some contingency; outline processes for monitoring, review and reporting; and are periodically reviewed and improved as required.</p>
2	<p>A significant gap in assessment processes relative to basic good practice (Level 3).</p>	<p>A significant gap in management processes relative to basic good practice (Level 3).</p>
1	<p>Significant gaps in assessment processes relative to basic good practice (Level 3)</p>	<p>There are significant gaps in management processes relative to basic good practice (Level 3)</p>

Stakeholder Engagement	Stakeholder Support	Outcomes	Conformance/ Compliance
<p>Suitable, adequate and effective stakeholder engagement processes with no significant opportunities for improvement.</p> <p>In addition to basic good practice (Level 3), the engagement is likely to be inclusive and participatory with the directly affected stakeholders; thorough feedback is likely to be available on how directly affected stakeholder issues are taken in to consideration; in cases, there is likely to be directly affected stakeholder involvement in decision-making; and information identified through engagement processes to be of high interest to stakeholders is released publicly in a timely and easily accessible manner.</p>	<p>There is support of nearly all directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no opposition by these stakeholders.</p> <p>In cases formal agreements or consent with the directly affected stakeholder groups have been reached for management measures for that topic.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited enhancements to pre-project conditions; contributions to addressing issues beyond those impacts caused by the project; leveraging of opportunities; or significant contribution to capacity building.</p>	<p>No non-compliances or non-conformances.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with only a few minor gaps.</p> <p>In addition to basic good practice (Level 3), there is likely to be good feedback on how directly affected stakeholder issues have taken into consideration; and information on sustainability topics understood to be of high interest to stakeholders is voluntarily released publicly.</p>	<p>There is support of a large majority of directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or only very low level opposition by these stakeholders.</p>	<p>In addition to basic good practice (Level 3), there may be exhibited full compensation of negative impacts; some positive enhancements; or evidence of capacity building associated with the project.</p>	<p>Very few minor non-compliances and non-conformances that can be readily remedied.</p>
<p>Suitable, adequate and effective stakeholder engagement processes with no significant gaps.</p> <p>These would typically encompass (as appropriate to the topic and life cycle stage): Identification of directly affected stakeholders; Appropriate forms, timing, frequency and locations of stakeholder engagement, often two-way; Freedom for affected stakeholders to participate; Attention to special stakeholder engagement considerations relating to gender, minorities, cultural sensitivities, level of literacy, and those who might require particular assistance; Mechanisms by which stakeholders can see that their issues are recognised and acknowledged, and how they have been or are being responded to; and disclosure of information on significant sustainability topics (in cases, this may be on request).</p>	<p>There is general support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or no significant ongoing opposition by these stakeholders.</p>	<p>As appropriate to the topic and the life cycle stage, there may be exhibited avoidance of harm, minimisation and mitigation of negative impacts; fair and just compensation; fulfilment of obligations; or effectiveness of implementation plans.</p>	<p>No significant non-compliances and non-conformances.</p>
<p>A significant gap in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is support amongst some directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, with some opposition.</p>	<p>A significant gap relative to basic good practice (Level 3), for example, some deterioration in baseline condition.</p>	<p>A significant non-compliance or non-conformance.</p>
<p>There are significant gaps in stakeholder engagement processes relative to basic good practice (Level 3).</p>	<p>There is low support amongst directly affected stakeholder groups for the assessment, planning or implementation measures for that topic, or a majority oppose.</p>	<p>Significant gaps relative to basic good practice (Level 3), for example deterioration in baseline conditions with delay or difficulties in addressing negative impacts.</p>	<p>Significant non-compliances and non-conformances.</p>

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Some of the Penans from Ba' Abang at the dialogue session.

Stop manipulating innocent Penans, rep tells NGOs

MIRI: Non-government organisations (NGOs) are urged to stop using and manipulating the Penans who are only interested in finding their place in society.

Telang Usan assemblyman Dennis Ngau said the Penans themselves should now realize that they were being used by unscrupulous NGO who were out to seek personal interest. The so-called 'human right activists' such as Bruno Manser were not sincere in wanting to help them (Penans).

Speaking at a dialogue session with the community at Ba' Abang in Baram recently, Dennis said they should learn from past experiences; that they had been manipulated by Manser to raise some funds supposedly to help the community.

"Many funds have been set worldwide purportedly to help the Penans live a better lifestyle while Manser is paid US\$10,000 every time he speaks about the community abroad. He and other non-governmental organizations are successful in inciting the Penans to go against the government by setting up blockades," he added.

Although the fund was raised purportedly for the Penans, Dennis said none had been channelled to them to upgrade their livelihood.

"All they want is for the Penans to continue living in their old primitive ways, a 'living museum' for everyone to see and criticise the government for not helping them."

On another subject, Dennis said the proposed Baram Dam was a way of improving the quality and life of the people living within the dam vicinity.

"But NGOs such as SAVE Rivers are campaigning to stop the government from building the dam. They claim that the government has an agenda to wipe out the community (Penans) and their culture."

"Don't listen to instigators out to deny you of the benefits brought about the completion of the dam. The government has many plans to improve your livelihood," Dennis told them.

Deputy Resident Imang Oyok Jau, a political secretary to Chief Minister Robert Anyi and Temenggong Datuk Hassan Sui were among those at the function.

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		L 42 (Chest Width) x 28 (Length)	
		XL 44 (Chest Width) x 29 (Length)	
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3. Aeon Big, Wangsa Maju	24 & 25 May	8. Giant Citymall, Kota Kinabalu	24 & 25 May
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Community leaders want action taken against SAVE Rivers



(From left) Jalong, Ngau, Paul and Ajang each holds a copy of protest letter and online news cutting on SAVE Rivers in Switzerland and Norway.

MIRI: Orang Ulu community leaders in the Baram are urging the government to stop Save Sarawak's Rivers Network (SAVE Rivers) from spreading lies claiming that over 60,000 indigenous people in the area are rallying behind them to stop the building of Baram Dam.

In a joint press conference here yesterday, Temenggong Joseph Ngau Lian from the Kenyah community, Penghulu Paul Kallang (Aka Hilir and San area), Penghulu Ajang Wan (Aka Patah area) and Penghulu Jalong Tanyit (Moh area) wanted the government to take action, especially against chairman of SAVE Rivers, Peter Kallang, who is now either in Switzerland or Norway.

"It (lie) is very damaging to us, especially when he tells Europeans that he is representing all the Orang Ulu people in Baram that we are all against the proposed Baram Dam.

"We, the leaders of the Orang Ulu people in Baram have never appointed Peter Kallang and his friends to speak for us," Paul Kallang said.

He said Peter, his wife and several other members had gone to Switzerland and Norway to put more pressure on companies involved in the building of mega dams in Sarawak to stay away.

The community leaders also claimed that SAVE Rivers was using the Penans and other Orang Ulu people who were now manning a blockade at KM15 Baram road to solicit for funds for their own use.

Orang Ulu leaders all for Baram Dam project

MIRI: Orang Ulu community leaders have reiterated their full support for the Baram Dam project and strongly reject allegations made by Save Sarawak's Rivers Network (SAVE Rivers) to smear the good names of the state leaders and the implementing agency.

In a joint statement emailed to The Borneo Post yesterday Penghulu Paul Kallang (AkaH Hilir and San area), Penghulu Ajang Wan (AkaH Patah area) and Penghulu Jalong Tanyit (Moh area), and KK Nyurang Ngau and KK Jacob Kulleh said they, being the local people, supported the mega project because it would be a catalyst for accelerated development in the area.

"On the other hand, SAVE Rivers chairman Peter Kallang and Maria Usun who campaigned in Norway are not residents of upper Baram. They have moved away from the area for over 10 years now.

"They have no rights in meddling in our affairs and campaigning overseas and seeking sympathy for their own personal goals, at our expense.

They also tarnished the good image of our government," they said.

The community leaders added that Peter had asked others to protest in the jungle while he himself and his wife and several other members had gone to Switzerland and Norway to put more pressure on companies involved in the building of mega dams in Sarawak to stay away.