



Statoil

Energiperspektiver og klimarisiko – et selskapsperspektiv

Presentasjon for klimarisikoutvalget, Oslo, 4 mai 2018
Eirik Wærness, Senior Vice President and Chief Economist

Agenda

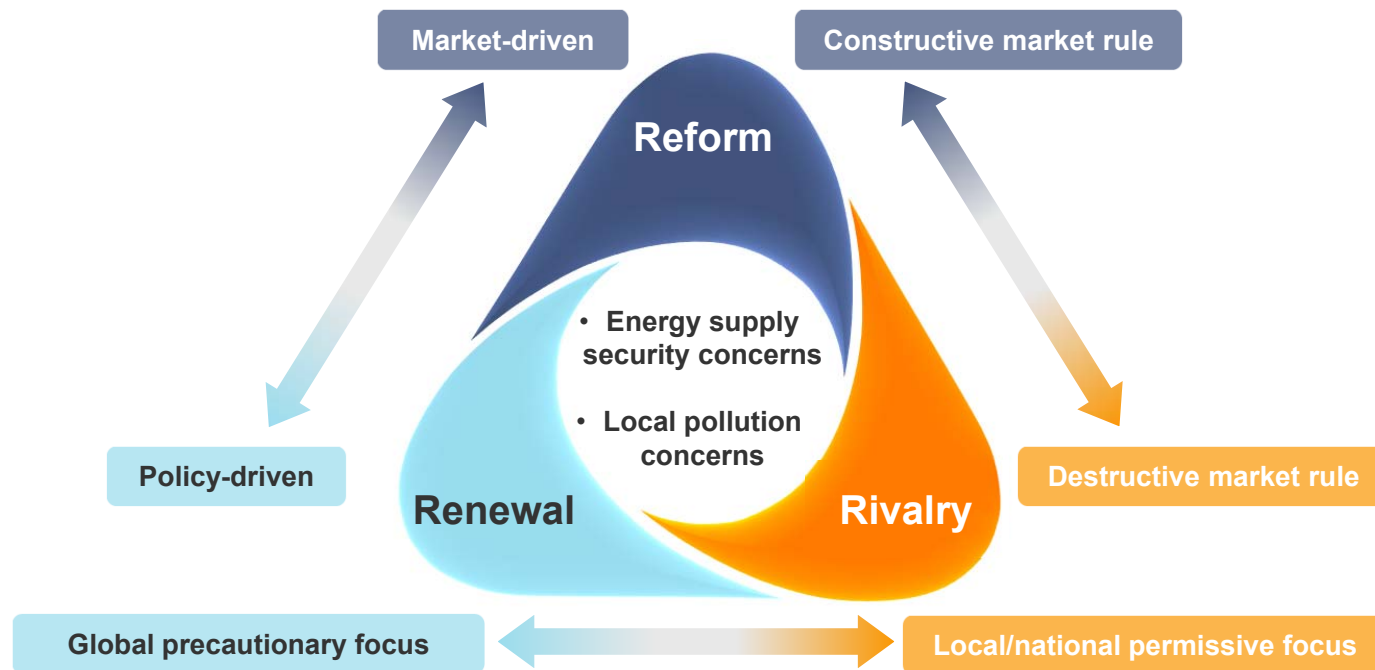
- Om energiscenarier – mange mulige fremtider, med ulike utfall og konsekvenser
- Om prisusikkerhet
- Om klimarisiko for et selskap
- Oppfølging TCFD, bærekraftsrapport
- En robust strategi for å ta høyde for ulike utfall

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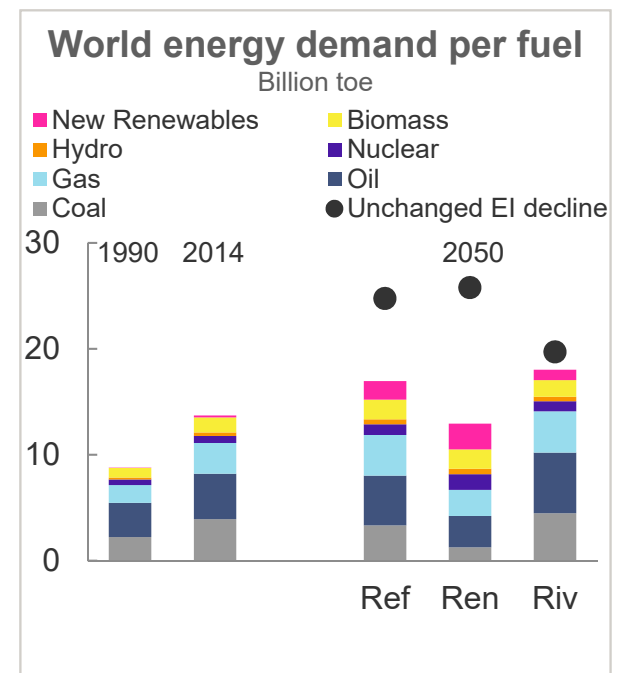
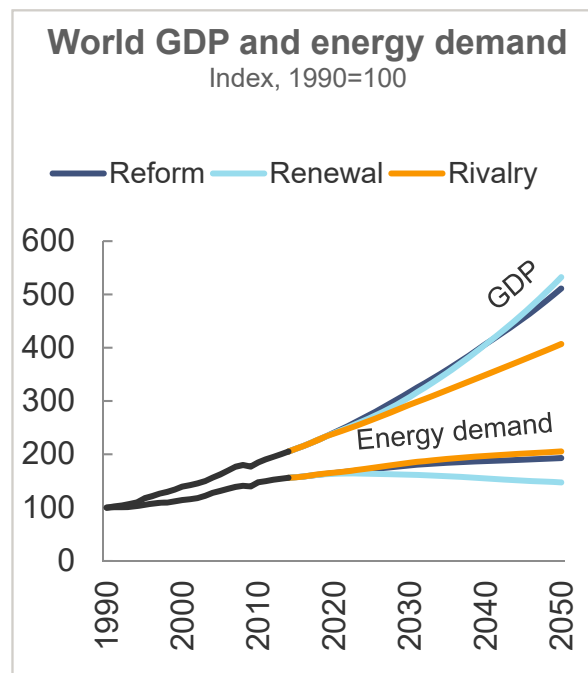
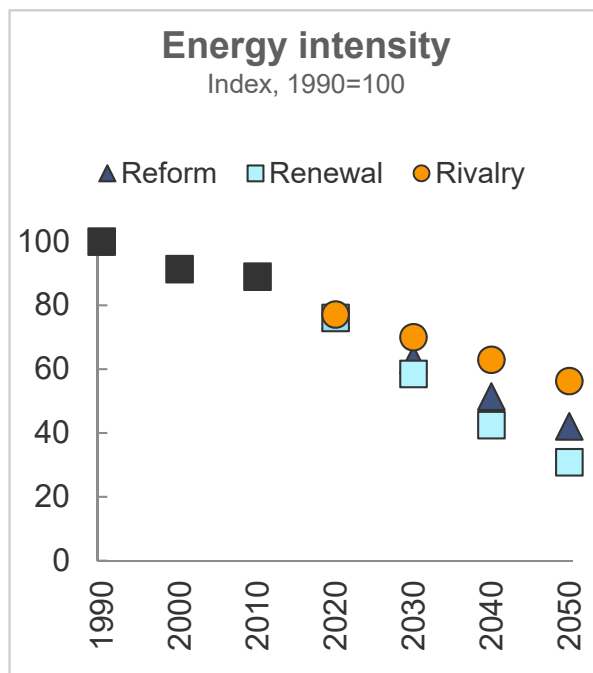
Three different tales of the future towards 2050

None are BAU – Renewal is a tremendous challenge



Key #1: Energy efficiency improvement

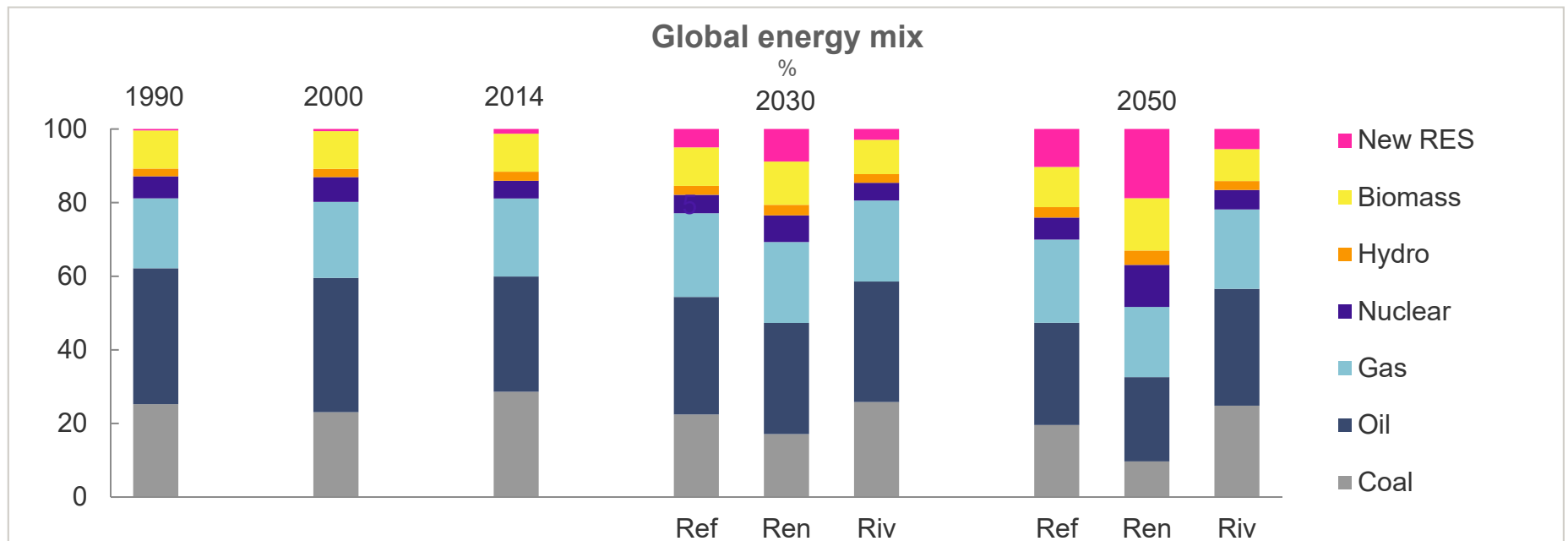
GDP 2-2.6 times higher in 2050, Energy demand -5% – + 30% – step change in energy efficiency



Source: IEA (history), Statoil (projections)

Key #2: Speeding up the change in energy mix

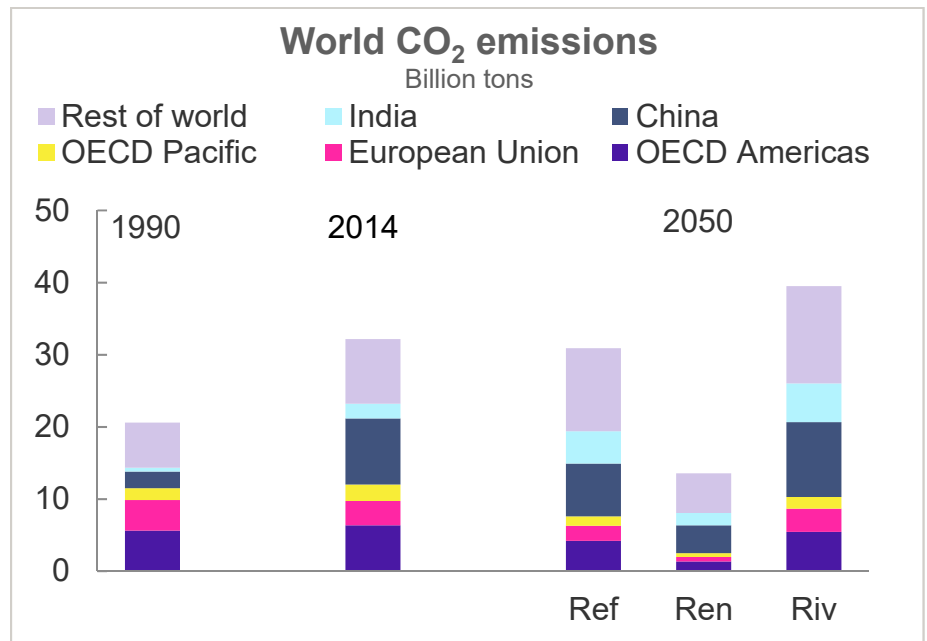
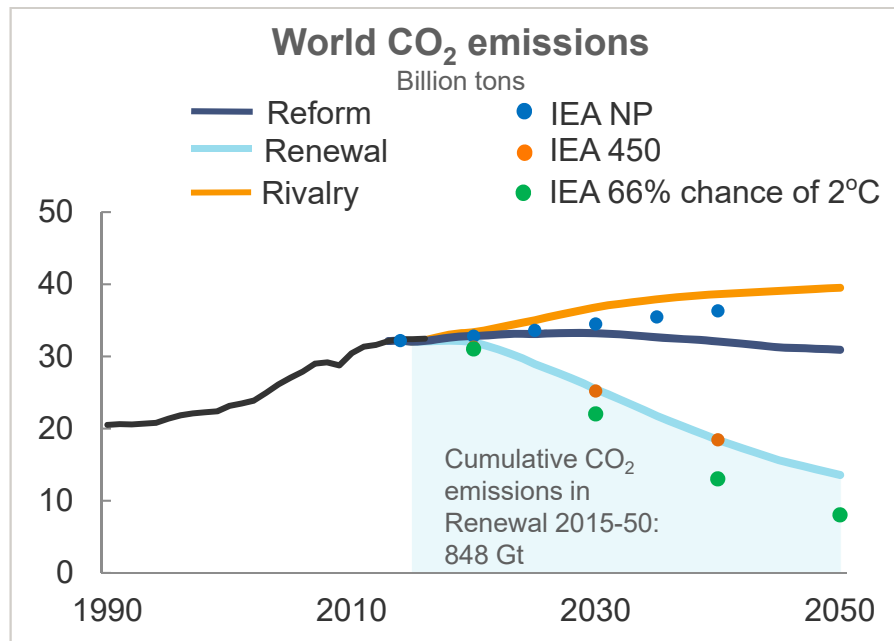
... with Renewal displaying a paradigm shift



Source: IEA (history), Statoil (projections)

CO₂ emissions determined by demand and mix

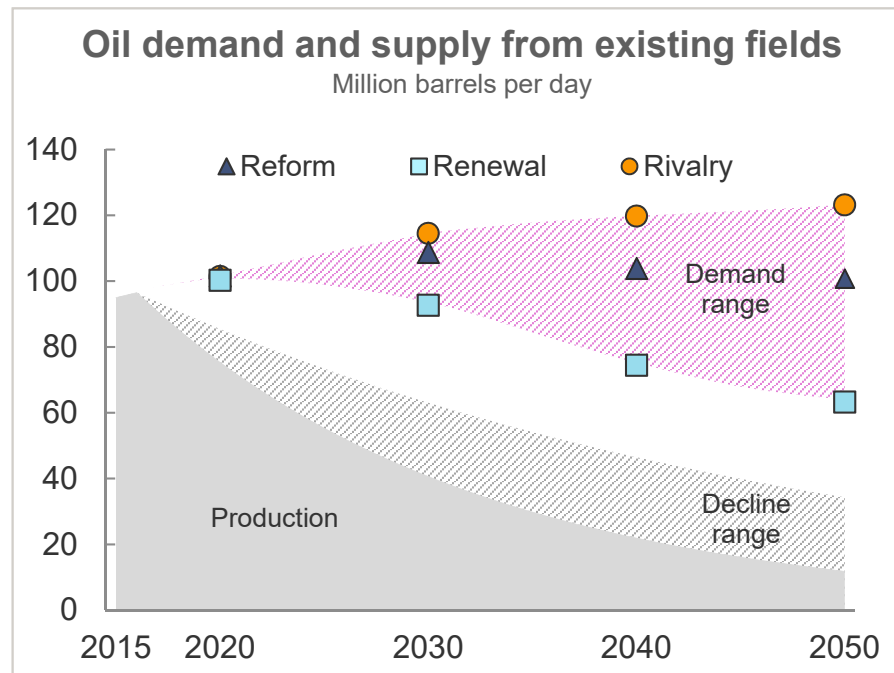
Policies, markets and technology having varying impact



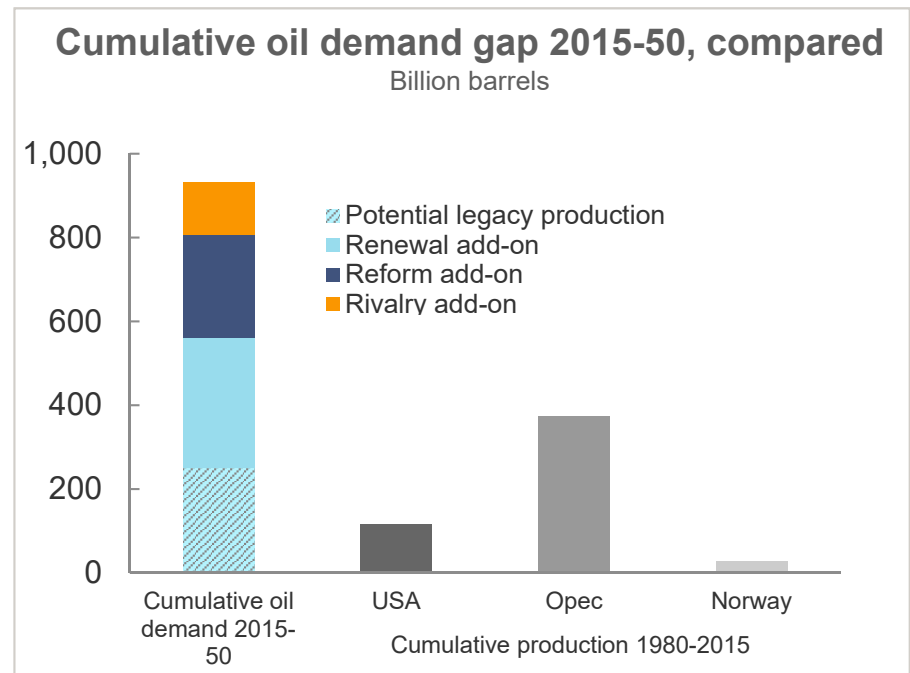
Source: IEA (history), Statoil (projections)

Huge investments needed in oil in all scenarios

...to replace production and satisfy demand



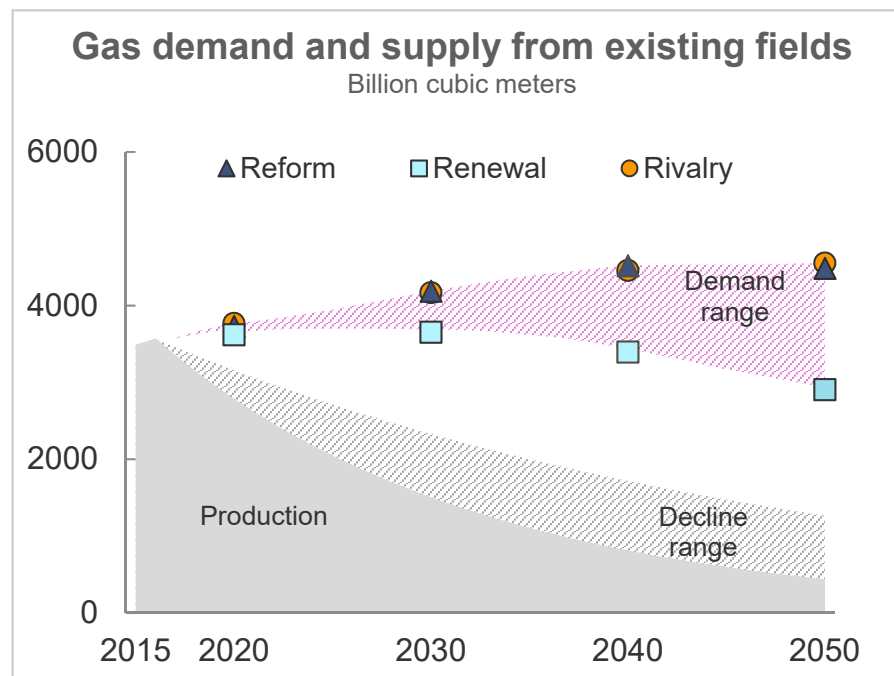
Source: Statoil



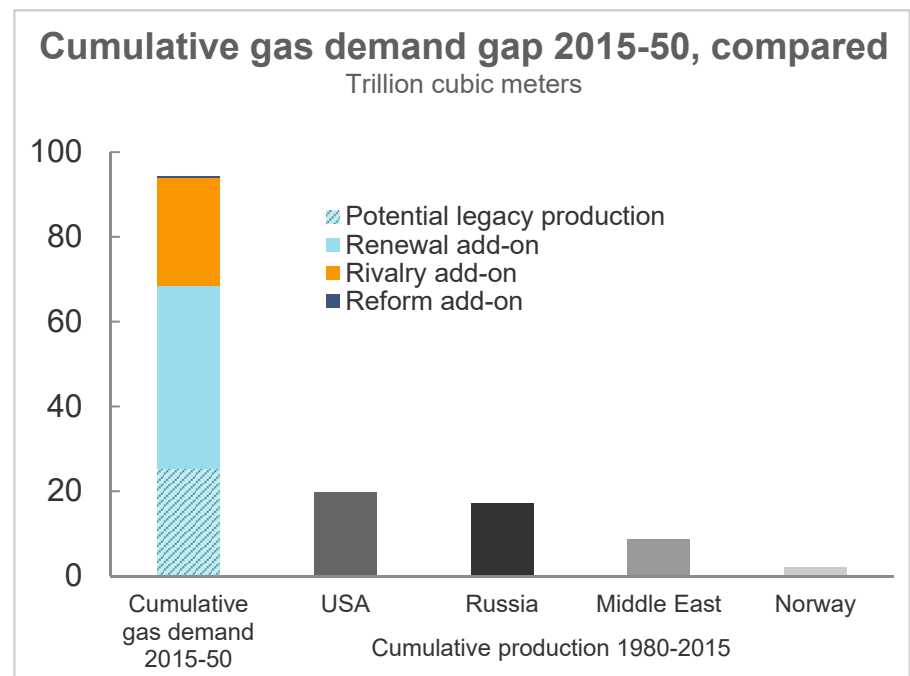
Source: Statoil (projections), BP statistical review of world energy (history)

...and the same is the case for gas

...to replace production and satisfy demand



Source: Statoil

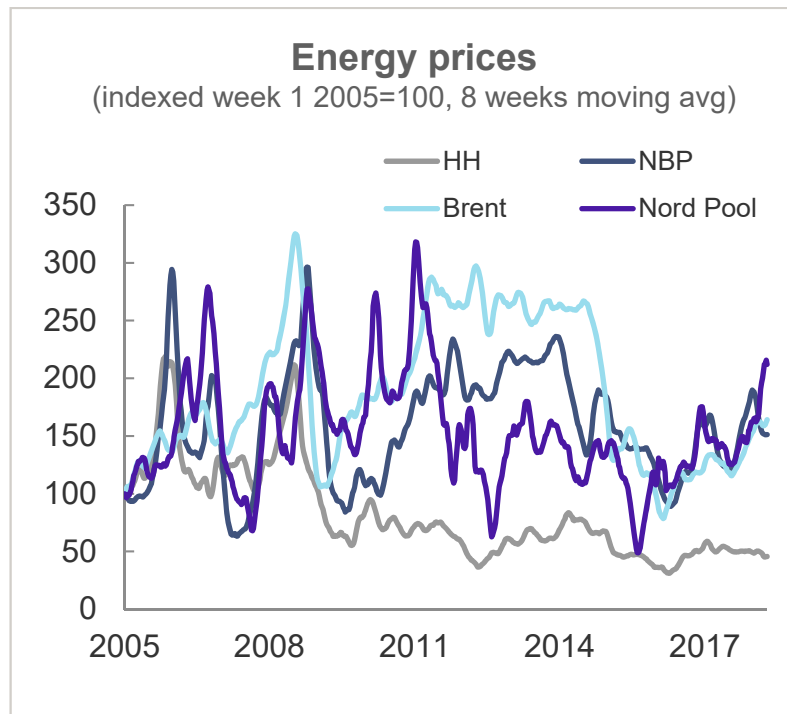


Source: Statoil (projections), BP statistical review of world energy (history)

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On price uncertainty



Sources: Thomson Reuters Datastream, Nord Pool

- Energy prices vary – and will continue to do so, irrespective of scenario
- Long-term wholesale price levels determined by fundamentals – costs and demand levels
- A key uncertainty is also electricity markets characterized by large share of zero marginal cost sources
- How will different climate policies affect consumer and producer prices of different commodities?

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What is Climate-related risks ?

- Risk in general
 - Risk = Consequences + Uncertainty
 - Risk assessment = Specified consequences + probabilities and background knowledge
- Climate risk: Risks related to climate changes
 - TCFD has identified the following climate risk categories:

Climate-Related Risks ('downside risks')

- Transition risks
 - risks related to a transition to a lower-carbon economy
- Physical risks
 - risks related to the physical impacts of climate change

Transition Risks

Policy and Legal

Technology

Market

Reputation

Physical Risks

Acute

Chronic

Climate-Related Opportunities ('upside risks')

Opportunities

Resource Efficiency

Energy Source

Products/Services

Markets

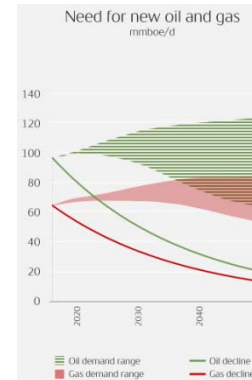
Resilience

Climate-related risks for an Enterprise

- Question 1:
 - How could the future become?
 - Scenarios representing future states
 - Assigning probability ranges to representative scenarios

- Question 2:
 - How does possible future outcomes influence the Enterprise?
 - Direct effects on:
 - Monetary risks
 - Cash flow: revenues
 - Cash flow: costs
 - Cash flow: taxes
 - Safety, security and business integrity risks
 - Indirect effects via reputation

Statoil CMU 2018



Cicero: 'Shades of Climate Risks»

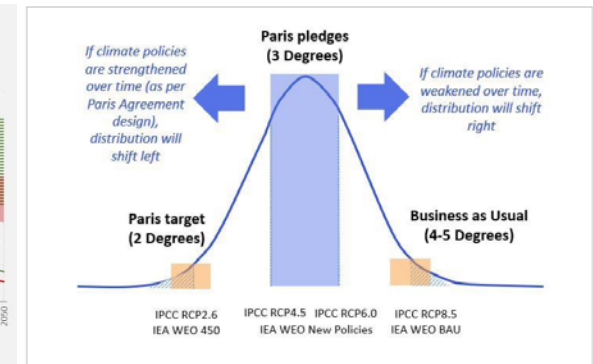


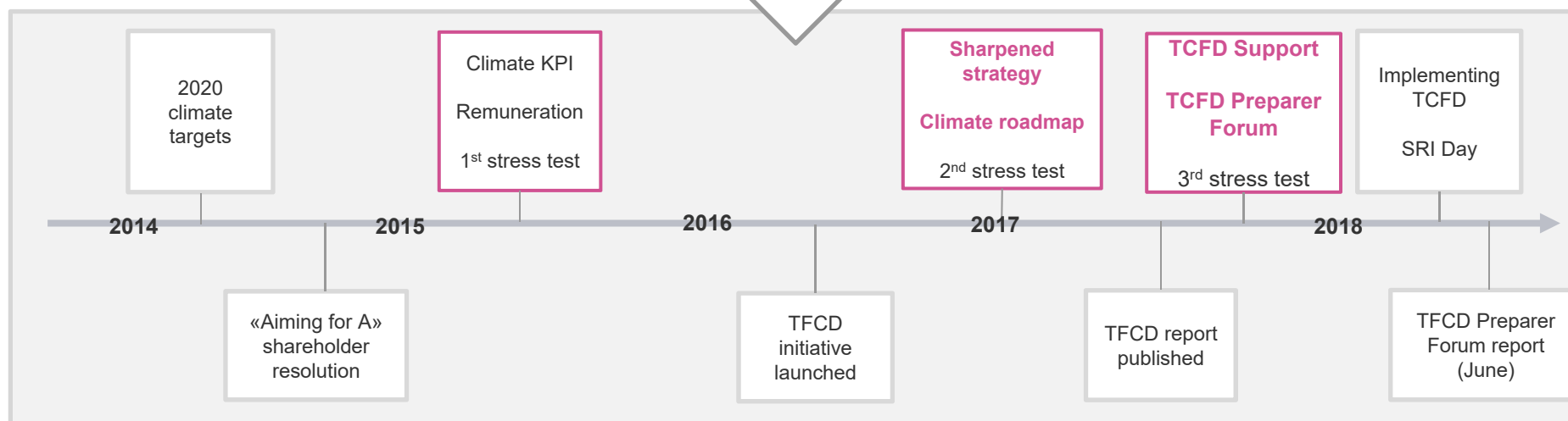
Figure 3: Probability Distribution of Scenarios. The International Energy Agency (IEA) WEO scenarios are

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Statoil's evolving approach to climate risk

Our starting point
«Open» – committed to transparency
Sustainability Reports and Energy Perspectives
Industry leader in carbon efficiency



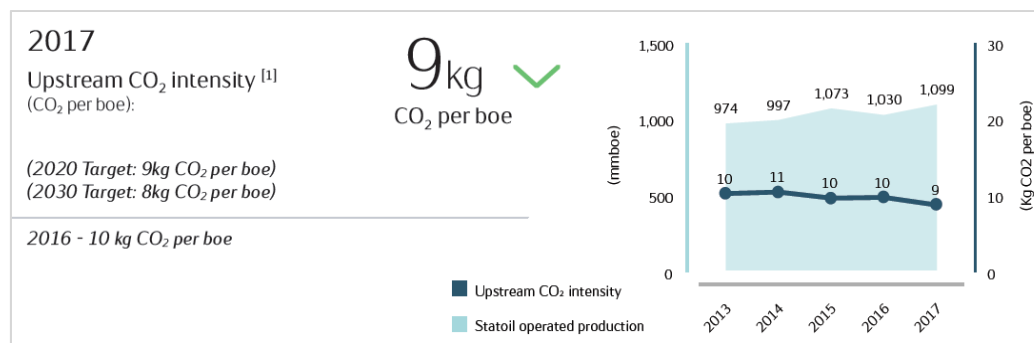
Implementing the TCFD recommendations

Governance and risk management

- Climate KPI and targets
- Link to CEO remuneration
- Embedded in risk and performance management
- Integrated in investment decision criteria and economic planning assumptions

” On a regular basis, the corporate executive committee and board of directors review and monitor climate change-related business risks and opportunities. In 2017, the board discussed climate-related issues in four out of eight meetings (including one risk update), and the safety, sustainability and ethics committee discussed climate-related issues in all of the five committee meetings held.

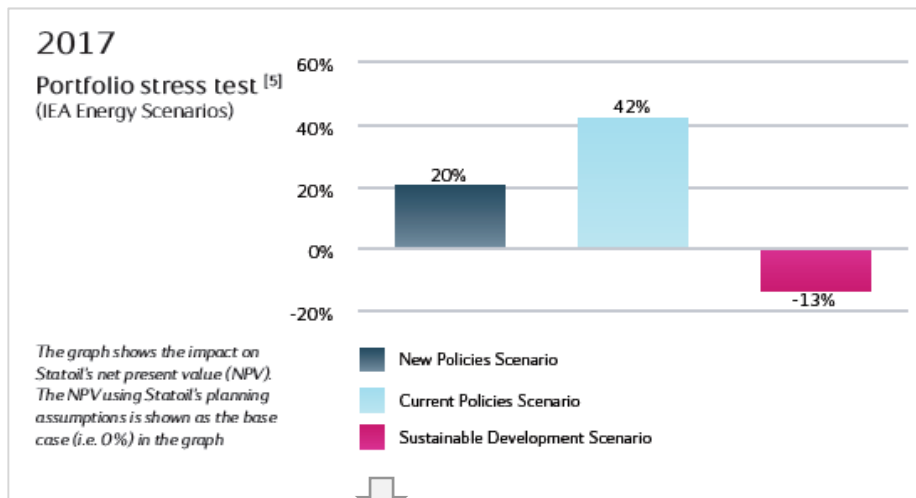
Statoil ASA 2017 Annual report and Form 20-F



Statoil 2017 Sustainability Report

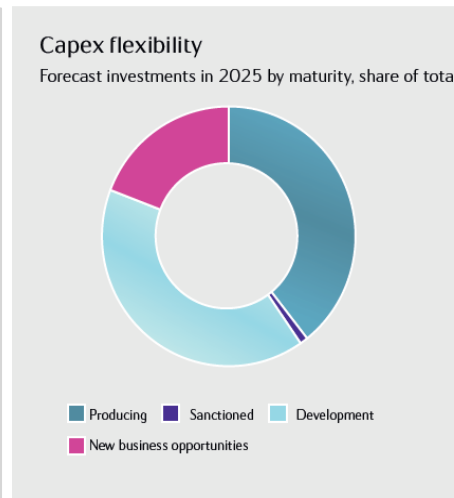
Implementing the TCFD recommendations

Resilience in a 2°-scenario



Important: Does not take into account portfolio adjustments

Statoil 2017 Sustainability Report



Statoil 2017 Sustainability Report

Minimum **carbon price** used

50

USD/tonne

Average **break even**
next generation portfolio*

27

USD/bbl

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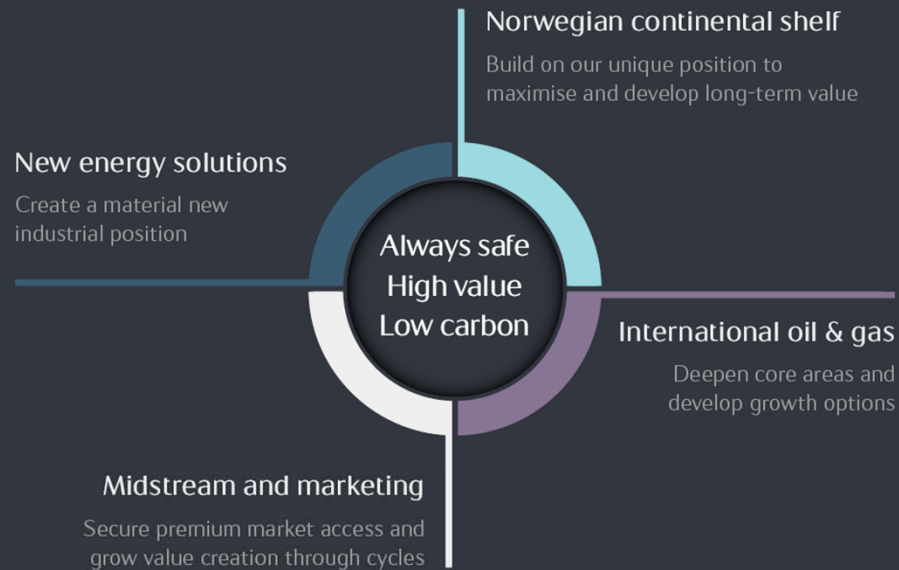
Shaping the future of energy

turning natural resources into energy for people and progress for society

STRATEGIC PRINCIPLES

-  Cash generation capacity at all times
-  Capex flexibility
-  Capture value from cycles
-  Low-carbon advantage

FUTURE-FIT PORTFOLIO



Open Courageous Collaborative Caring

ENABLERS

-  Safe and secure operations
-  Technology & innovation
-  Empowered people
-  Stakeholder engagement




Strategy – positioned for a low carbon future


RESPONDING TO CLIMATE CHANGE

We aim to reduce the carbon intensity of our upstream oil and gas portfolio to **8kg CO₂/boe** by 2030


Aiming to achieve annual CO₂ emission reductions of **3 million tonnes** by 2030 compared to 2017






Industrial position in new energy to **15-20%** of capex by 2030 ^[1]



By 2020 we expect **25%** of research funds to be devoted to new energy solutions & energy efficiency

 **Statoil**. Delivering high value.

Positioned for a low carbon future

Competitive advantage

- Industry leader on carbon intensity
- Stress-testing and transparent reporting
- Resilient in a low-carbon future

Low carbon oil & gas portfolio

- Ambitious CO₂ emission reduction targets
- Exploring for competitive barrels
- Natural gas to replace coal

Industrial position in new energy

- Competitive returns - 9-11%¹
- 15-20% of capex by 2030²
- Maturing CCS³ project in Norway

¹ Indicative new energy solutions, based on existing projects.
² Indicative, based on potential future corporate portfolio.
³ Carbon capture and storage.

Statoil 2018 Capital Markets Update, CEO presentation

Statoil. The Power of Possible

Thank you!

www.statoil.com/energyperspectives

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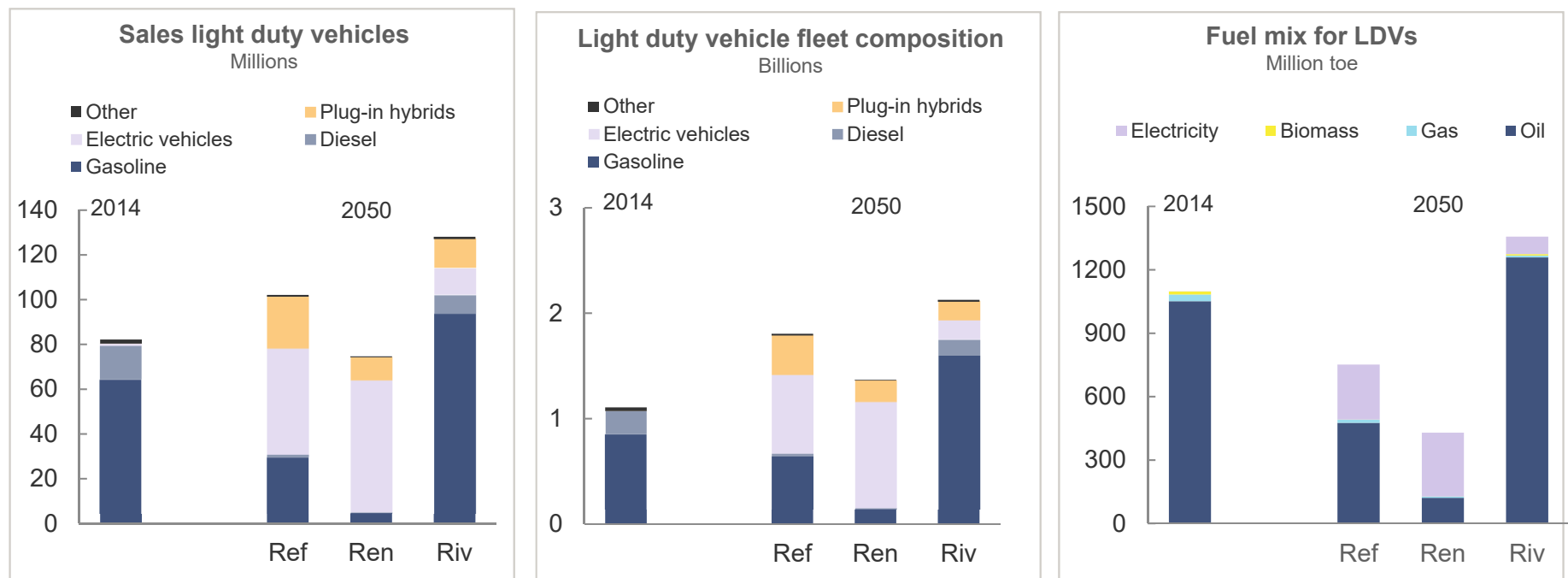


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Technology shift for light duty vehicles

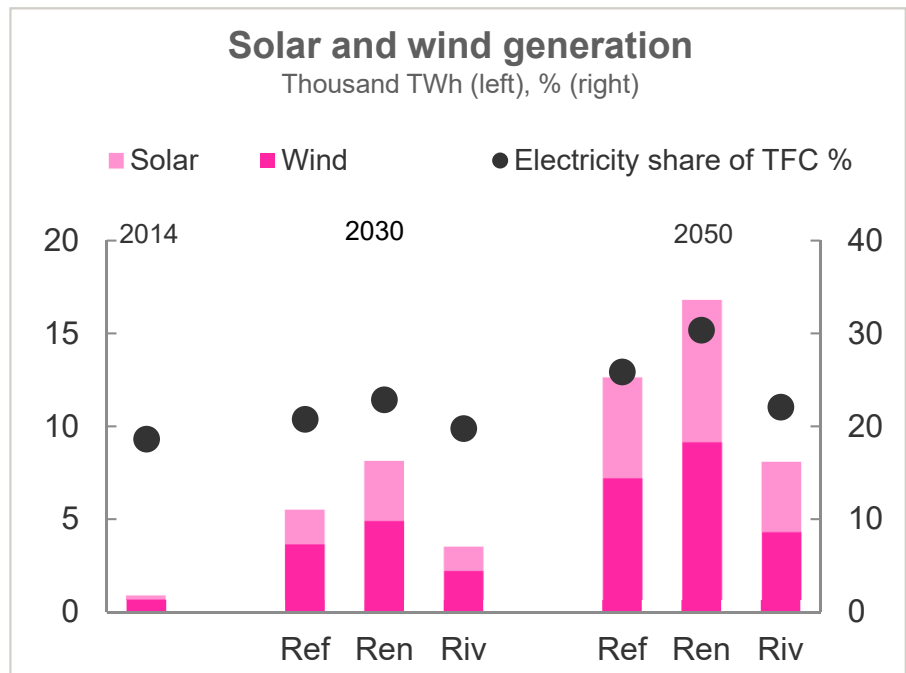
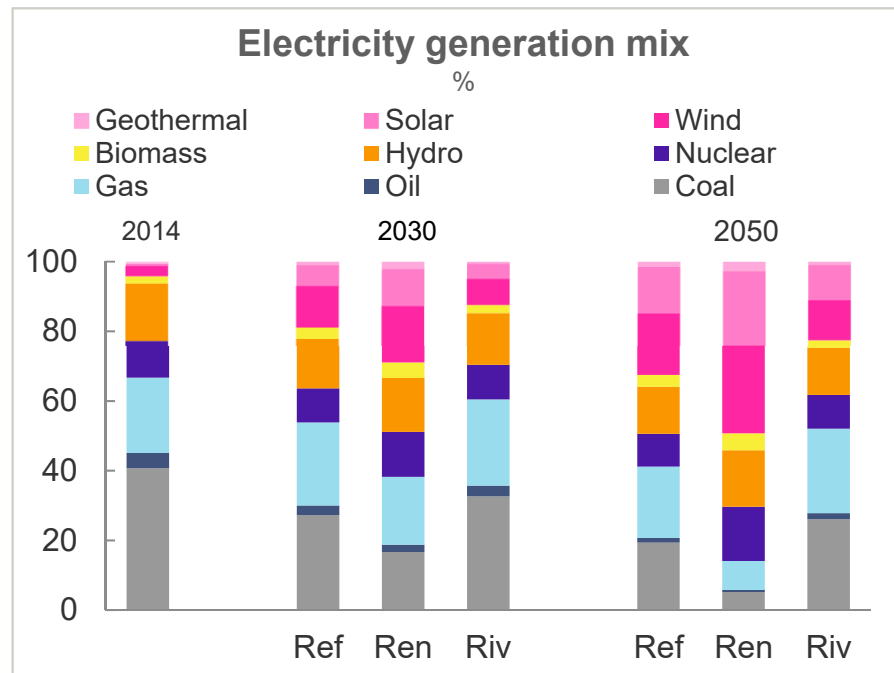
... in all scenarios, and a revolution in Renewal



Source: IEA (history), Statoil (projections)

Decarbonise electricity, and go electric

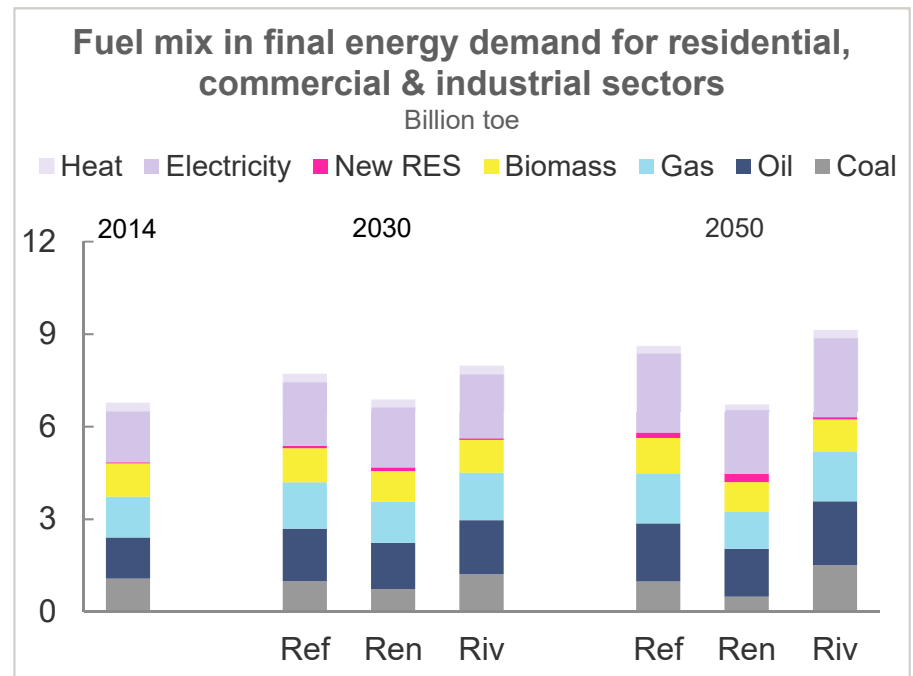
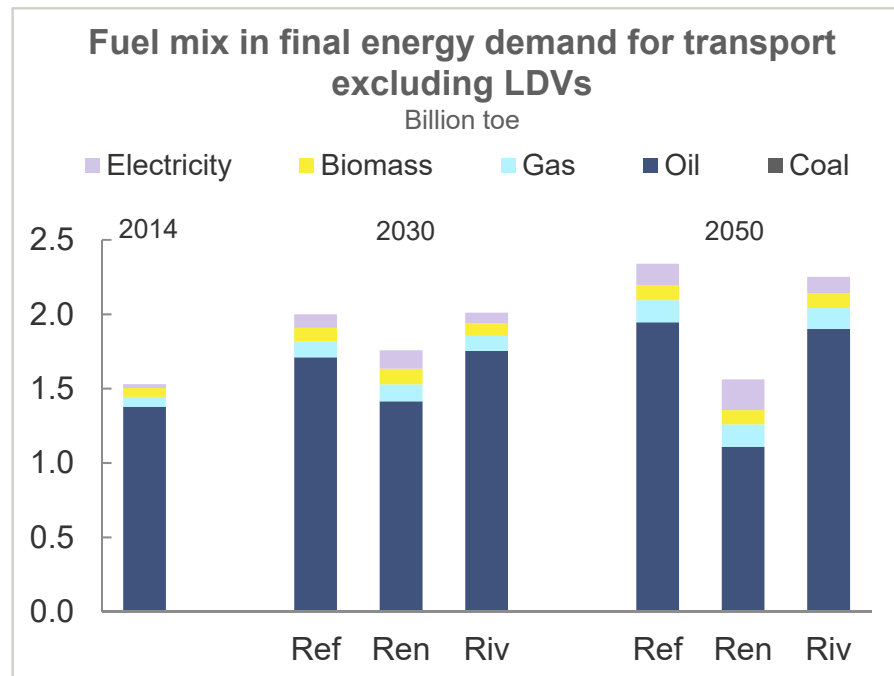
13-doubling of wind, 39-doubling of solar generation in Renewal



Source: IEA (history), Statoil (projections)

Oil and gas dominate in other sectors

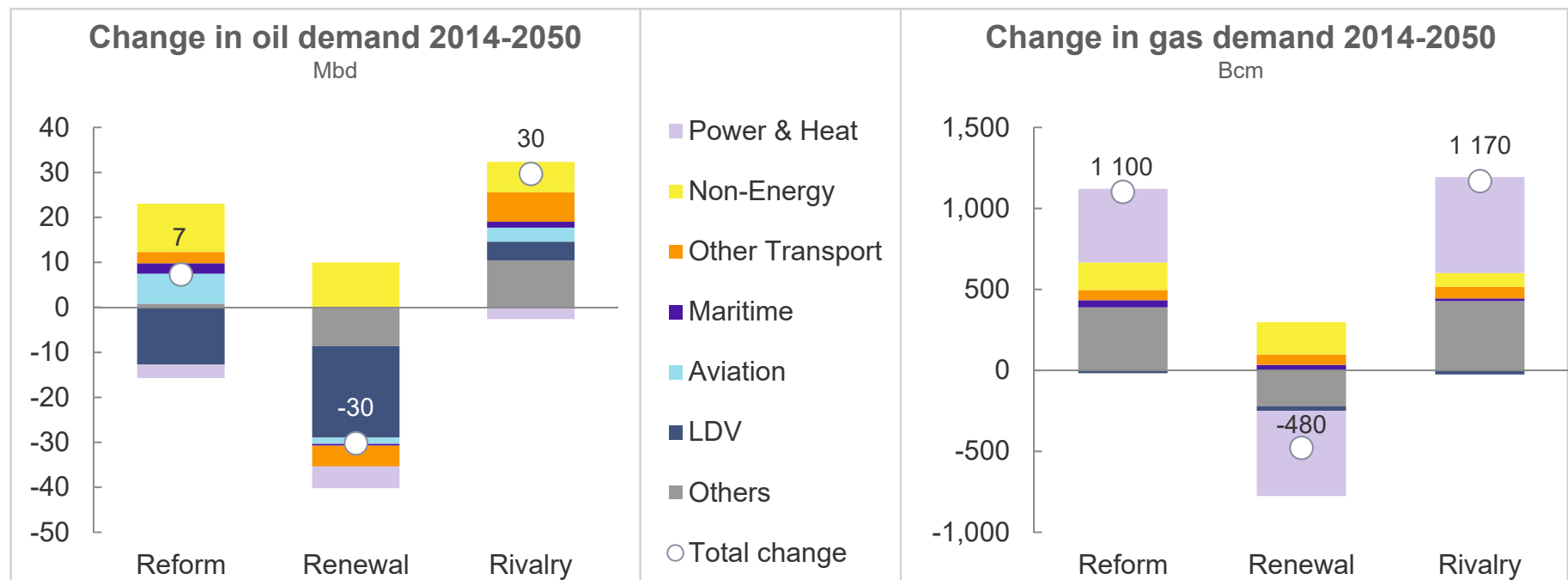
... contributing to maintaining demand for fossil fuels



Source: IEA (history), Statoil (projections)

Global oil and gas demand growth varies

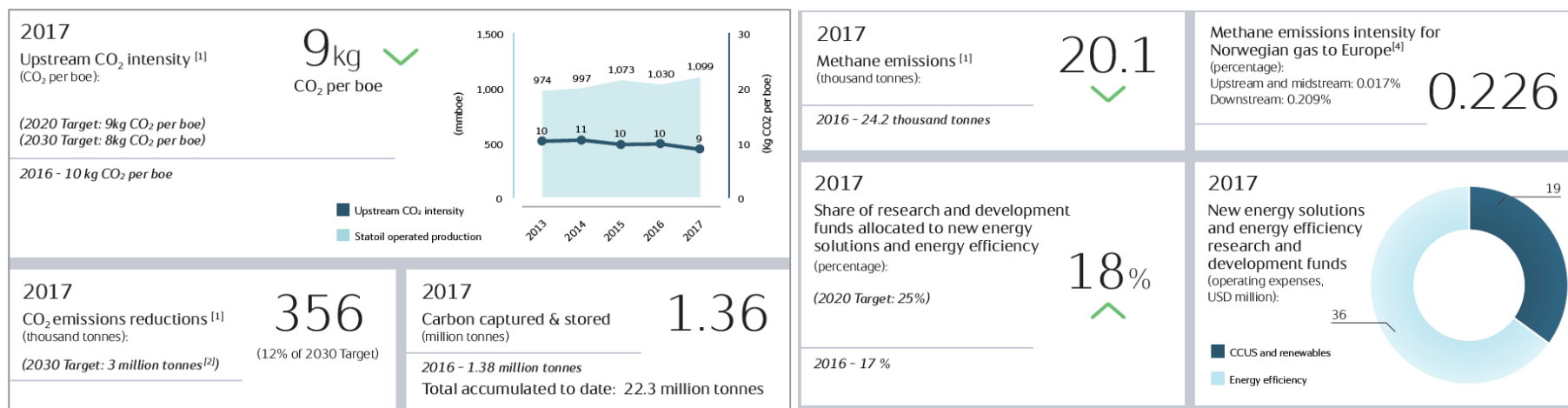
Depending on scenario – but non-energy demand growth is significant



Source: IEA (history), Statoil (projections)

Implementing the TCFD recommendations

Metrics and targets



Statoil 2017 Sustainability Report

- Mature reporting on metrics common in the oil and gas sector
- **Reporting boundaries** a challenge (operated vs equity)
- Relevant metrics to be further matured in **TCFD Preparer Forum**