

BLUE-GREEN CITIES IN THE SPOTLIGHT: BERGEN

How Blue-Green Infrastructure is turning part of Norway's second-largest city into an almost entirely new district.

Co-authored and designed by:

Håvard Prestegården (City of Bergen), Sebastiaan van Herk, Sofia Aivalioti & Amy McCreedy (Bax & Company)

In a large part of the Norwegian city of Bergen, industrial buildings and vehicles are being replaced with Blue-Green Infrastructure (BGI) to support people – and fish. The advantages of open BGI solutions are not new to its city planners, but property developers are now seeing how BGI creates new values.

From Mindemyren to Mindebyen

Mindemyren, just a short walk from Bergen's city centre, has been a grey and almost uninhabited area for decades, populated only by industrial buildings and busy road traffic. However, this marshland is set to be transformed into a new and exciting mini borough - Mindebyen Town.

The city aims to create a compact borough that the public will truly enjoy visiting. An area where citizens can walk, cycle and roam freely –and where people, nature and animals are taken good care of.

Several hundred thousand square metres will be developed with new dwellings and commercial premises, raising the question: **How can you take care of blue-green infrastructures in such an urban environment?**



THE WETTEST PLACE IN EUROPE

Bergen is considered the wettest place in Europe, with an average of **200 (or more) rainy days per year**. Unfortunately, climate change has only led to increased rainfall.

The city has been managing water for hundreds of years and working with open solutions as safer and better alternatives is nothing new to them. However, the Mindemyren project has allowed them to realise BGI solutions in a new, innovative way.



Photo: Lachlan Gowen on Unsplash

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HOPING FOR FISH

Up until today, an intricate system of old water pipes and culverts had existed below the ground at Mindemyren. These are now being opened up to create **a new canal, parallel to the new cycle lane and Bergen Light Rail track**. This is expected to be finished around the end of 2022 when the water will once again see daylight and flow between Solheimsvannet Lake and Kristianborgvannet Lake. To keep this new area safe and well-maintained, a culvert will manage floodwater.



Photo: bringing aquatic life closer to Bergen's new rail track

The entire canal is a concrete construction, but it won't look artificial. **Vegetation will flourish** with bushes and perennials that grow naturally along rivers and streams in the area. No high edges or fences will be built. The water depth for the first metre on each side of the canal will be 20-49 centimetres to maintain safety, and the concrete will be covered with natural stone where possible.

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As of December 2021, the construction of the flood culvert is close to completion. The open channel is also almost ready, with just a small stretch and some planting remaining.

The water utility is in the process of updating the water framework plan for Mindemyren, in accordance with the light rail construction development. This framework applies to water and sewerage infrastructure, surface water management, and flood roads, etc.

The water utility is also in the process of preparing a flood zone map from Mindemyren to Nordås Lake. This is to reduce the future risk of unwanted incidents related to flooding, and to allow for fish to enter the canal at Mindemyren.



Photo: Mindemyren construction in July 2021

More interdepartmental cooperation

Fifteen years of experience with Interreg projects has resulted in more interdepartmental cooperation in the City of Bergen.

As part of the interdisciplinary and interagency collaboration, and the BEGIN project, a municipal stormwater management plan was developed for Bergen, the first municipality in Norway to have such a plan. It ensures that BGI is the mandatory first choice for all new developments.

Interdepartmental cooperation also works at the project level. Several municipal departments contribute their expertise to the urban regeneration project in Mindemyren where, for example, light rail development, property development and environmental management will take place simultaneously. As part of the BEGIN project, a dedicated working group was formed for the various municipal disciplines to meet each month. The collaboration and pilots have led to tighter bonds between departments and, overall, placed BGI higher on the agenda.

Participation in EU projects, such as the BEGIN project, has contributed to the recognition of Bergen as one of the best climate adapters in Norway. This work has also inspired more blue-green solutions across the city. International collaboration also led to a different solution for the planned BGI in Mindemyren. The politicians, who adopt plans for the future development of the city, have profoundly recognised the importance of BGI.

Dialogue with citizens and developers

Several informative public meetings were held during the work on Mindemyren. One problem associated with involving residents in the design and development of the borough is that **very few people actually live in the area currently**. Therefore, the developers are first and foremost today's external stakeholders. In addition, **the whole population of the city was invited to reflect the interests of future residents**.

When the planning of Mindemyren started, it was assumed that the share of commercial activities would be somewhat high. This has now changed, as there will be a much higher portion of dwellings. It has been difficult to manage the transition, but **blue-green solutions help us all – people, animals, and the environment alike**. Creating small parks - or green lungs - in open spaces where people can roam freely will make Mindemyren more attractive as a residential area. The BEGIN project has also contributed to property developers viewing BGI not just as an expense, but as something that creates additional value from which they may profit.

This shift in attitude towards BGI is crucial in both the public and private spheres, as our initiatives are most successful when all stakeholders are on board.



All of this work has been conducted in the framework of the **BEGIN project**.

To take a closer look at the development of the Mindemyren area, [watch this video](#) on the Bergen Kommune YouTube channel, featuring BEGIN consortium member Magnar Sekse.

For more information, contact:

Håvard Prestegården (Bergen Kommune): Havard.Prestegarden@bergen.kommune.no
Ellen Kelder (BEGIN Project Coordinator): ETG.Kelder@dordrecht.nl

Bergen's story supports BEGIN's 4 recommendations for successful BGI implementation. For further information read the **BEGIN Policy Brief** at: baxcompany.com/begin-policy-brief/