

LIVING CITY, LIVING SEA

Fagerstrand has enormous potential as an area in development, with its proximity to Oslo, the west-facing slope and location along the Fjord. The natural and cultural heritage of Fagerstrand acts as a catalyst for sustainable development in which urban development and preservation of flora and fauna form a healthy balance above and below sea level. The unique geographical conditions of Fagerstrand and its rich industrial history, provides the opportunity to create an attractive place to live and work. In light of the environmental crisis, it is hard to propose a new development without addressing the growing biological challenges on land and in the fjord. Fagerstrand should become a role model in sustainable development, circularity and new ideas in urban development – and create new habitats for all living species.

We propose 4 pillars for a new, green, living Fagerstrand:

1

Healthy fjord

The Oslo Fjord must be saved and the most important measures are interventions on land. Prevention of harmful substances and toxins leaking into the fjord are the most effective interventions to start the restoration project. Preservation of existing vegetation and natural landscape, restoration of local habitats and new systems for water management are all effective measures – which will provide better living conditions for living species in the water and on land.

2

Productive city

Industry is often neglected or viewed as incompatible in urban development. Fagerstrand has a rich industrial history and remnants of the oil age still dominate the waterfront. With emerging automation and new types of industry, the trend of relocation is about to reverse. The electrical revolution and lessons learned after the pandemic have resurged the Norwegian village as a place to live, work and produce. This entry examines how sustainable production, value creation and innovation can co-exist with urban development. A sustainable development where the old and new industrial landscape is woven together with urban settlement - creating a productive city in keeping with Fagerstrand's identity.

3

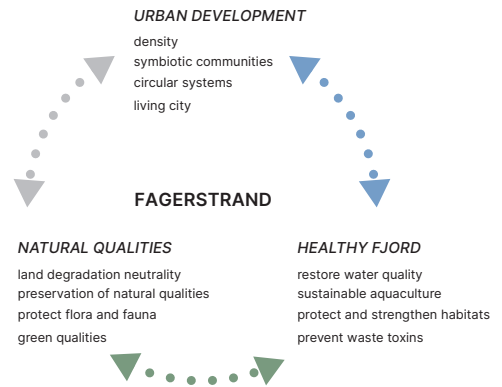
Green mobility

Our proposal prioritises health-promoting, low-emission and space efficient mobility. The existing infrastructure for cars is kept intact, while new investments are investments in green mobility. A green connection serves as a recreational path for humans and other living creatures. It works a connective tissue between the seaside, the housing areas, the local center and Bakkelokka. The public transport network is strengthened with the creation of mobility hubs at strategic sites, providing parking spaces and e-rental fleets in close proximity to all inhabitants. Electric ferries connect Fagerstrand to Oslo, as well as to adjacent villages at Nesodden and Drøbak.

4

Living city

At Fagerstrand, we connect land, sea, industry and urbanity. All valuable natural and built structures are preserved and strengthened in order to revitalise the fjord, the natural landscapes, conserve resources and create an identity. Existing landscapes, with a particular emphasis on important habitats, are protected. A weaving of urban structures with natural landscapes provide better living conditions for all species, above and below sea level. House-buyers are usually forced into choosing between urban apartments without natural qualities and single family houses without urban qualities. The proposal suggest typologies that combine both. A dense and urban area in close contact with the fjord and its green surroundings.



A living, productive city by and in the fjord.

Fagerstrand marries industry and urbanity, land and sea. The area becomes an active place where life, work and leisure find a healthy balance. Historical remnants from the oil age are woven together with urban and natural fabric to form a city with a unique identity and attractive living conditions in the green and blue.

1 Healthy land, healthy fjord

Some of the most important measures to save the fjord are interventions on land, according to *Bellona* and *the Institute of Marine Research / Havforskningsinstituttet*. Large amounts of waste substances, environmental toxins, nitrogen and microplastics are flushed out into the fjord due to inadequate water treatment plants and poor surface water management. As urban planners, we have a responsibility and the opportunity to consider both land and sea in urban development.

Preservation and green/blue-structures

Fagerstrand is strategically located for water-related industry because of its location at the waterfront, the proximity to Oslo and the short distance to low-density inland. The entry proposes an aquacultural facility and marine research center at the northern part of the sea side. We propose a closed loop fish farm, without the problems of waste and diseases as in traditional fish farming. A fish farm can be integrated in a circular system using waste from the fish to produce fertilisers for soil and production of biogas. Promising new research on growing worms by using food waste to create fish food should be considered.

Delay, retain, re-use, store

One of the most important measures to protect the fjord is to manage rain and excess water. To achieve this, the entry proposes several remedies to delay, retain, re-use and store excess water. Rain water basins are placed at the lower edge of the housing area with gardens and permeable surfaces, utilising the naturally sloping terrain. In cases of extreme weather, the existing steel tanks are used as temporary water storage. Preserving existing forests and vegetation, as well as establishing new green structures, will absorb excess water. Water is a valuable resource, and the project proposes a system to re-use grey water for toilets and irrigation for resource conservation, as well as a protective measure for the fjord and natural landscape.

Circular water treatment system

A new local water management system should be established. Today, waste substances, environmental toxins, nitrogen and microplastics are flushed into the fjord from excess surface water, leakage from water management plants and from local agriculture. Nesodden has poor access to fresh water which is currently imported, with pipes going across the fjord. The pipe network is in poor condition. A new, local water management system could protect the fjord, provide a reliable access to clean drinking water from local wells and utilise grey and black water as a valuable resource for irrigation, fertilisers and biogas production. Water management in Fagerstrand should be handled locally. Closed loop systems conserve resources and protect nature and sea from harmful substances and contamination.

2 Productive city

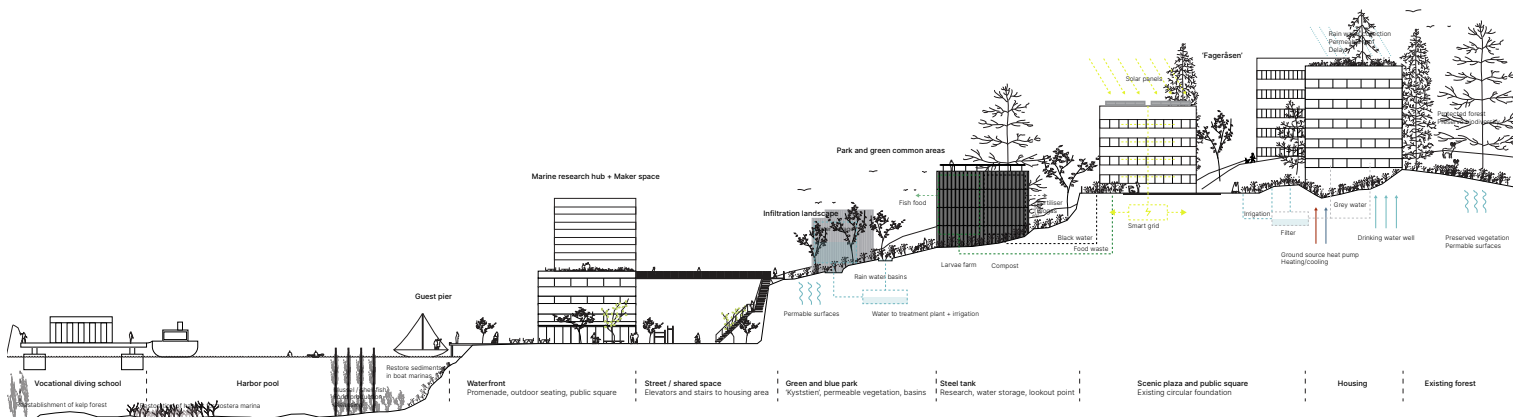
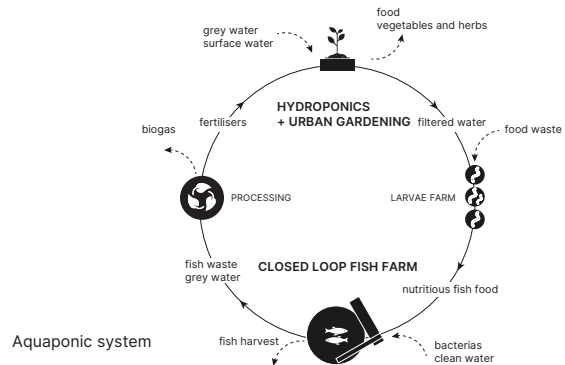
Industry and production are often neglected or viewed as incompatible in urban development. With the relocation of industry and large workplaces, we are at risk of losing potential urban qualities, professional networks and knowledge exchange, leaving empty sites that are being developed increasingly similar and generic. The industrial facilities and the marine life along the waterfront are intrinsic to Fagerstrand's identity and history. With the emerging automation and industry 4.0, the trend of relocation is about to reverse. Fagerstrand is strategically located for water-related industry because of its position at the waterfront, proximity to Oslo and Ås, as well as the short distance to low-density inland. We envision Fagerstrand as a possible research satellite connected to science networks at the Norwegian University for Life Sciences(NMBU) in Ås. The entry proposes a framework for innovation, marine research and aquaculture – interweaving with urban life.

Innovation district

At the water front, the spirit of innovation and production is cultivated. Intelligent laboratories, networking and the development of prototypes create future-oriented common areas for co-production and innovation, with a particular emphasis on marine-related research. All valuable structures are preserved and transformed into new types of industry and production - taking advantage of a shared machine park and facilities for prototyping. The existing diving school remains an important part of Fagerstrand's commercial activity and is included in the future plans for the area.

Aquaculture

Larger production facilities are strategically placed at the northern part of the site, strategically located away from the housing areas and with a separate network for deliveries. The entry proposes a closed loop fish farm and a facility for growing mussels. Innovative aquaculture enters into the productive cycle of Fagerstrand, utilising food waste as a resource to grow fish food, and in turn provide grey water and fertilisers for local food production. Mussels cleanse the fjord for harmful chemicals the treatment plant cannot fully remove.



Section Strategies for restoration of the fjord, urban waterfront, a green infiltration landscape and porous housing ensembles in the green.

3 Green mobility

Naturban prioritises health-promoting, low-emission and space efficient mobility. A green corridor serves as a recreational path for humans and other living creatures, as well as the most important connective tissue between the seaside, the housing areas, the local center and Bakkeløkka.

The new area is planned with separate networks for soft and hard traffic. Fagerstrand is closely linked to adjacent villages by a well-functioning bus network. The new development should include an electrical ferry, connecting Fagerstrand to Oslo in the north and Son/Drøbak in the south as a part of the ongoing plans for the Fjord City.

Skogheimkrysset

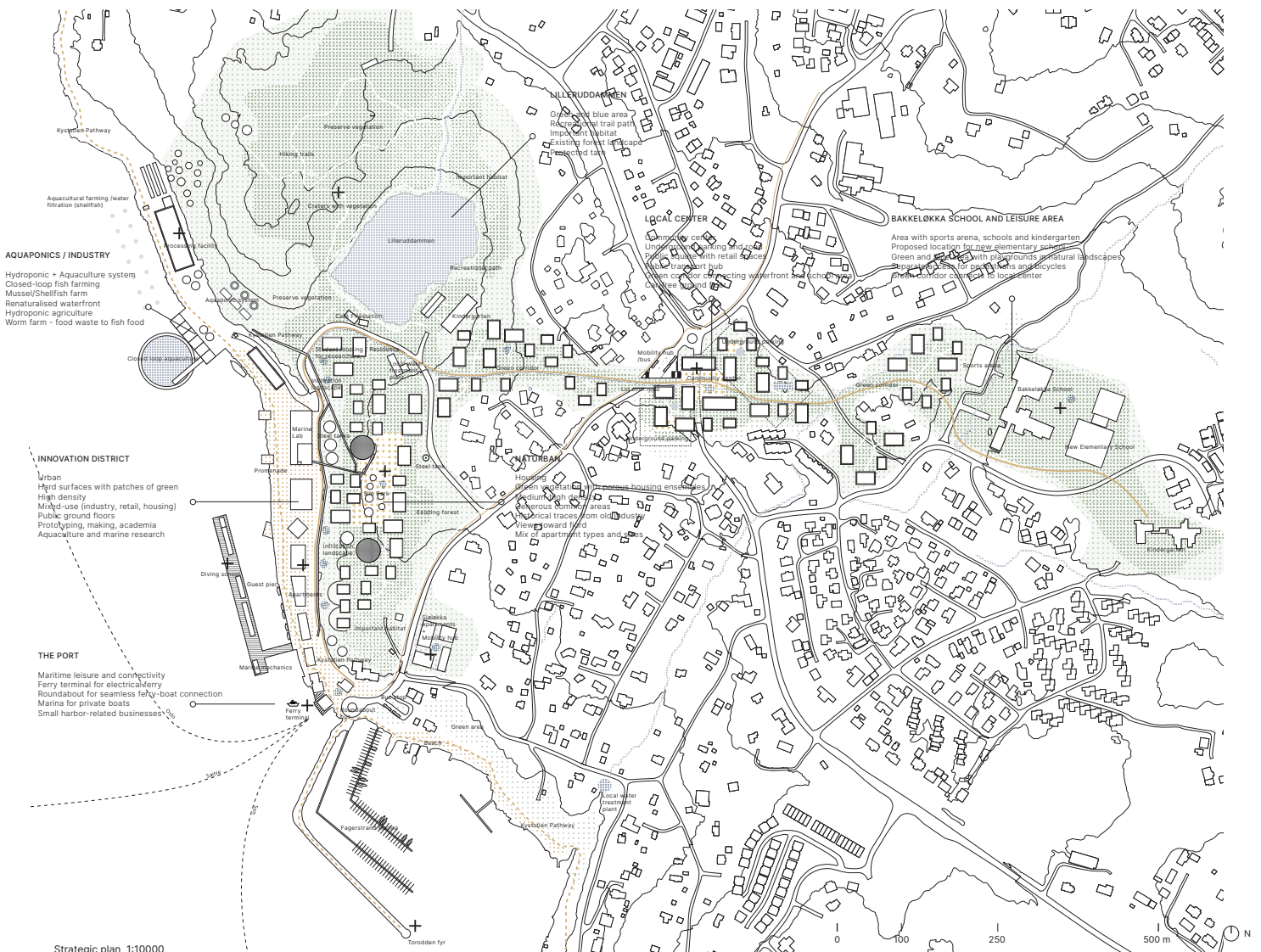
The central junction at Skogheim is the main barrier to create a coherent Fagerstrand, connecting today's centre with the seaside in the west and Bakkeløkka, with school, kindergarten and sports area in the east. Fagerstrand's main social arena should be focused where people want to spend time, along the waterfront. Still, Skogheimkrysset is strategically placed as a local center with functions that generally require parking spaces and easy access – doctor's office, dentist, hair dresser, larger grocery stores etc. It is also where the most important roads to the adjacent areas meet, which makes it well-suited as a mobility center. Today's junction is dangerous and inefficient. We propose to redirect the road from the east to go under ground and create a new junction as a roundabout outside of the area for commercial and recreational activities. A parking basement provide parking spaces and the opportunity for an idyllic local centre without barriers. A green bridge/lid across the road connects the school/leisure area with the seaside and prioritises pedestrians and cyclists.

Environmentally friendly and efficient mobility

The proposal suggests separate connections for soft and hard traffic, with a green corridor exclusively for bikes and pedestrians. The green corridor connects the waterfront with Bakkeløkka, via the local center and the Naturban housing quarters. Strategically placed mobility hubs provide parking in close proximity to all housing units, which ensures a car-free areas in the most important areas of the site. Access to rental bikes and an e-fleet in the mobility hub creates an alternative to private car ownership in Fagerstrand.

Local and regional mobility

Skogheimkrysset is strategically placed where all bus lines meet and should be developed as a local centre connecting Fagerstrand to adjacent villages. As a part of future development of a ferry network, a bus loop is added to make the connection between the fjord network and bus network seamless, a solution that is very successful at Nesoddtangen today. The fjord should be developed as the main access to regional attractions - Oslo, Bærum and the islands in the Oslo Fjord.



4 Living city

Natural structures are preserved in order to protect the fjord, conserve biodiversity and adapt to climate change. Existing forests, with a particular emphasis on important habitats, are preserved. The area is dominated by a mixture of natural and fabricated landscape that provide a network of green and blue paths. This network provide a coherent landscape that permeates Fagerstrand, physically and culturally. A weaving of urban structures and natural landscape, by protecting and re-naturalising the natural landscapes provide better living conditions for all species.

Land degradation neutrality

The proposal attempts to reduce land degradation by focusing the urban development within the old industrial facility. Important habitats are maintained in order to preserve wildlife and biodiversity. The large forested area around the tarn is left untouched and offers an idyllic recreational trail. Degradation as a result of densification at Skogheimkrysset

is compensated by re-naturalising the industrial property north of Lilleruddammen, balancing the aim to develop a coherent Fagerstrand with sustainable development.

Naturban - living spaces for people and wildlife

The meandering green and blue landscape connects the area as a whole, with larger patches for natural vegetation and wildlife, as well as smaller paths and green squares for neighbourly activities. All housing units have direct access to a common green area or untouched forest. The porous ensembles of compact housing blocks maximise views and glimpses toward the fjord. Density and proximity to urban qualities is combined with rural life – access to sunlight, green areas, wildlife and generous common spaces. The blue-green ecosystem promotes biodiversity, recreation, health and social networks.

PROGRAM

Fagerstrand should become a mixed-use city where dwelling, recreation and production form a healthy balance. The waterfront becomes the innovative district. New housing structures are planned as compact ensembles with a range of apartments in different sizes. The building ensembles are connected with green and blue paths and are surrounded by vegetation. Large public functions are gathered at Bakkeløkka with a school district and sports facilities.

STRUCTURE

All valuable built structures are preserved in order to revitalise industrial culture, conserve resources and create an identity in keeping with Fagerstrand's history. The steel tanks are woven into the urban fabric and utilised for industrial purposes, as water storage for excess rain water and as historical remnants within the common areas. Existing industrial facilities are largely kept and transformed into new production sites, offices and workshops. New structures are planned as porous apartment buildings with access to green areas, balancing urban density and suburban, natural qualities.



INFRASTRUCTURE

Fagerstrand should become a mixed-use city where dwelling, recreation and production form a healthy balance. The waterfront becomes the innovative district. New housing structures are planned as compact ensembles with a range of apartments in different sizes. The building ensembles are connected with green and blue paths and are surrounded by vegetation. Large public functions are gathered at Bakkeløkka with a school district and sports facilities.

GREEN AND BLUE STRUCTURES

The green connection serves as a recreational path for humans and other living creatures, as well as a connective tissue between the seaside, the housing areas, the local center and Bakkeløkka. Existing forests, with a particular emphasis on important habitats, are preserved. The green connection is a mixture of natural and fabricated landscape that provide a network of green and blue paths. This network provide a coherent landscape that permeates Fagerstrand, physically and culturally.

