

Pilotproject Anloërdiepje

The impact of climate change is a pressing issue that poses significant challenges to various aspects of our environment, economy, and society as a whole. One of the critical areas affected is ground water resources. These are indispensable for drinking water, agricultural irrigation, and maintaining natural ecosystems. Alterations in precipitation patterns and the increased frequency of extreme weather events can disrupt the natural recharge of groundwater reserves, leading to potential shortages and affecting water quality.

Agriculture, a cornerstone of human existence and economic activity, is particularly vulnerable. Climate change can cause shifts in growing seasons and intensify drought conditions. These changes can threaten food security and livelihoods, necessitating the development of adaptive strategies and resilient agricultural practices. Moreover, nature reserves - vital for preserving biodiversity and ecosystem services face significant stress due to climate change. Rising temperatures, changing precipitation patterns, and cultivated land use changes can lead to habitat loss and fragmentation, endangering many plant and animal species.

Land use plays a crucial part in this complex interaction. Urbanization, deforestation, and agricultural expansion can exacerbate the impacts of climate change on groundwater, agriculture, and natural habitats. Effective land use planning and sustainable management practices are essential to mitigate these adverse effects and promote environmental resilience.

Overarching European policies play a vital role when dealing with the above. However, convinced that we need to start with place-based solutions, and then create a (transnational) setting to facilitate upscaling innovative solutions. This is central to the Blue Transition project which now reaches all across the North-Sea-Region - from Sweden to south of France.

Blue Transition targets a systemic change, by integrating water and soil management to better adapt to climate change, securing and improving groundwater resources. We aim to ensure the future availability of good-quality water while helping to revitalise natural habitats and reduce CO₂ emissions.

With this brochure, we want to share our progress, and the current status of all our pilots. This includes an overview of the methods applied, the results already achieved and the road ahead.

We hope you enjoy the read!

The Blue Transition Partnership

SUMMARY

The Blue Transition project is set up with 16 pilots. Each of these pilots connect gathering new knowledge (e.g. through geophysical measures and modelling or mapping), with practical application, such as testing field measures or developing short- and long-term strategies. We develop transnational solutions for water boards, farmers, authorities and citizens to enable land-use change in urban areas, forests, farming land, wetlands, peatlands and nature protected areas.

The Blue Transition pilots are structured by three central types of landscape. However, an important aspect of the project consideration for the interaction between the landscape and the correlation to climate change.

Urbanisation is a major development in coastal areas worldwide. In four pilots we deal with vulnerable dune areas and sustainable land-use, improving rainwater infiltration, developing protection against heat and floods, understanding the interaction between lakes and groundwater and supporting the development of a green economy park.

It appears that secure food production is difficult in combination with the preservation of soil, groundwater and natural areas. In six pilots we deal with rewetting peat land to reduce carbon emissions, humus oriented organic farming, balanced groundwater extraction for irrigation, salinization and fresh-water conservation and land-use conflicts.

Protecting natural areas to preserve biodiversity, their ecological state and ecosystem performance is a central target from many perspectives. In five other pilots we deal with rewetting of peatlands, finding a compromise between groundwater use for municipalities or agricultural purposes and natural areas, and understanding the impact of land-use change for lake water.

Blue Transition started in October 2022, and we're now half way through our project. We've acquired a huge amount of new data, reviewed existing data and tested innovative techniques and measures ranging from geophysical surveys and hydrological measurements to the installation of new weirs. Building models and simulating scenarios is currently an important task in most pilots - early results are already available. In parallel and closely related to the context of data and

governance in each pilot or region, the consortium is developing strategies to develop whereby the pilots' water balance is central, to develop climate adaptation measures usingg water and soil as a guiding principal.