

PILOT SITE DESIGN

KWETSHAGE

WEST-FLANDERS, BELGIUM



The pilot site Kwetshage is situated between the cities of Brugge and Oostende. Apart from a reed marsh of 4 ha, the area is currently used for agriculture, mainly grass for grazing and a limited area for arable crops (maize). The area is also used for local water management. The land is the property of the Agency for Nature and Forests, they manage it with the waterboard 'Nieuwe Polder van Blankenberge', the Province of West-Flanders and local farmers.

The pilot area is situated in the transition between the polders and higher grounds with sandy substrate. The area serves as a flooding area for excess water coming from the higher grounds. Surface water is evacuated to a canal by a pump situated 1 km from the pilot area.

Ground water levels are near the surface during winter and spring and drop to max. 50 cm under surface level in summer. In summer there is a small to moderate seepage of groundwater to the surface. An extensive hydrological study was performed in 2015, including an extensive analysis of chemical parameters on surface water, ground water and soil.

Size of pilot site: 90ha

Peatland type: Decomposition in upper layer

Land use: Mainly agricultural use (grazing)

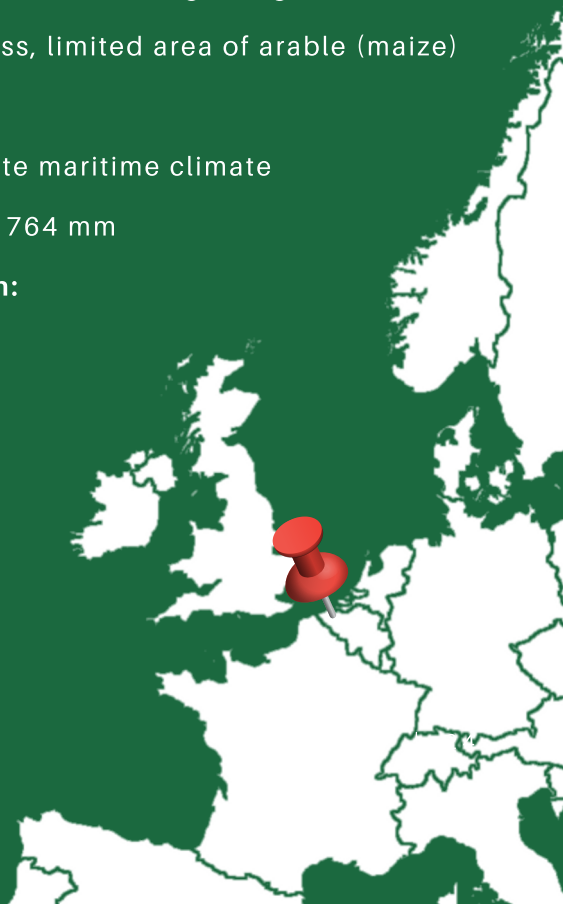
Crop type: Mainly grass, limited area of arable (maize)

Water level:

Climate type: Moderate maritime climate

Total annual rainfall: 764 mm

Target CO2 reduction:



CHALLENGES

In a part of the pilot, an autonomous rewetting has occurred during the past 10 years due to overdue management of ditches. This has resulted in a mismatch between the unchanged management of the parcels and the harvesting conditions and change of type of biomass.

Rising the water level will increase restrictions for farming, and in some parts of the pilot area, farming will not be possible anymore.

GOALS

- Water level is currently still managed according to demands for agriculture and water management. It is intended to rise the water level in the entire pilot area during the next coming years.
- A rewetting of the entire pilot area will be established.
- 50 ha of high-quality reed marsh to be created.
- Increase nature conservation, biodiversity and water management.
- Introduce further agricultural practices: Animal feed, animal bedding, composting of biomass.

BUSINESS MODELS

There is an array of possibilities of using biomass from the site, A characterisation of the different types of biomass in the pilot will be performed in order to determine other feasible business models. On-farm composting of the biomass of rewetted land and using the compost for increasing C-stock levels in agricultural land is a possibility, but only after new legislation is put into place (2019).

PILOT SITE TIMELINE

End 2019: Characterisation of the different types of biomass in the pilot

2020: Analysis of possible agricultural practices, nature conservation, biodiversity and water management

2020: Create an area of approximately 1 ha for nutrient extraction of surface water before entering the reed marsh. 50 ha of high-quality reed marsh to be created.

End 2020: Additional parcels will then be added to the pilot site

From 2020: There will be a major rewetting of the area from 2020 onwards. Major rewetting of the area from 2020 onwards.

Autumn 2020: New round of peatland analysis. Analysis of results and potential for altering practices

<https://www.nweurope.eu/projects/project-search/cconnects-carbon-connects/>

