Power to the Peatlands
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The future of the Green Heart (the Netherlands)

A participatory approach to explore pathways for a sustainable multifunctional peatland

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THE PROBLEM

- The Green Heart is a **peat meadow** area in the Netherlands, mainly used for **dairy farming**
- Dutch peatlands must reduce 1 Mton CO_2-eq by 2030, in response to the **Dutch Climate Act** (2019)
- This requires **rewetting** and drastic land use change

THE GOAL

Explore:

- Future visions for a **sustainable Green Heart** and possible **pathways** towards 2100
- The **process of decision-making**
- The use of the **simulation tool RE:PEAT**
- How to **meet the reduction target**

APPROACH

Two workshops were organised with **experts and stakeholders** from the Green Heart

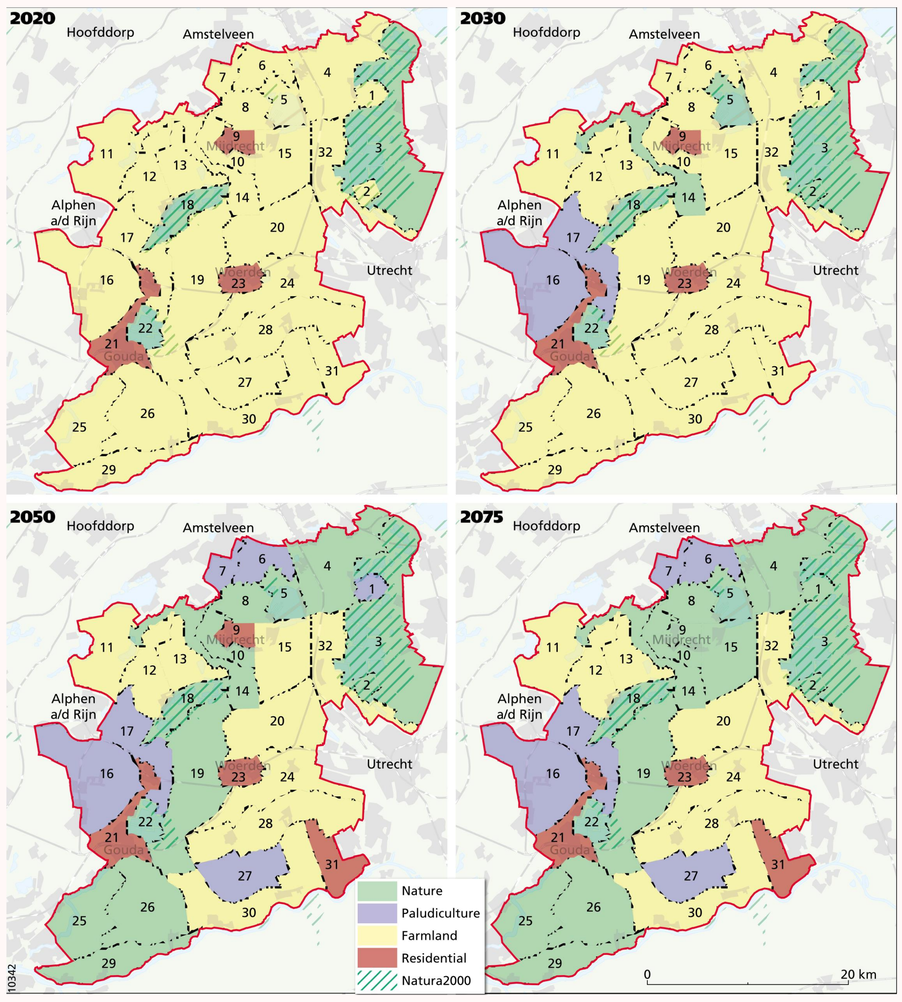
Workshop 1 (January 2020):
- Goal to create a vision for 2100
- Individual scoring and plenary discussion
- Focus on sustainable land use, using informative maps

Workshop 2 (April 2022):
- Goal to design transitional pathways
- Plenary discussion
- Focus on meeting reduction target, using RE:PEAT

PATHWAYS TOWARDS 2100

Workshop 1:
- The most important elements of the **future vision** for 2100 are:
  - A **nature belt** connecting current Natura 2000 areas
  - A decrease in **farm land**
  - **Paludiculture as buffer zone** between nature and farm land
  - Possibilities for **renewable energy**

Workshop 2:
- Pathways were **developed with RE:PEAT** based on:
  - Land use and water level
  - Sub-area characteristics and appropriate timesteps
- The tool RE:PEAT:
  - Served the discussion with **instant feedback** on the choices
  - Provided output for **soil subsidence** and **CO_2-eq emissions** per sub-area
  - Showed that **land subsidence can stop** around 2050 and **GHG emissions can be reduced** by 37% in 2030



Future vision for 2020, 2030, 2050 and 2075 (2100 is equal to 2075)

KEY LESSONS

The developed future vision for 2100 is:
- Highly **ambitious**
- Likely **influenced by the group of participants**
- Expected to have **low public support**

The process and the use of RE:PEAT:
- Made **discussion and negotiation** possible
- Showed that an **objective tool** stimulates in-depth discussions
- Could become **more complicated if more stakeholders** are involved
- Revealed that **drastic land use is needed** to meet the national reduction goals

FUTURE OPPORTUNITIES

Possible workshops could be organised:
- **Expanding representative stakeholders** (e.g. children, animals or nature itself)
- Including **other elements**, such as social support, water quality or nitrogen

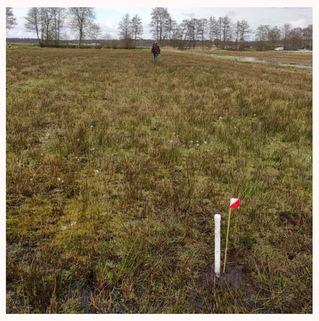
A sustainable Green Heart depends on:
- Maximum **flexibility** of inhabitants
- Continued **development of other land use forms**, including paludiculture
- **Political action**

TRANSITIONING FROM FARMLAND TO WETLAND?

Dairy farming meadow, Green Heart, May 2022

Paludiculture with peat moss, Ilperveld, May 2022

Rewetted nature reed, Mijdrechtse polder, June 2022



Rewetted nature with floating mats, Westbroek, April 2022

References

1. Van Mulken, M.W.E., Di Fant, V., Van Hardeveld, H.A., Scheifes, D.J.P., Dieperink, C., Schot, P.P., Wassen, M.J., 2023. De toekomst van het Groene Hart: een participatieve aanpak voor het verkennen van een duurzaam landschap. Landschap, 2023 (2), 67-75
2. Van Mulken, M.W.E., Van Hardeveld, H., Van den Ende, M.A., Koster, R., Wassen, M.J., 2023. Op weg naar een duurzaam Groene Hart: het ontwikkelen van een toekomstvisie met behulp van RE:PEAT. In review.

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