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What are the (diss-)similarities between coal phase-out and rewetting agricultural used peatland?

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To fulfill the climate protection targets, Germany needs to follow a greenhouse gas emission reduction pathway with sector-specific targets being legally anchored in the national climate protection law in 2019 and revised in 2021. The exit from coal-based electricity generation, enacted in Germany in 2020, was a necessary measure to achieve the emission reduction targets prescribed for the energy sector.

Drained peatlands (organic soils) are now the largest single source of greenhouse emissions within the land-use-sector. In order to be able to use peatland soils, they were drained in the past. Much of the area is currently used as intensive farmland and cause now annual emissions of 42 million tons CO₂-equivalent (total emissions from drained peatland 53 million tons CO₂-equivalents). Therefore, a necessary measure is to rewet the drained peatland area almost completely.

This paper contrasts the similarities and differences between the enacted phasing out of lignite and rewetting agricultural used peatland. The aim is to examine whether the phasing out of lignite can serve as a model for a rewetting policy framework. Furthermore, a politically justified funding from the public sector for peatland rewetting is derived.

For the comparison the PESTLE-method is applied, systematically dividing the influencing factors of a policy decision into six categories (**p**olitical, **e**conomic, **s**ocial, **t**echnological, **l**egal and **e**nvironmental).

Examples of similarities in the respective categories are:

- **Political:** measures being necessary for political coherence, need for socially acceptable transformation, long-term strategy for planning reliability;
- **Economic:** geographic concentration, security of supplies, economic costs, direct and indirect benefits;
- **Social:** structural change, socio-cultural dimension, fear of unemployment;
- **Technological:** in soil stored carbon, intervention in the water balance, need for investments and water management;

- **Legal:** obligation by climate protection law, encroachment on ownership;
- **Environmental:** source of emissions, negative impact on other environmental media, complexity of caused environmental damage.

Similarities that are important for the political design of the rewetting pathway can be seen in all six categories. Therefore, the cumulative CO₂ saving potential of the phasing out of lignite is used to determine a corresponding budget for the nationwide peatland rewetting. To finance the phasing out of lignite electricity generation, the government offered a financial volume of 47.15 billion Euro, funding structural aid, compensation payments and transition support for miners. This financial volume we used as indication for a social willingness to phase out this technology.

We calculated the potential payments to rewet the entire cropland and grassland area on organic soils in Germany by 2040, 2045 and 2050 using the CO₂-abatement potential (based on the National Inventory Reporting of Germany to the UNFCCC from 2019), resulting as 16.6 billion Euro in total for an exit pathway by 2040 (equivalent to 15.51 billion Euro for 2045 and 14.36 billion Euro for 2050). The resulting budget is seen and defined as a politically justified funding from the public sector. This suggests that the to-date financial volume of 330 million Euro (until 2025) being allocated from the federal government's energy and climate fund, might be insufficient to cope with this fundamental challenge.