



Milestone: Competition status analysed

Realistic cases were integrated with the ECo concept (co-SOEC, methanation, heat integration) and the commercial potential, environmental impact, and favourable framework conditions were analysed

1. Cement plant with CO₂ capture using oxyfuel process:

- ✓ Substitution of needed fossil fuel
- ✓ Provision of oxygen for the oxyfuel process
- ✓ CO₂ utilisation from the oxyfuel process

2. Thermal gasification plant with CO₂ capture and methanation:

- ✓ Additional methane production from the same biomass amount
- ✓ CO₂ emission reduction

3. Waste-based biogas production plant: CO₂ separation, co-SOEC and methanation, heat integration

- ✓ Additional methane from the same biomass amount
- ✓ Substitution of fossil fuel in the biogas process
- ✓ CO₂ emission reduction

➤ **Main capital cost factor: ECo (SOEC) unit**

➤ **Most important framework conditions: characteristics of the electricity source (nature, price, availability) and the CO₂ (taxes, etc.)**

The details of the establishment of cases with existing plants, the economic impacts, and the environmental impact analysis are part of the deliverable reports D3.4 and D3.6.