**Fortum Oslo Varme CO2 Capture Project Information**

**Project Developer Website**

Fortum Oslo Varme [https://www.fortum.com/media](https://www.fortum.com/media/2018/11/full-scale-carbon-capture-and-storage-ccs-project-initiated-%20norway)

**Project Location**

Oslo, Norway

**Project Type**

CO2 Capture

**Project Description**

Launched in August 2015, initiated by the Norwegian Government, the CCS project at the Fortum Oslo Varme’s waste-to-energy plant in Oslo is currently in the final planning phase. The plant incinerates municipal and industrial residual waste and utilizes the energy to produce electricity and district heating. Because the waste cannot be recycled or recovered as material, using it in energy and heat production reduces the amount of waste ending up in landfills. The process removes hazardous gases and other toxic substances, but still produces carbon dioxide emissions. The facility plans to capture around 400,000 tons of CO2 per year.

**Operational Status**

Design & Engineering Phase

The FEED study process began in 2018 with final investment decision expected at the end of 2020. The plant aims to be in operation by Fall 2024.

**Technology Description**

Capture: both fossil and biological CO2 (approx. 50% BIO-CCS) will be captured. 90% of the plants emissions will be captured using post-combustion amine based capture technology.

The project is part of a full-chain CCS project: through collaboration with the Northern Lights project the CO2 will be transported to a port using emission free trucks, and shipped to an intermediate storage on the West coast of Norway. From there, the CO₂ is pumped 3000 m below the seabed via a pipeline, and permanently stored in a suitable geological formation.

**TRL Progression**

Starting: TRL 9.

Based on a full-scale plant using the chosen Shell Cansolv capture technology on a coal power plant in Canada (Boundary Dam). However, Fortum Oslo Varme still considered it necessary to test with a pilot at the WtE plant to prove low emissions and high capture rate on flue gas from Waste-to-Energy.

**CO2 Reduction Potential**

Capture rate: 400 kt/yr

This equates to 90% of the waste-to-energy plant’s CO2 emissions. Fortum’s carbon capture will remove more than 200 kt of CO2 from the carbon cycle every year due to the biomass content in the waste mix.

**Project Financing**

The project is mainly funded by the Norwegian Government with contribution from Fortum Oslo Varme. The project may have to apply to the EU Innovation Fund for additional funding pending the final investment decision from the Norwegian State.

Capital expenditure estimate: 425 M€? (4,5 billion NOK)