

# PROVE IT

PRODUCTS OF VALUE FROM VARIOUS CO<sub>2</sub> SOURCES, ENABLED BY INTEGRATING TECHNOLOGIES

**Startdatum: 1-9-2021**

**Einddatum: 31-8-2024**

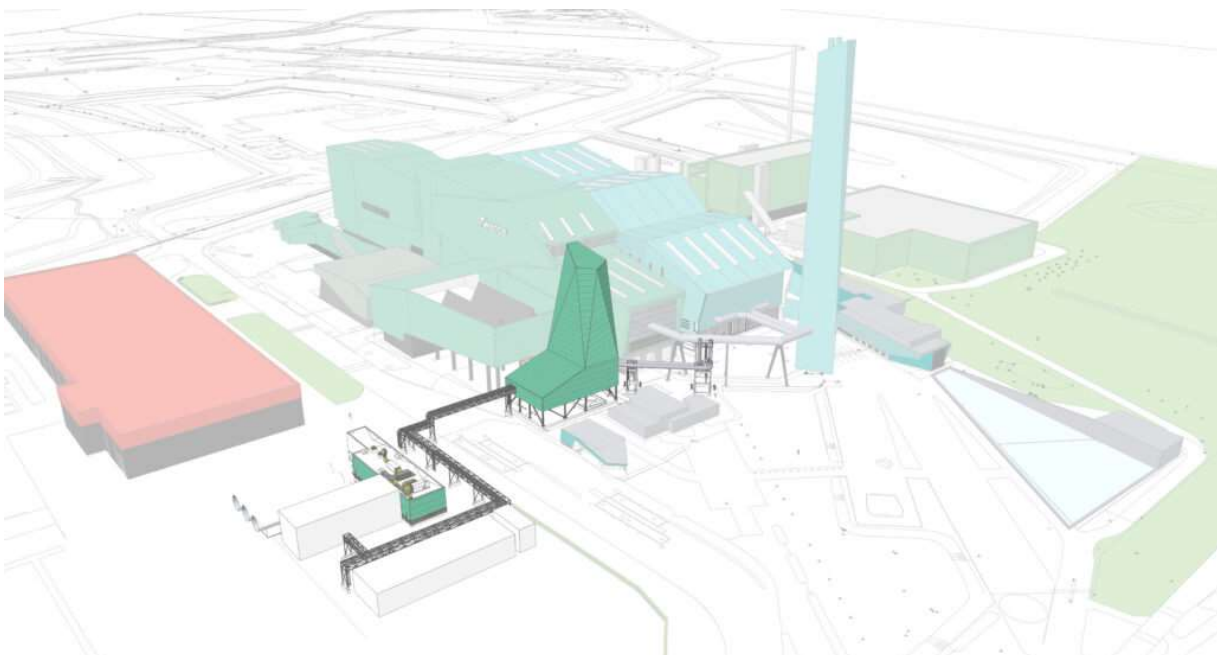
## Content:

PROVE IT showcases methanol production from CO<sub>2</sub>-rich industrial off-gases (technology development) in the context of the evolving industrial system (system analysis). It develops robust technology that captures & separates CO<sub>2</sub> from various (contaminated) industrial off-gas sources for efficient conversion to methanol using renewable energy. In addition, it demonstrates feasibility of the technology within an industrial system-in-transition context.

The project is divided into three result areas. The first one explores the availability in quantity and location of CO<sub>2</sub> sources. Legal aspects and acceptance by society and business of this green methanol and its derivatives will be described in comparison with sustainable alternatives. The answers will support decision making on investment to scaling up this new technology. It will also help policy makers to recognize the need to adjust incentives, penalties and regulations.

Result area two defines the optimized catalyst productivity, selectivity and lifetime for producing methanol from an off-gas CO<sub>2</sub> source. High-throughput experimentation will be deployed in combination with process simulation to assess catalyst deactivation and activity over time with varying process conditions, feed-streams and recycle compositions. The process will be ready for the next phase: pilot operation.

The third result area involves the engineering and a cost analysis for a specific installation and installation capacity to be defined during the project.



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