

Fischer Tropsch Reactor

Transforming a fossil-based economy to a sustainable economy requires substitution fuels derived from renewable sources. OxEon's Fischer Tropsch (FT) reactor technology uses syngas to produce liquid hydrocarbon fuels that can be converted to transportation fuels. OxEon is focused on the development of 10-100bbl/day modular FT reactor systems that are cost effective and scalable.



OxEon's Modular FT reactor

OPERATING DATA

- CO₂ conversion: 40% single pass
- Syngas H₂/CO feed ratio: 1.8 to 2.2
- Overall CO conversion: >75%
- Overall H₂ conversion: >75%
- CO selectivity to C₅+: >75%
- Overall CO to C₅+: >65%
- Product Distribution C_n peak >C₉
- CH₄ selectivity < 12%

OxEon Advantage

Fischer Tropsch (FT) process is an established technology that produces liquid hydrocarbon fuels from Syngas (CO + H₂), which can be converted to standard transportation fuels with minimal upgrading. Catalysts and process conditions facilitate the reaction and determine the hydrocarbon product.

Renewable energy sources regularly produce excess electricity at times and are insufficient at other times, while batteries have proven to be expensive and inefficient in capacity to accommodate the intermittency. When paired with solid oxide co-electrolysis (SOEC) process, Fischer Tropsch technology provides an efficient means of storing renewable energy in the form of a liquid fuel. OxEon's Fischer Tropsch Reactor and associated technologies offer the solution to this problem by generating a clean, high value liquid fuel from low-cost abundant resources.

- **Energy Independence:** Limit petroleum imports and fossil fuel depletion with sustainable fuel. Pair the FT system with an OxEon SOEC unit for on-site production of syngas and synfuels.
- **Fuel flexibility:** FT product can be converted to transportation fuels with minimal upgrading - Jet Fuel, Diesel Fuel and Lubricant wax.
- **Modular Footprint:** Maximize your production capacity with OxEon's modular FT design by reducing capital costs to start-up and expansion.

OxEon designs FT systems for power security, competitiveness of life cycle costs, grid and fuel flexibility and minimal emissions. Our focus on component and systems development establishes revolutionary and accessible pathways to bring the implementation of renewable energy Beyond Current Potential.™

