

COMSOS

COMMERCIAL-SCALE SOFC SYSTEMS



Project ID:	779481
PRD 2023:	Panel 4 – H2 end uses – stationary applications
Call topic:	FCH-02-11-2017: Validation and demonstration of commercial-scale fuel cell core systems within a power range of 10–100 kW for selected markets/applications
Project total costs:	EUR 10 277 897.50
Clean H₂ JU max. contribution:	EUR 7 486 954.75
Project period:	1.1.2018–31.8.2023
Coordinator:	Teknologian tutkimuskeskus VTT Oy, Finland
Beneficiaries:	Convion Oy, Energy Matters BV, Politecnico di Torino, SolydEra SA, SolydEra SpA, Sunfire GmbH

<https://www.comsos.eu/>

PROJECT AND OBJECTIVES

The key objective of ComSOS is to validate and demonstrate fuel-cell-based combined heat and power solutions (FC-CHP) in the mid-sized power ranges of 10–12 kW, 20–25 kW and 50–60 kW (referred to as mini FC-CHP). The core of the project consortium consists of three solid oxide fuel cell (SOFC) system manufacturers aligned with individual strategies along the value chain: SolydEra, Sunfire and Convion.

PROGRESS AND MAIN ACHIEVEMENTS

- All five Sunfire systems have been installed at the customer sites.

- Both Convion units have been installed at the customer sites.
- The first SOLIDpower (SolydEra) unit has been installed at the customer site.

FUTURE STEPS AND PLANS

- The Sunfire and Convion units are generating thousands of hours of demonstration data for project purposes.
- The rest of the SOLIDpower (SolydEra) units were expected to be installed during spring 2023.



QUANTITATIVE TARGETS AND STATUS

Target source	Parameter	Unit	Target	Achieved to date by the project	Target achieved?
	Electrical efficiency	%	> 50	> 50	✓
MAWP addendum (2018–2020)	NOx emission	mg/kWh	< 40	< 40	✓
	Durability	years	10	2	⚙️
Project's own objectives	SME participation	%	25	50	✓