



Efficient Co-Electrolyser for Efficient Renewable Energy Storage



Milestone: System co-electrolysis operation

The test at the system level confirms the potential of the technology based on SOC to store electricity as hydrogen or syngas: a high HHV efficiency of 94% was experimentally achieved thanks to the high temperature operation and a 150°C heat source for the steam generation.

The stack for the system test contained ECo improved cell versions 2 and 3 and commercial cells for comparison.

The stack was verified in steam and in co-SOEC modes prior to transfer into the system.

Stack Temp	I	Mean RU voltage	Efficiency / HHV	Efficiency / HHV Taking into account steam generation
(°C)	(A)	(V)	(%)	(%)
750	65	1.38	83.1	72.7
750	90	1.35	89.1	73.3
750	120	1.37	93.8	74.4



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(co-)electrolyzer module developed by CEA

ECo 25-cells stack from CEA with
cells from DTU, DTU-CEA and
commercial cells

