H2FUTURE

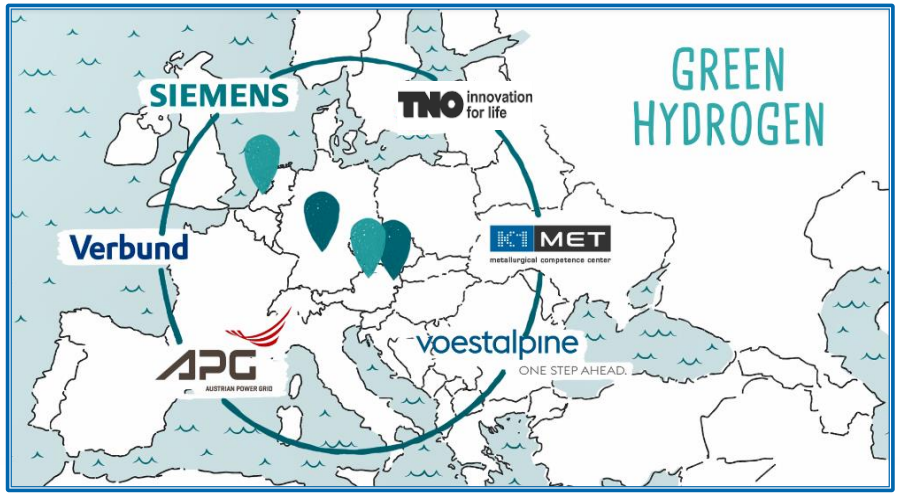
Hydrogen meeting future needs of low carbon manufacturing value chains

H2FUTURE Green Hydrogen

K1-MET metallurgical competence center

One of the biggest PEM electrolyser units in the world with **6 MW** power and **1200 m³/h H_2** production at voestalpine Linz for **full scale demonstration** of H_2 production and **grid balancing**

- Ambitious efficiency target at nominal power (η_{System} **= 82% - 77%**)
- W_{el} = 48 - 51 kWh/kg
- To demonstrate a CAPEX of **<1000 €/kW** for PEM technology



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Budget:	17.8 M€
Total Funding:	12.0 M€ (70%)
Duration:	2017-2021

This project has received funding from the Fuel Cells and Hydrogen 2 Joint Undertaking under grant agreement No 735503. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and Hydrogen Europe and N.ERGHY

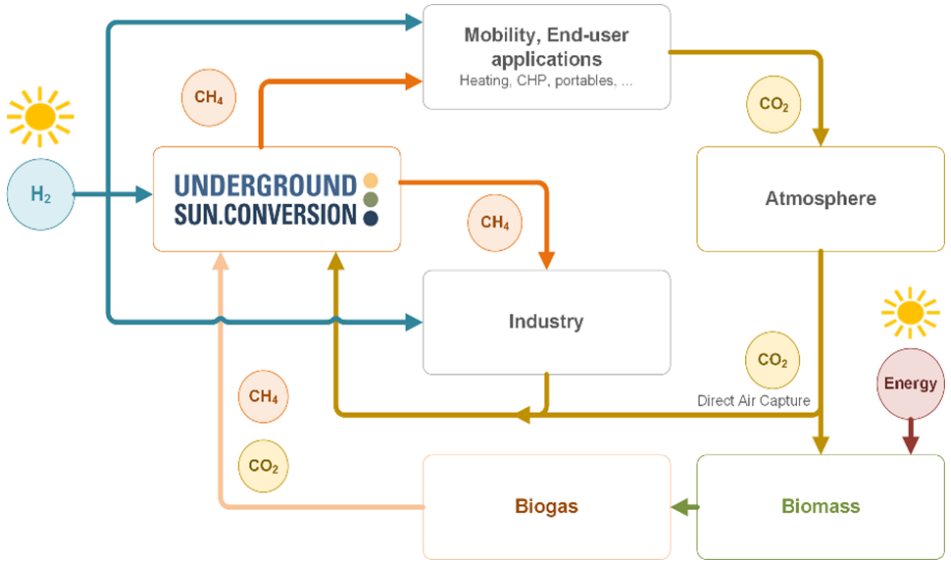
CCED

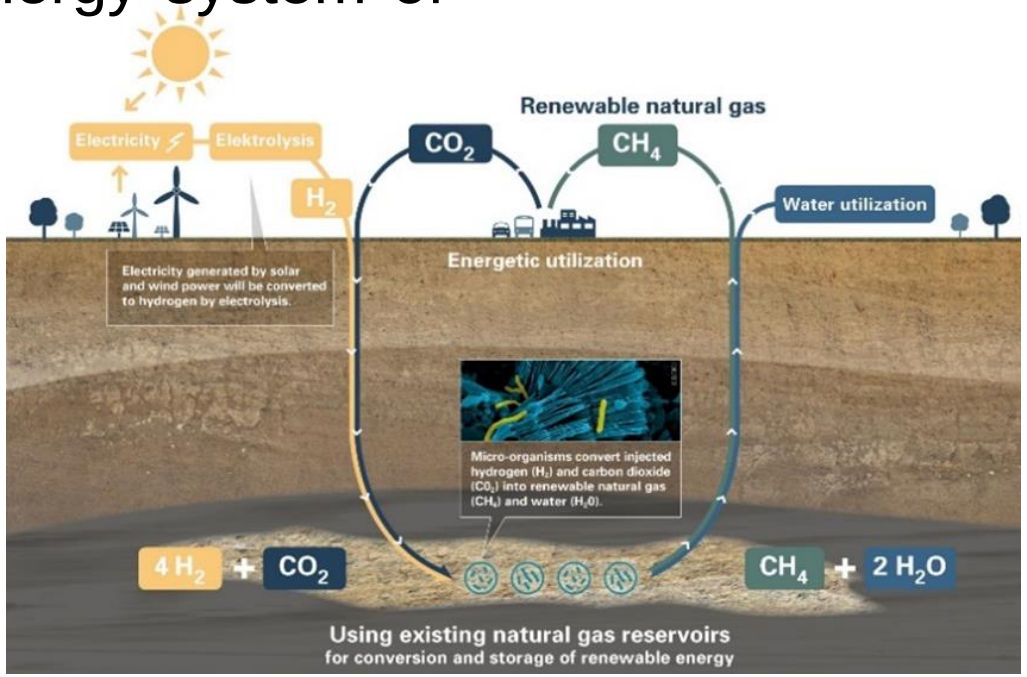
Carbon Cycle Economy Demonstration

metallurgical competence center

The interaction of different technologies to form a **closed** sustainable **carbon cycle** will be investigated for the first time in the CCED project, **including** the **storage functions** necessary for the energy system of the future.

Budget:	8.6 Mio€
Start:	Q3/2021
Duration:	48 Months

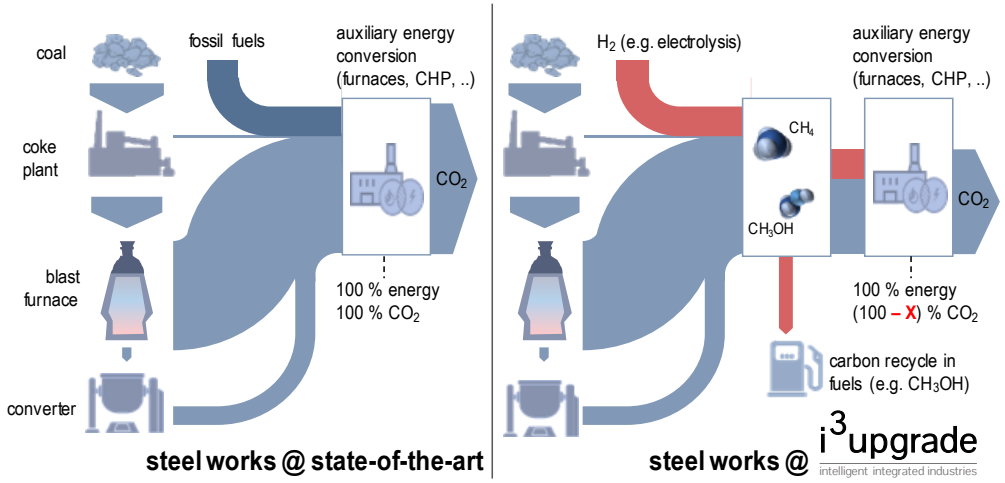


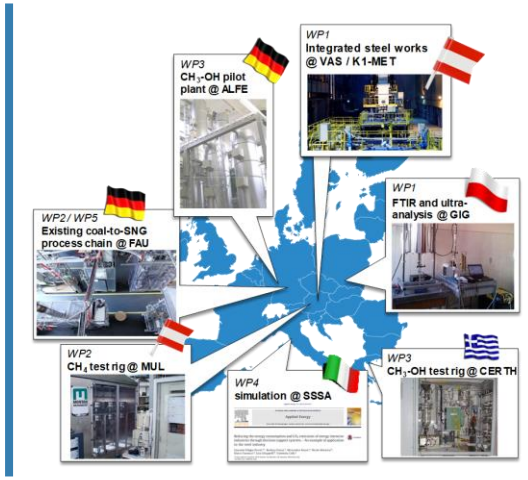


i³upgrade

intelligent and integrated upgrade of carbon sources in steel industries

- **Re-utilization** and **upgrade** of fossil **by-product gases** in integrated steelworks
- Integration of **dynamic synthesis** (methane, methanol) in an integrated steelworks in combination with (renewable) hydrogen
- Advanced process **control strategies** for dynamic synthesis





Budget: 3.3 Mio€

Duration: 3.5 years (06/2018-11/2021)

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