



convion

FUEL CELL  
SYSTEMS

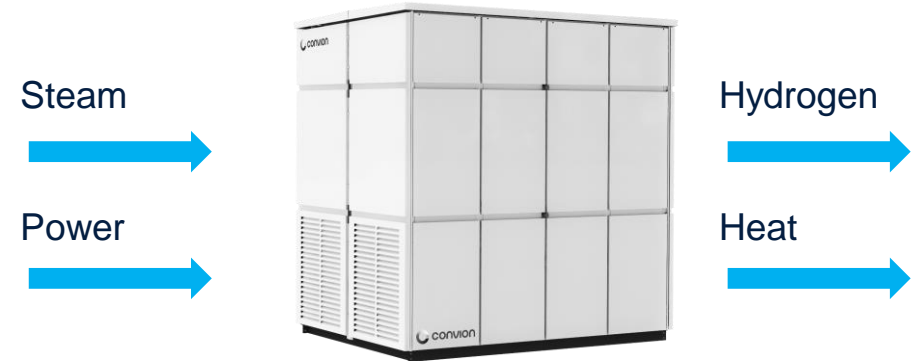
# E-Fuel Mid-Term Workshop - Reflections from Convion

*Tuomas Hakala, Co-Founder*

# One Core Product – Two Functions



**Convion C60 – 60 kW power generation**



**Convion C250e – 250 kW electrolyser  
for industrial H<sub>2</sub> production**

- Highest efficiency of all technologies, regardless of scale
- Fuel flexible, works with H<sub>2</sub> but does not require it.
- Zero local emissions

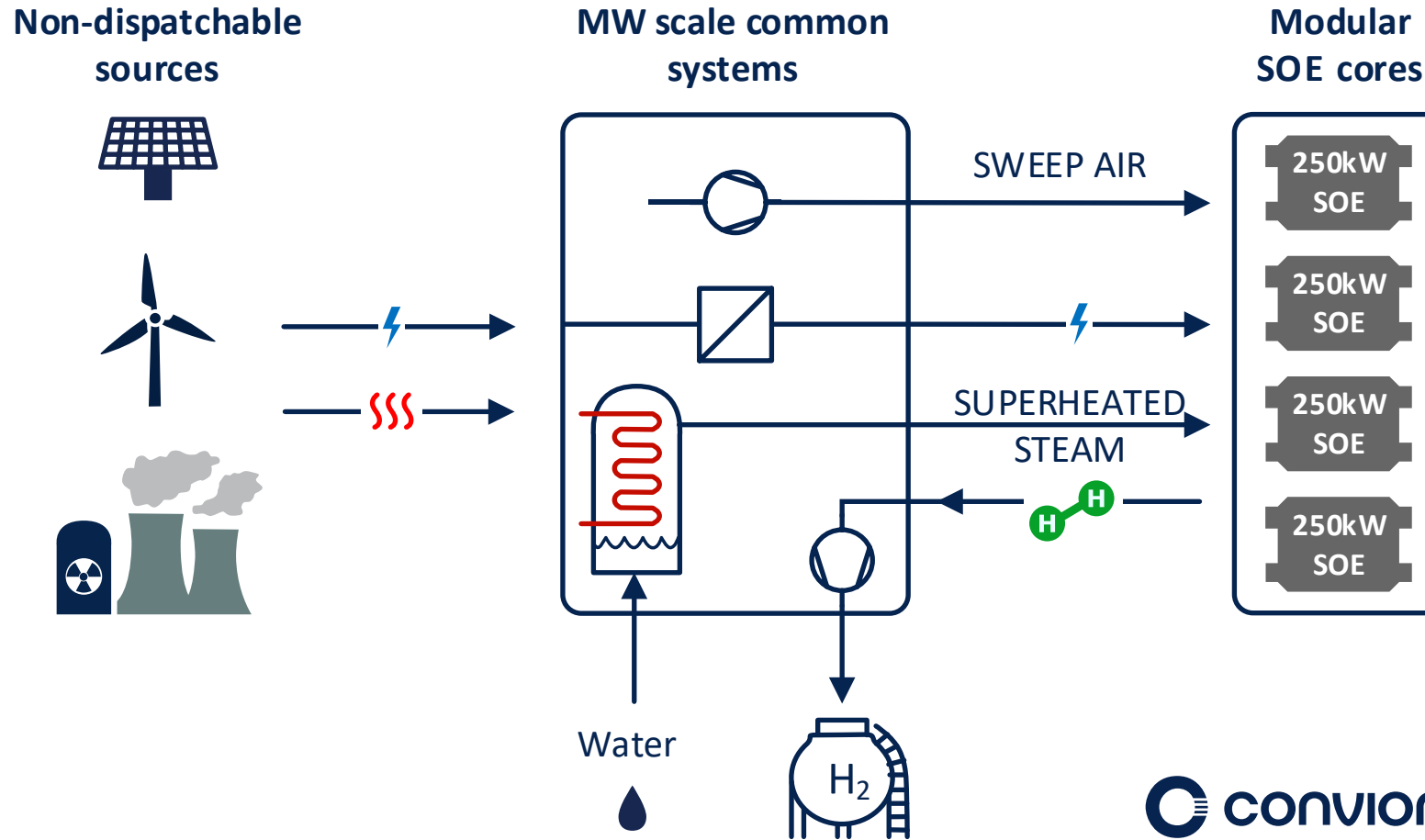
- Up to 30% energy saving as compared with other electrolysis technologies
- Co-electrolysis of steam and CO<sub>2</sub> to produce syngas directly at tailored composition
- Max flexibility with reversible operation

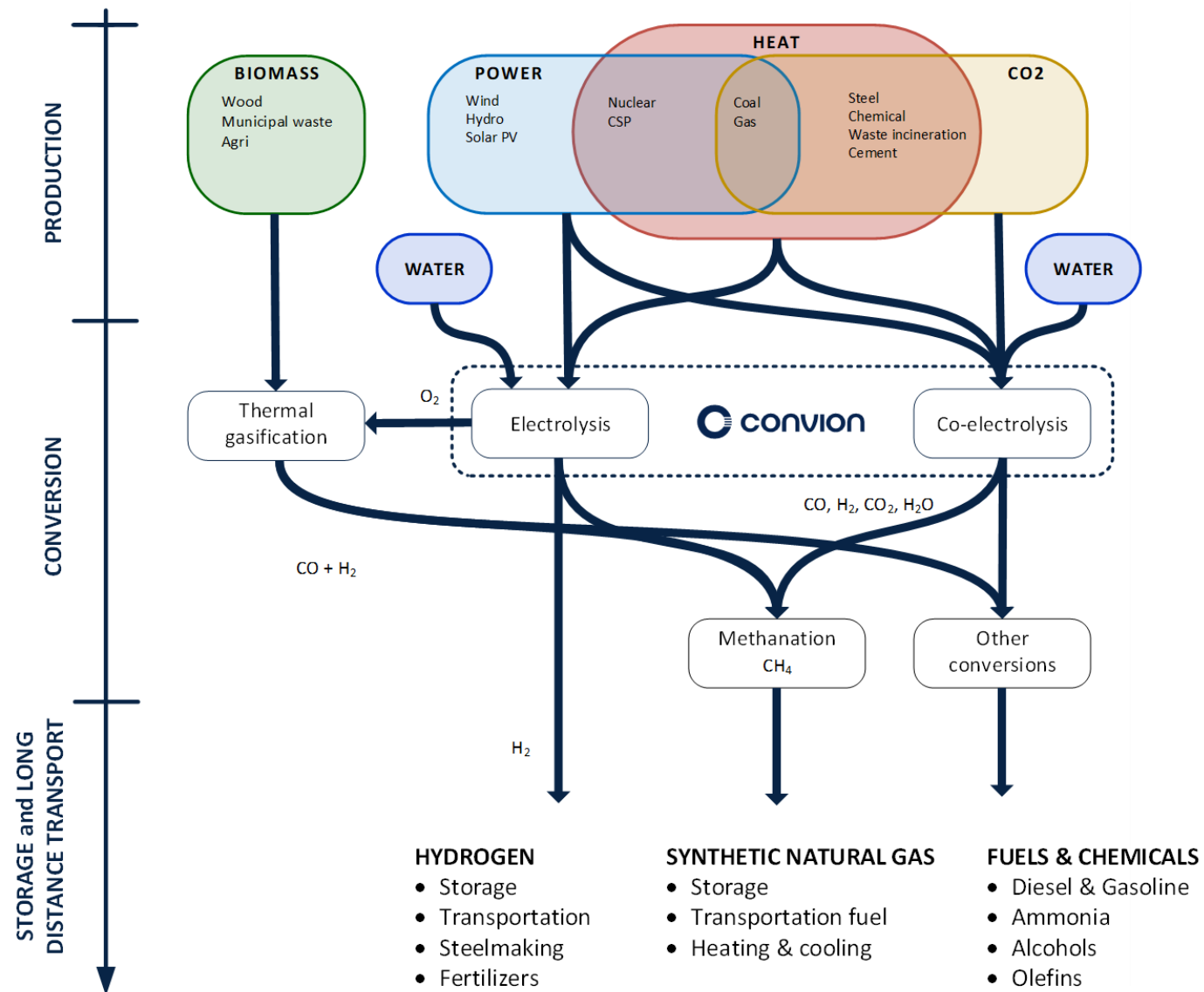


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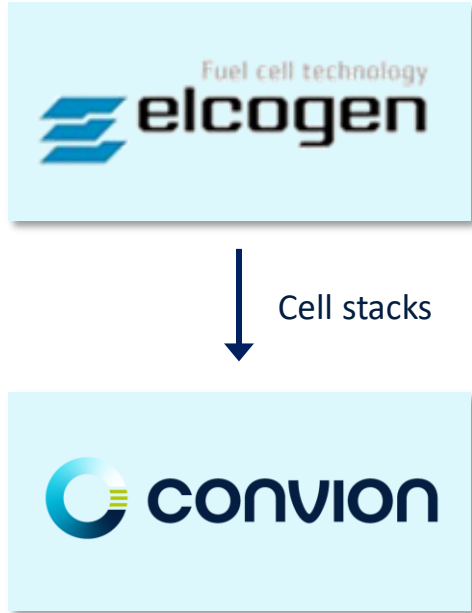
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# Integrated H<sub>2</sub> Production by SOE Electrolysis





## Company Projects



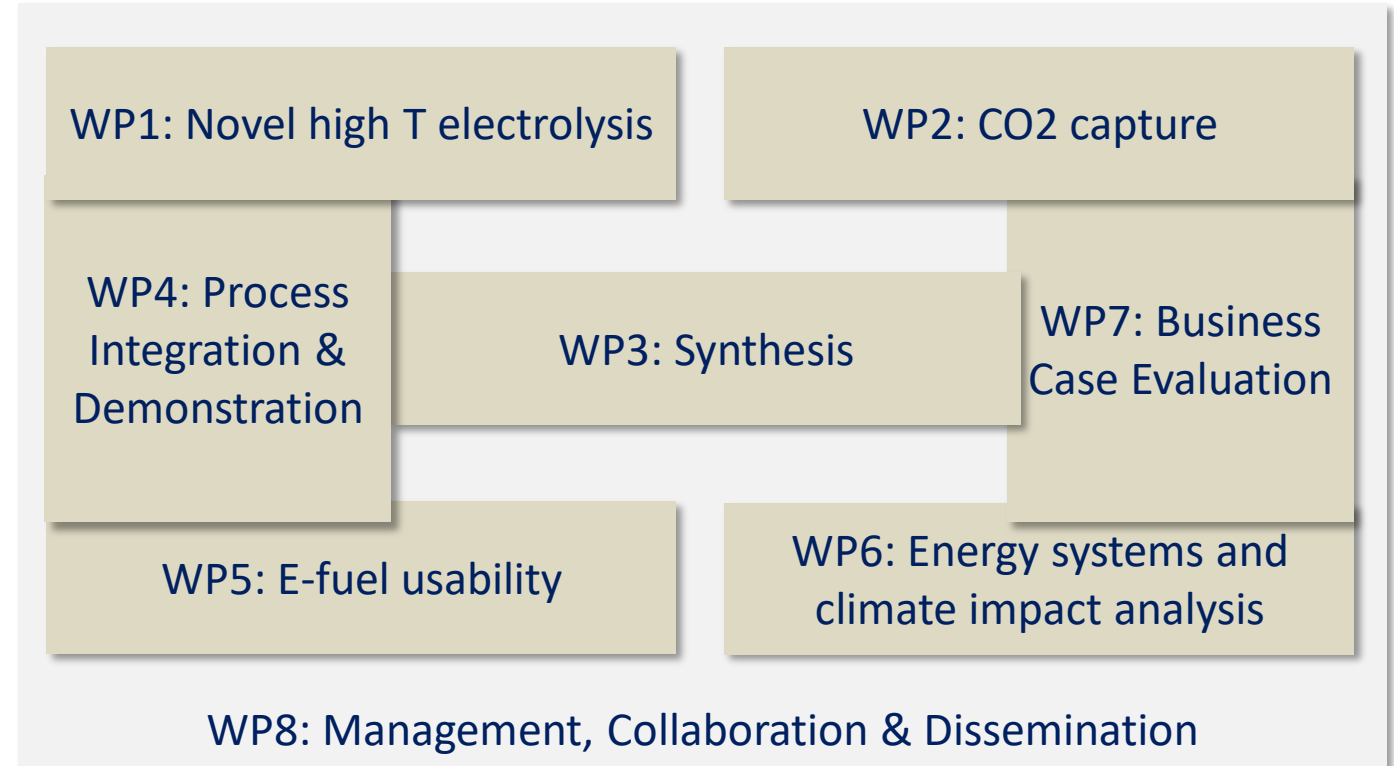
Cell/ stack testing in co-operation with VTT



Testing and validation of a proof-of-concept system in co-operation with VTT



## VTT Coordinated E-Fuel Project



### OBJECTIVE:

- To develop a concept and demonstrate production of *drop-in paraffinic e-fuels* with high efficiency by combining and integrating **high temperature electrolysis and Fischer-Tropsch synthesis**.
- Bring TRL of the concept from 3-4 to 4-6

# Stack and Down-Scaled system tests

- Not fully representative of a large system in terms of BoP optimization and system performance but...
  - ..produce stack related scalable experimental results and learnings relating to operating conditions and principles
    - Gas compositions, reactant utilization
    - Cyclability/ Transient
    - Current densities
    - Influences of impurities
- Form an understanding of further optimization of the system platform
- Convion's proof-of-concept 125kWe system will be ready to deploy in October 2022



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Thank you