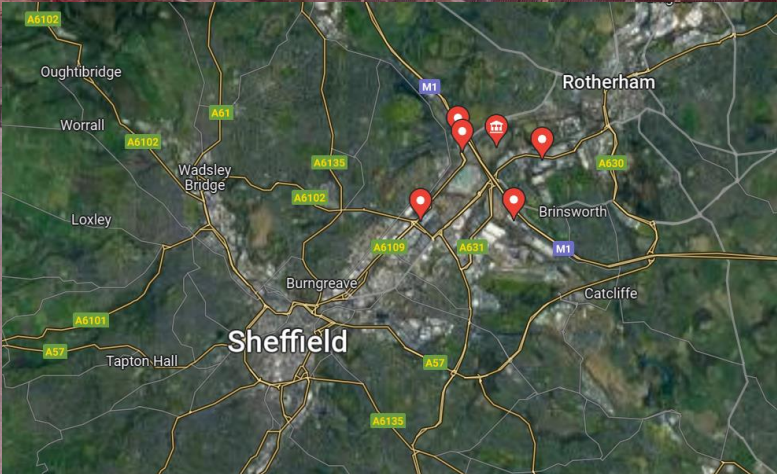


Developing a hydrogen supply chain-HyDESS

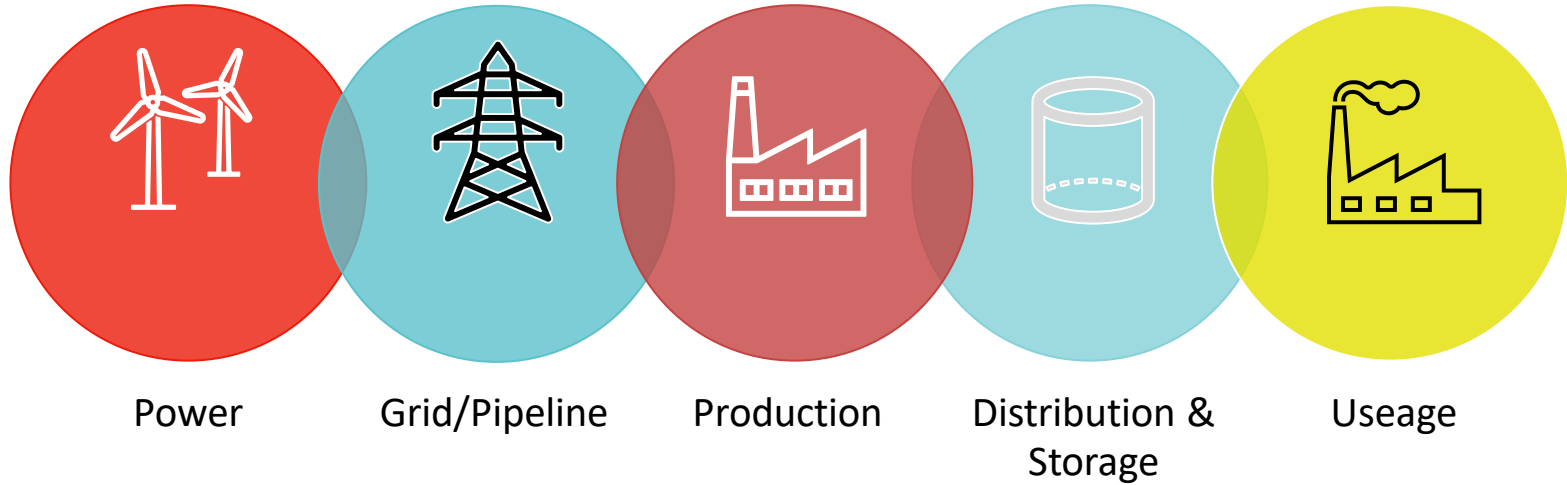
Phil McDermott



Blackburn Meadows

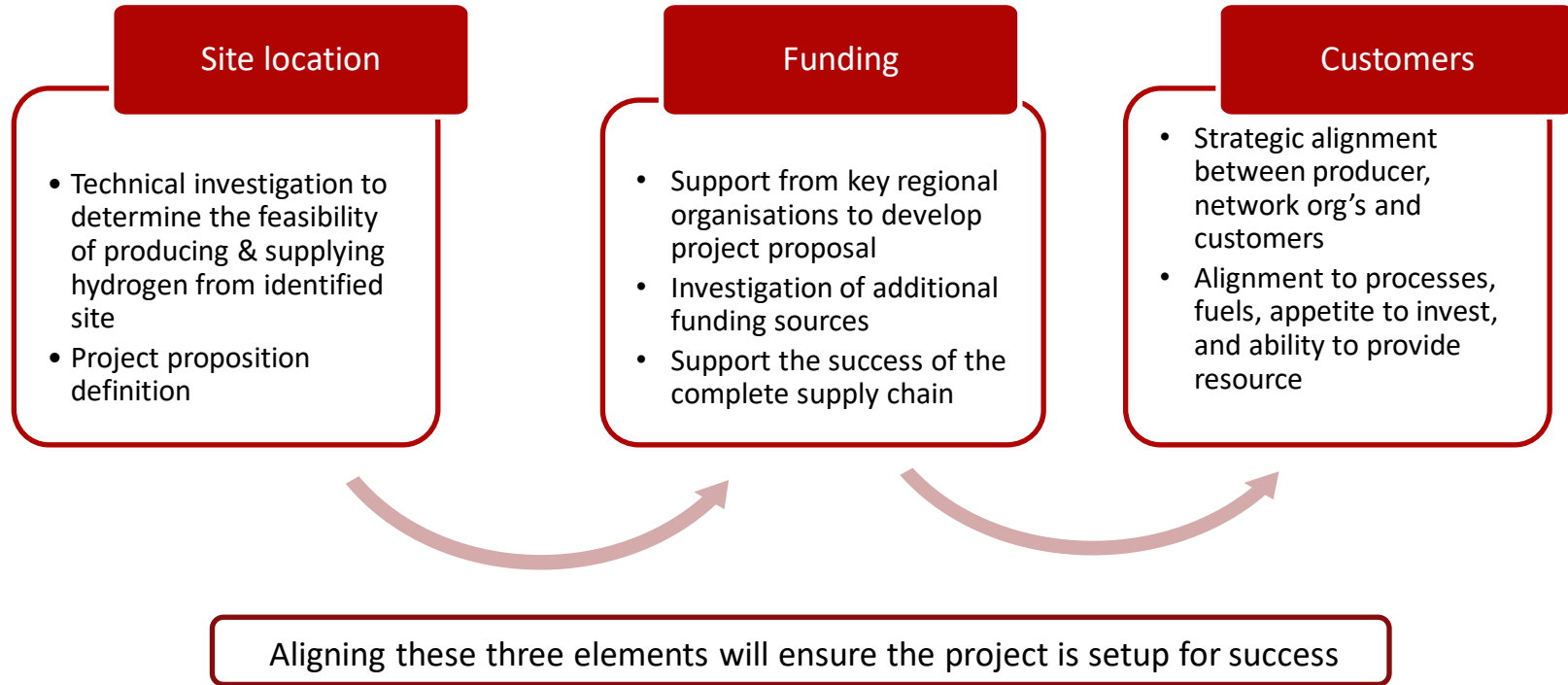


Partnerships are key



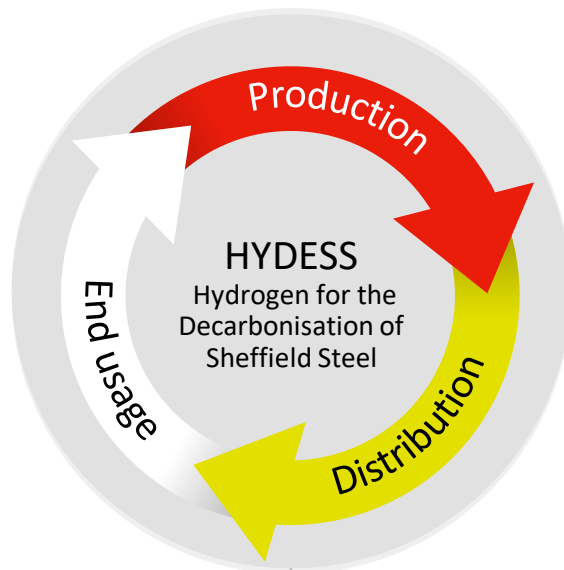
The market cannot be created without effective collaboration across the value/supply chain

Development challenges



What is HYDESS ?

Collaboration to determine the feasibility of end to end hydrogen production, transport and end use in the Steel manufacturing industry



Proposed POC - green hydrogen, produced on site at E.ON's Blackburn Meadows biomass power station (electrolysis via private wire), to local steel manufacturers - decarbonise in line with their sustainability strategy and the growing demand for green steel from their customers

E.ON - Production

Hydrogen production and scaling from renewable energy

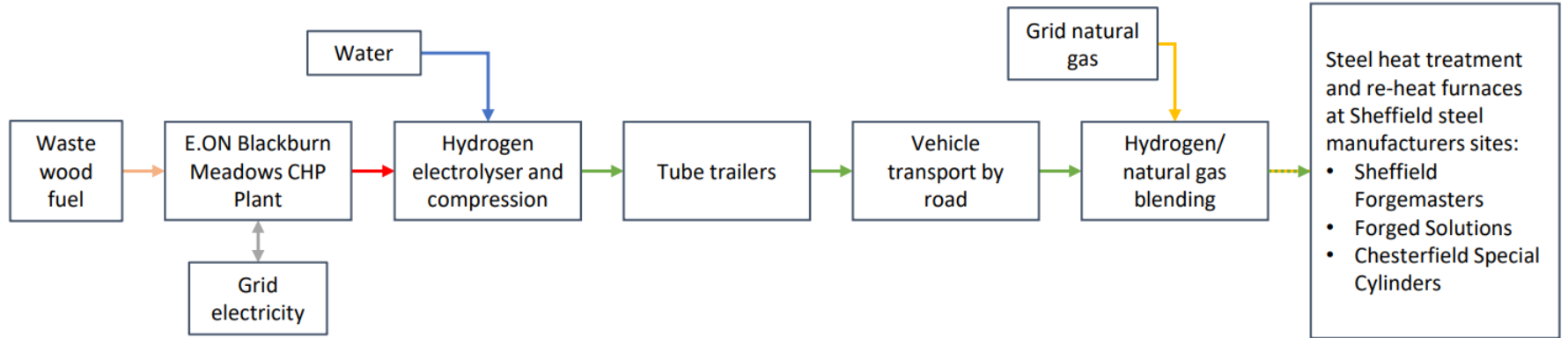
CSC - Distribution

Innovation in the distribution & storage of hydrogen gas

Steel industry – End usage

Switching natural gas to hydrogen for fuelling steel reheat and heat treatment furnace - focus on technical design and testing to prove product quality and forging and heating processes.

Project concept



Key:

- Waste Wood
- Electrical Power – grid connection
- Electrical power – private wire
- Water
- Hydrogen
- Natural Gas

Project consortium

Research, testing & modelling



The
University
Of
Sheffield.



Industry partners



SHEFFIELD
FORGEMASTERS

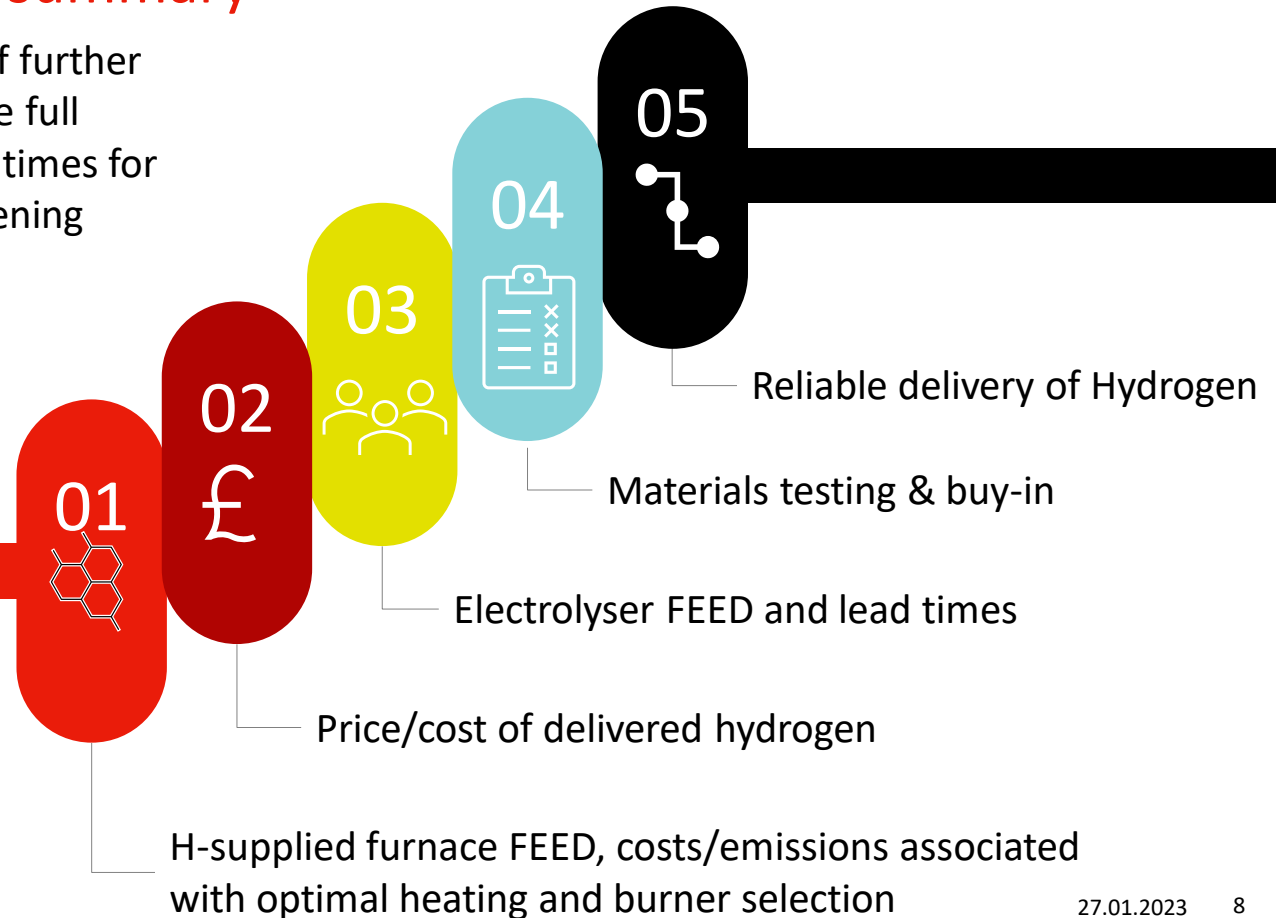


Industry supporters



Stream 2a – Results summary

No showstoppers but areas of further investigation necessary before full demonstration possible; lead times for electrolyzers are long/lengthening



Next Steps – FEED Study of Value Chain



12-18 months



Thank you !



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