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Hydrogen and industrial clusters

Gunhild A. Reigstad
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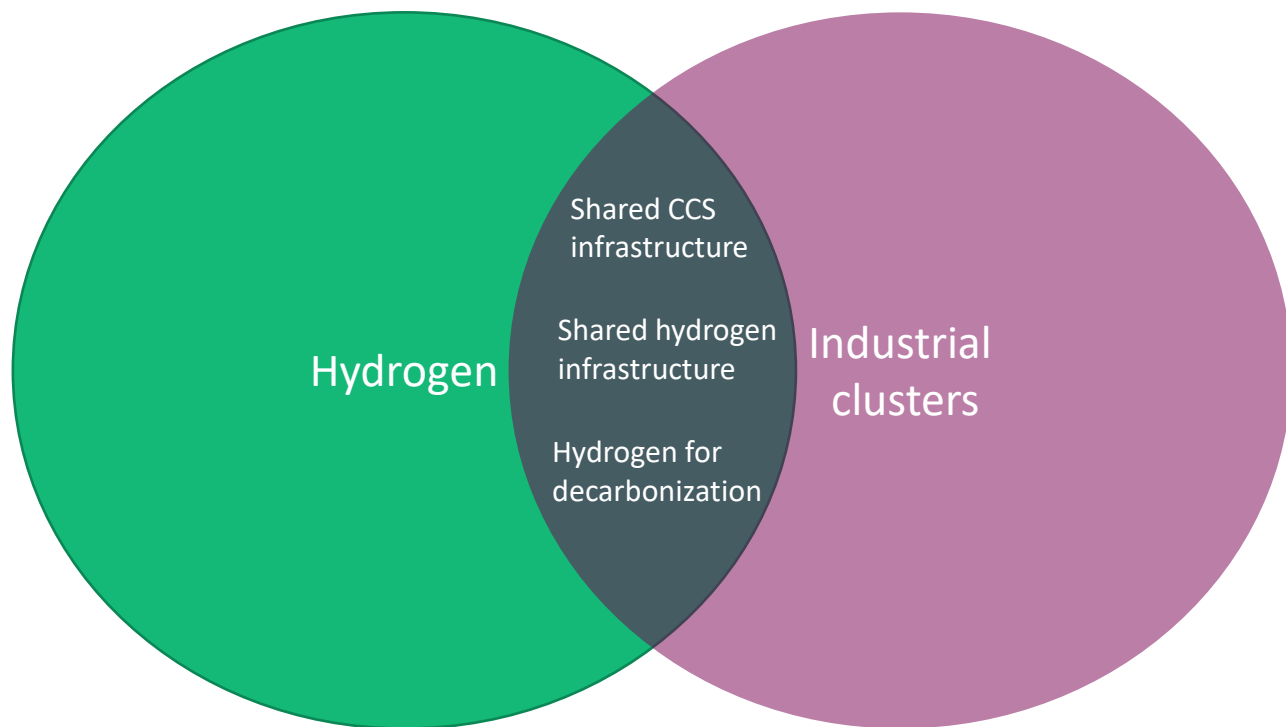


Technology for a better society



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Hydrogen and industrial clusters

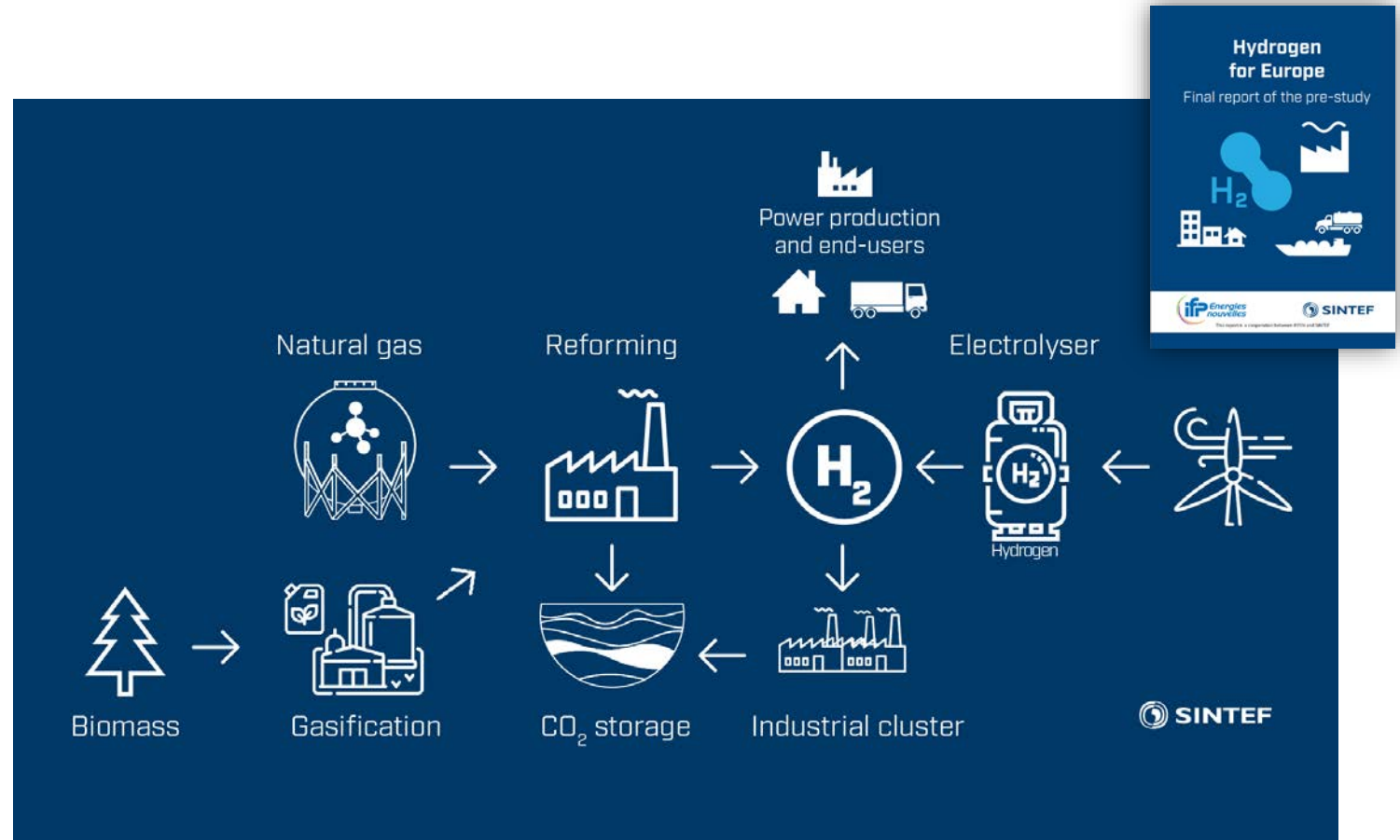




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Benefits for the industrial cluster

- Strategies for decarbonization:
 - Capture of CO₂ & permanent storage
 - Use of hydrogen
- Economies of scale for transport and storage of CO₂
- Availability of hydrogen and CO₂ capture for decarbonization





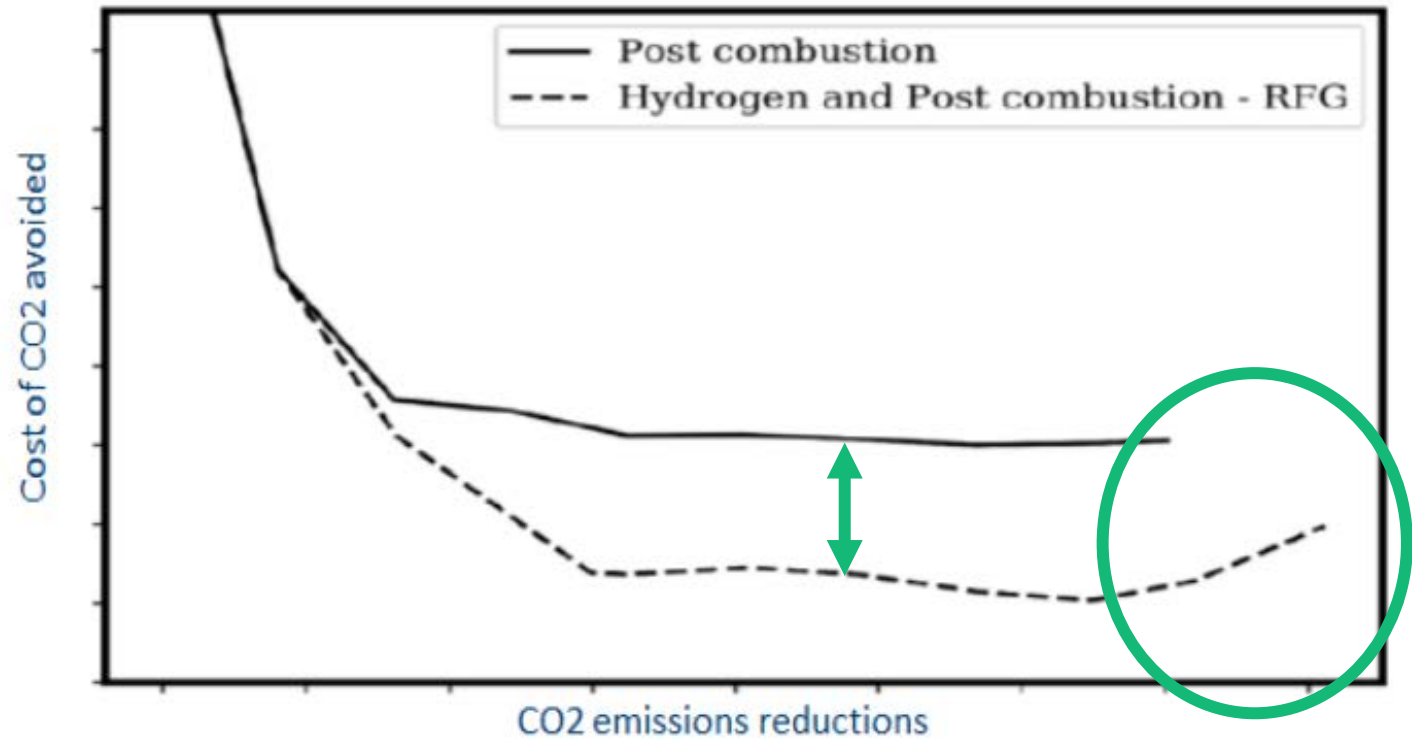
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Benefits for the industrial cluster



Deeper and cheaper decarbonization

Source: "Perspectives on H₂ in a low carbon world", Prof. Nilay Shah, Imperial College London, June 2020





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Benefits for the hydrogen economy

The Future of Hydrogen

Seizing today's opportunities



Report prepared by the IEA
for the G20, Japan

June
2019

- Proposed policy to boost momentum in key value chains:
 - Strategic development of industrial clusters for scaling up use of clean hydrogen
 - Growing hydrogen demand in industries ↔ bring down costs of low-carbon hydrogen pathways and kick-start new sources of demand
 - Coastal industrial clusters that are co-located near ports are especially attractive



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Benefits for the hydrogen economy



Hydrogen demand for High-temperature heating

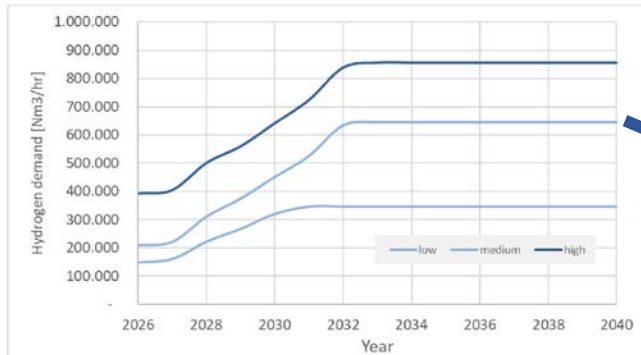


Figure 4.2 Estimation Hydrogen demand for High-temperature heating in the Rotterdam Industrial Cluster.



Figure 4.6 Estimation of Hydrogen demand for power generation in the Rotterdam Industrial Cluster.

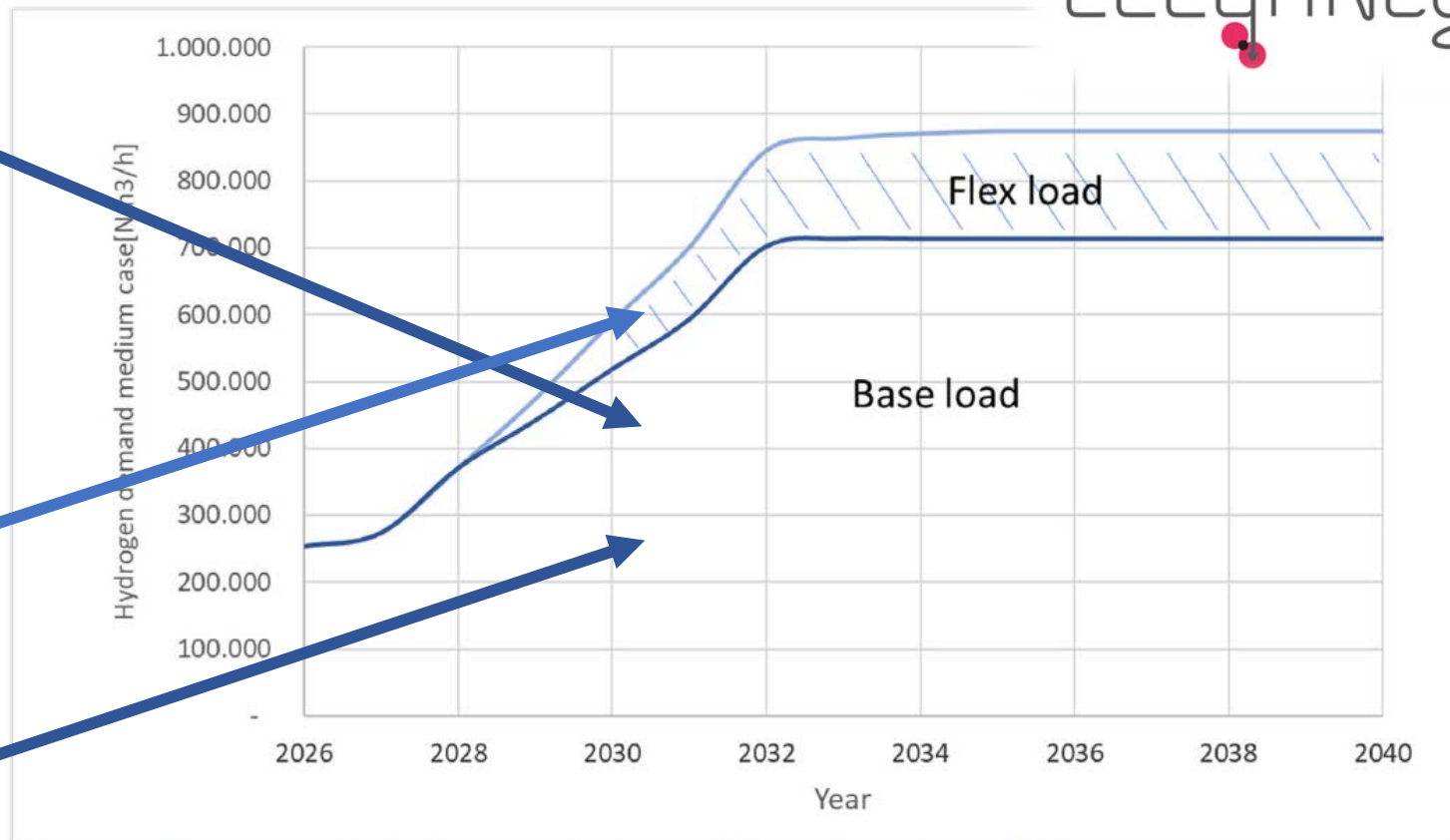


Figure 4.7 Estimation of the Hydrogen utilization for the Rotterdam Industrial Cluster.

Hydrogen demand for power generation



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