

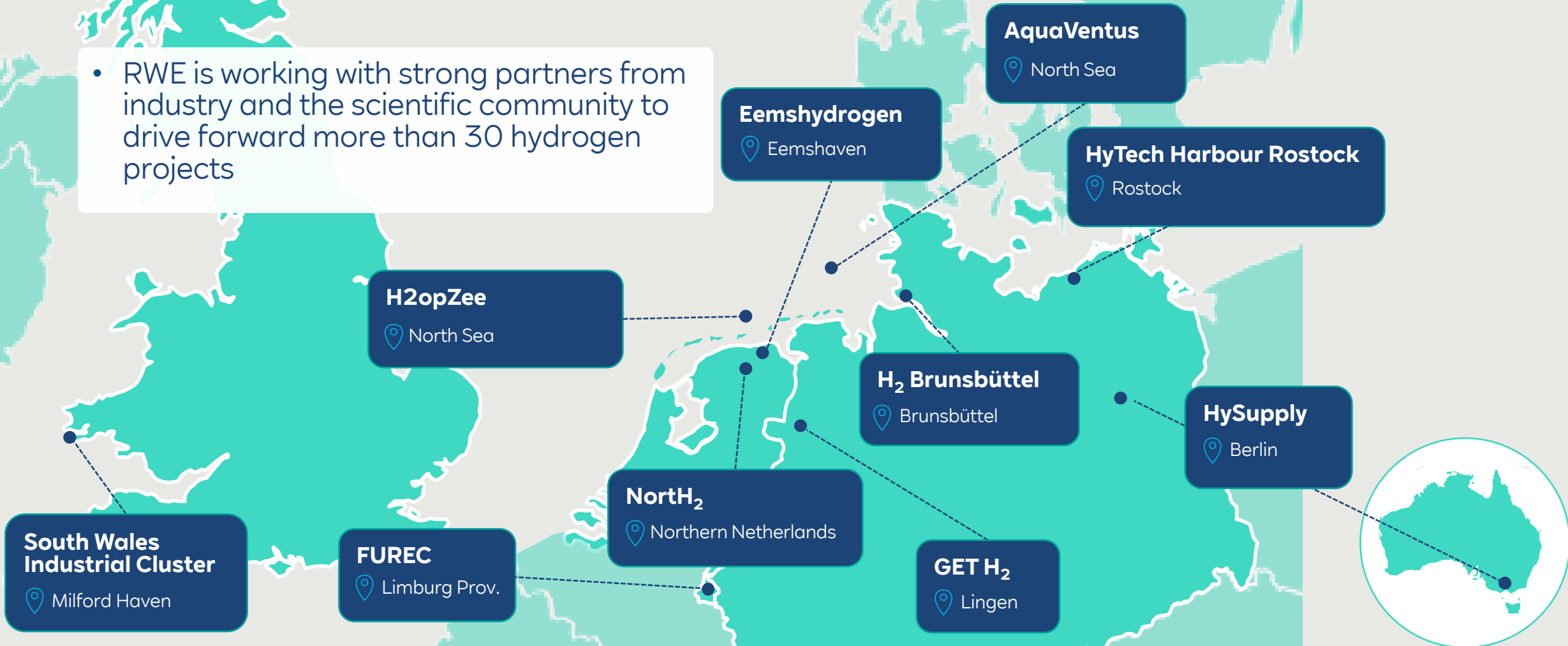
RWE

Green Hydrogen Offshore Wind Projects by RWE



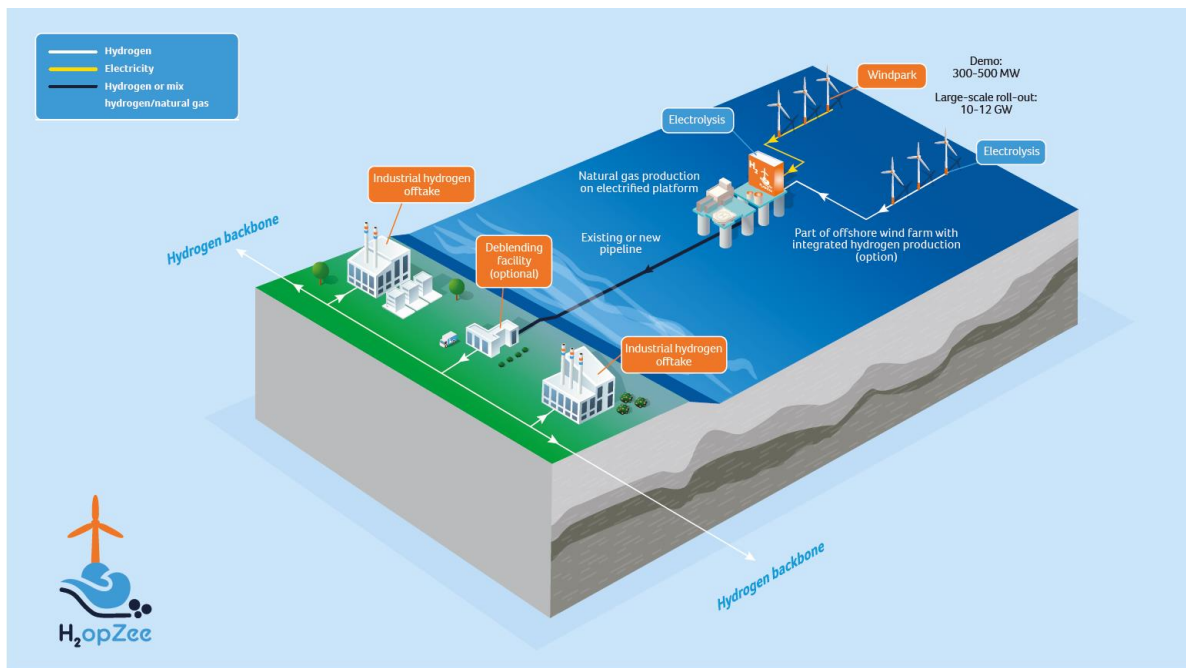
RWE develops innovative lighthouse projects involving hydrogen along the entire value chain

- RWE is working with strong partners from industry and the scientific community to drive forward more than 30 hydrogen projects



H₂opZee is a demonstrator for production of hydrogen using electricity from offshore wind farms in the Dutch North Sea

H₂opZee: RWE in co-operation with Neptune Energy, wants to promote the development of a hydrogen economy in the Netherlands with a project that aims to deliver 300 – 500 MW of offshore wind hydrogen production



Demonstration before 2030:

- Build put of approximately 300-500 MW offshore wind with electricity conversion to green hydrogen gas offshore.
- Transport of hydrogen molecules to shore via either a 10-12 GW new or existing pipeline. Another scenario is blending and deblending at shore via an existing pipeline.

Longer term goals, after 2030:

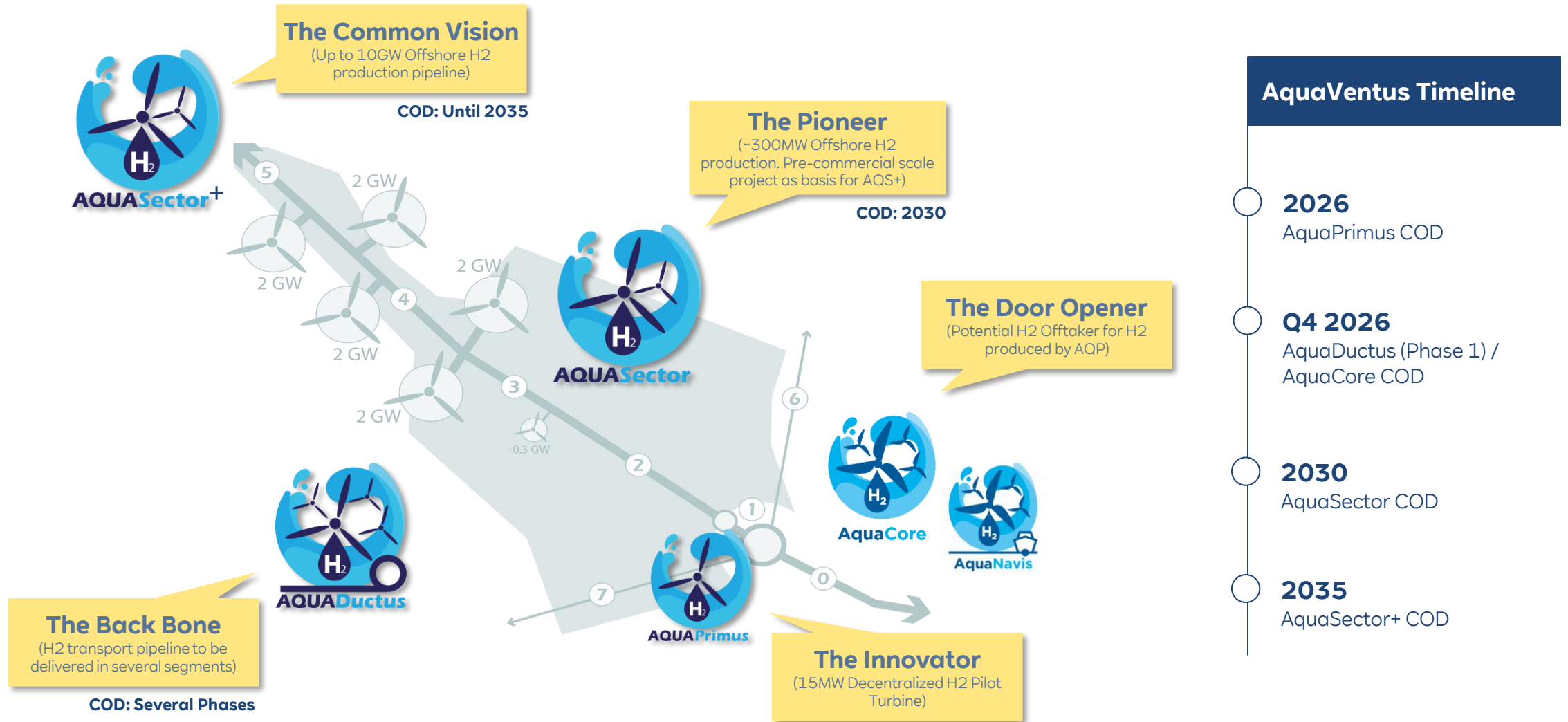
- Roll out of 10-12 GW offshore wind in the Dutch North sea with electricity conversion to hydrogen gas offshore
- Transport of green hydrogen molecules to shore via an (existing) pipeline

Cooperation partners of the initiative



Overview AquaVentus Family

AQP & AQS are interim milestones towards full scale offshore H2 production



Offshore hydrogen will be essential for decarbonising the industry and other sectors, but needs political backing

Offshore hydrogen production at scale is cheaper, quicker, has less environmental impact ...

- 15%

cost reduction¹ for offshore hydrogen production (compared to onshore, cable connected)

~ 5.5

years quicker, avoiding long HVDC cable lead times, to **realise projects significantly earlier¹**



Reduced environmental impacts
e.g. brine discharge offshore, land use conflicts & water usage

Source: ¹AFRY Aqua Ductus short study

... but needs political backing:

- ➔ **Government commitment:** Clear perspective for offshore H2 (e.g. in German national hydrogen strategy)
- ➔ **Additional dedicated wind areas for offshore hydrogen:** Definition of minimum 2 GW of "SEN-areas" for example in Germany as first German "Offshore Hydrogen Cluster"
- ➔ **Support mechanisms to kick start green hydrogen market:** Production side (CFDs) and demand side (CCFDs)