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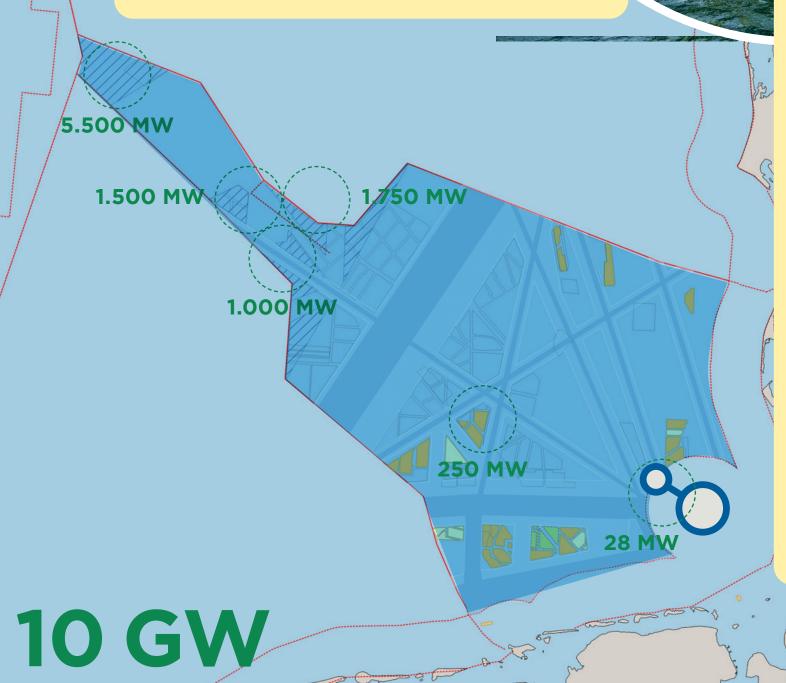
(21)



AquaSector

The "special area of energy production"

As the new AlphaVentus, **SEN-1** will be the first project of its kind. With a capacity in the region of 250-300 MW, the pilot project is paving the way for large-scale offshore electrolysis (centralised or decentralised) with 10 GW or more. By expanding the duck bill towards the coast, clashes with conventional offshore wind generation and associated grid expansion can be avoided. The introduction of a regeneration zone also addresses the issue of long-lead wakes.



AquaPrimus prototype is built Investment decision

for AquaPrimus pilot plants

Award of contract for AquaSector and start of project implementation Start of AquaPortus infrastructure implementation

Investment decision for AquaPrimus prototype

> Approval process for AquaDuctus

AquaSector (SEN-1) is put out for tender by the German Federal Maritime and Hydrographic Agency (BSH)

Set-up of the Hydrogen Research Cluster Heligoland

Feasibility studies for AquaDuctus Feasibility studies for AquaPrimus Feasibility studies

2021

for AquaPortus

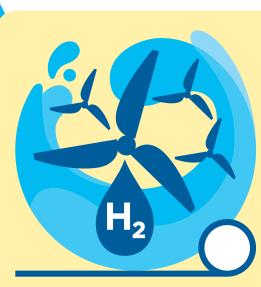


Foundation of the AquaVentus initiative

Foundation of the AquaDuctus project development company

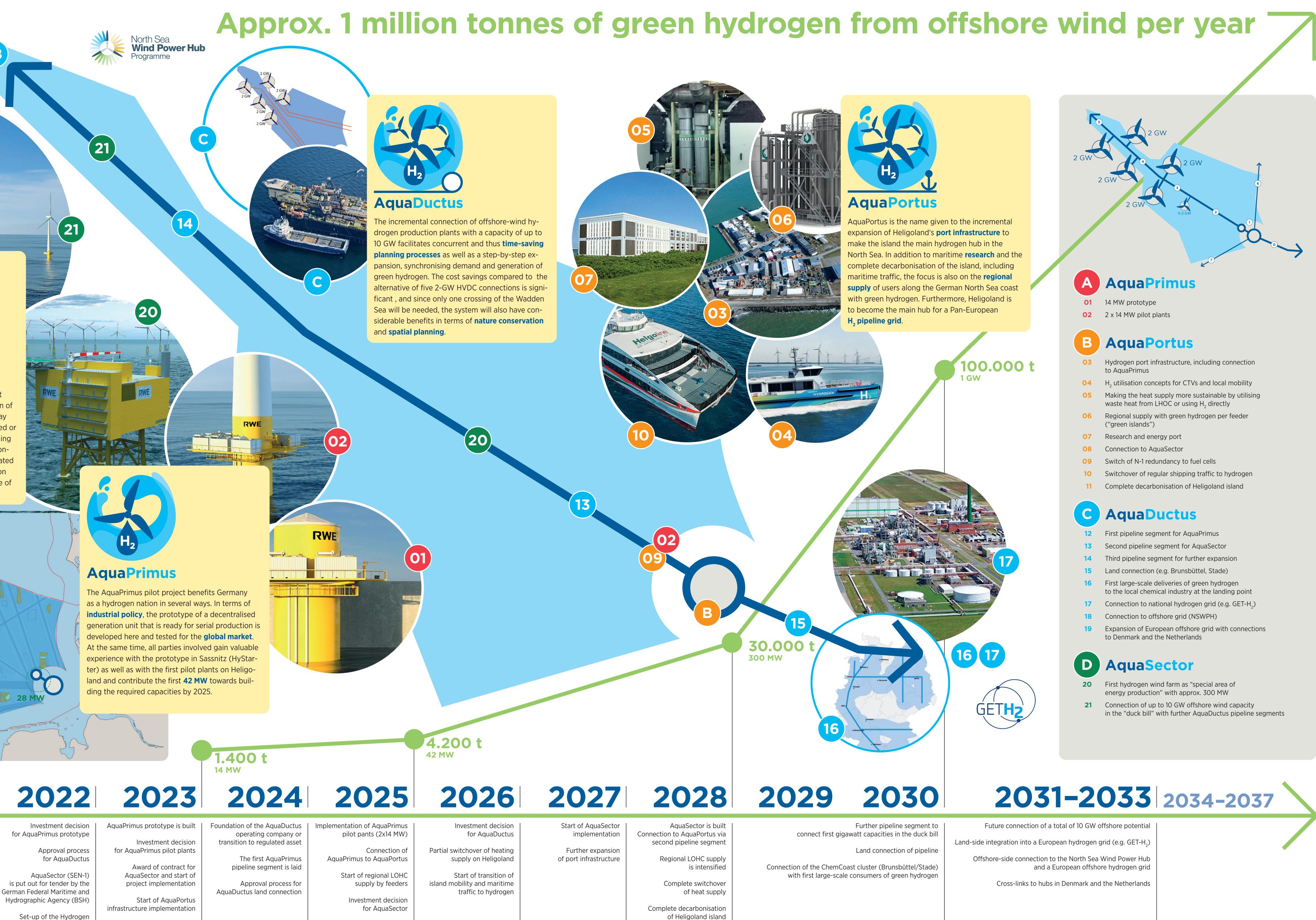
Foundation of the AquaPrimus consortium

Approx. 1 million tonnes of green hydrogen from offshore wind per year



AquaDuctus

GW facilitates concurrent and thus time-savin planning processes as well as a step-by-step expansion, synchronising demand and generation of green hydrogen. The cost savings compared to the alternative of five 2-GW HVDC connections is significant , and since only one crossing of the Wadden Sea will be needed, the system will also have considerable benefits in terms of **nature conservation** and spatial planning.



AquaPrimus

 H_2

The AquaPrimus pilot project benefits Germany as a hydrogen nation in several ways. In terms of **industrial policy**, the prototype of a decentralised generation unit that is ready for serial production is developed here and tested for the **global market**. At the same time, all parties involved gain valuable experience with the prototype in Sassnitz (HyStarter) as well as with the first pilot plants on Heligoland and contribute the first **42 MW** towards building the required capacities by 2025.

> 4.200 t 42 MW

> > Investment decision

supply on Heligoland

Start of transition of

traffic to hydrogen

Partial switchover of heating

island mobility and maritime

for AquaDuctus

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Implementation of AquaPrimus pilot pants (2x14 MW)

RWE

ATTE

Connection of AquaPrimus to AquaPortus Start of regional LOHC

supply by feeders Investment decision for AquaSector

Further tendering processes of H₂ areas by the BSH

Foundation of the AquaDuctus operating company or transition to regulated asset

1.400 t

14 MW

The first AquaPrimus pipeline segment is laid

Approval process for AquaDuctus land connection





DIE INSEL DIE ATMET