

# BalticSeaH2

Clean Hydrogen Partnership: Establishing the first,  
large-scale interregional Hydrogen Valley

# Baltic Sea Hydrogen Valley – A pioneering initiative for sector-coupled, interregional hydrogen economy

**BalticSeaH2** connects countries and regions

- Cross-border Main Valley located between/connecting Estonia – Southern Finland
- 7 Connected Valleys via pipeline and maritime connections

**BalticSeaH2 develops a full Baltic Sea-wide Hydrogen Economy across country borders, industries, and energy sectors**



# Project overview

**Call year:**  
**2022**

**Call topic:**  
HORIZON-  
JTI-CLEANH2-  
2022-06-01

**Project dates:**  
**1.6.2023 – 31.5.2028**

**Total project budget:**  
**33.2 M€**

**BalticSeaH2**

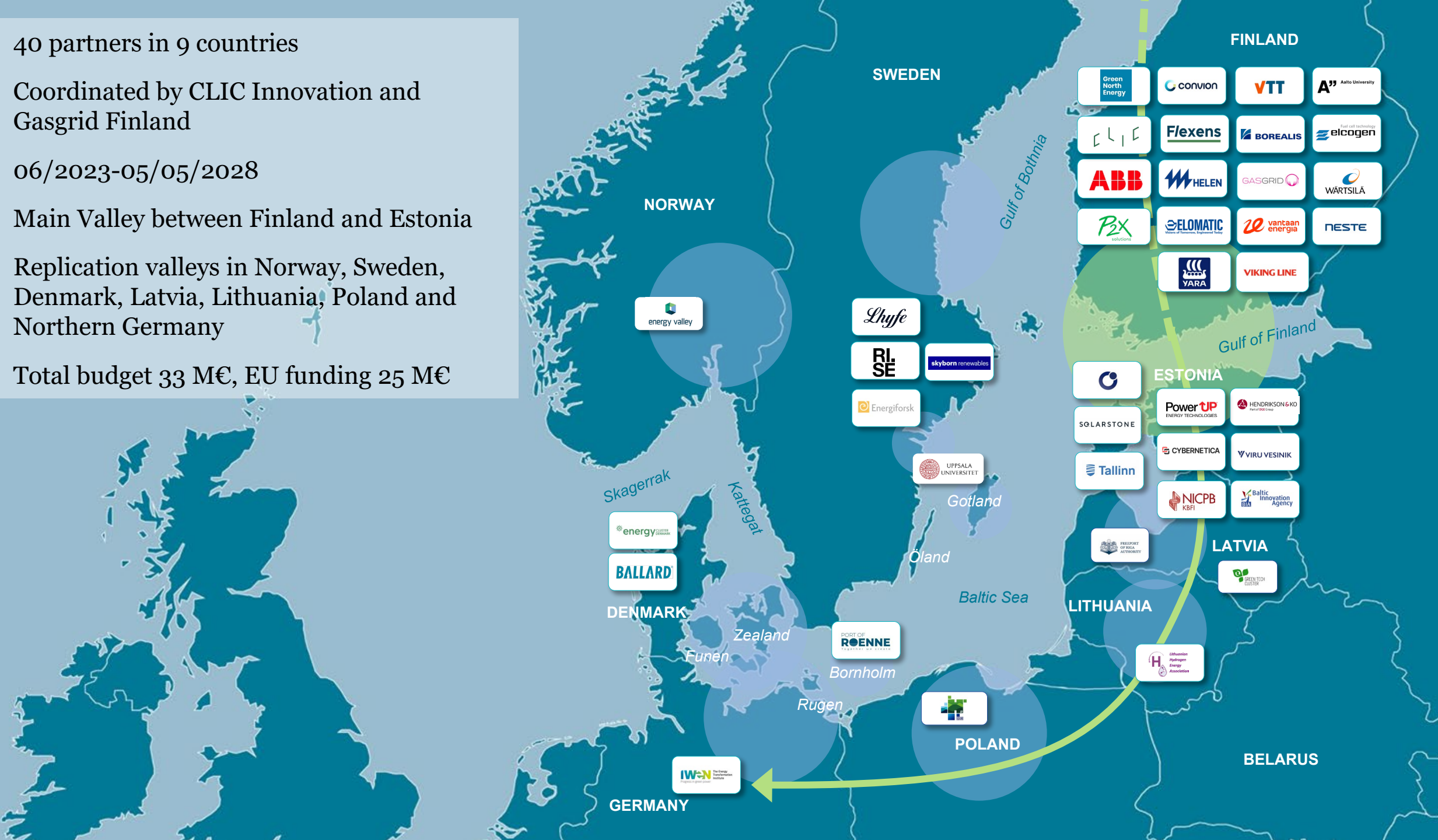
Coordinated by CLIC Innovation  
and Gasgrid Finland

**Number of partners:**  
**40 from 9 countries**

**Clean Hydrogen Partnership max.  
contribution: 25 M€**  
**Other financial contribution:**  
**8.2 M€**

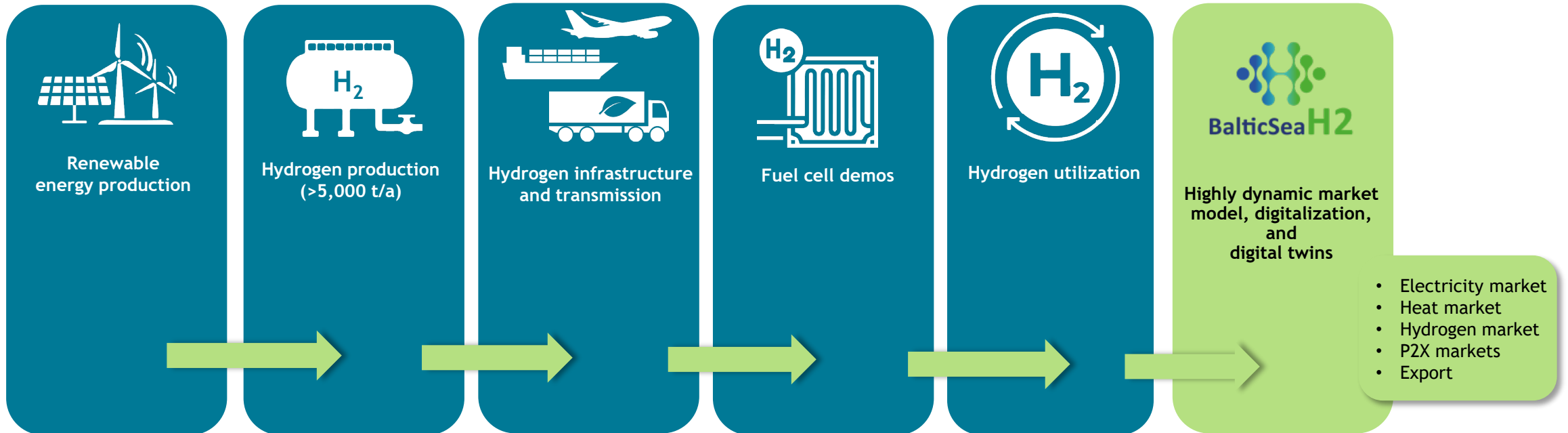


- 40 partners in 9 countries
- Coordinated by CLIC Innovation and Gasgrid Finland
- 06/2023-05/05/2028
- Main Valley between Finland and Estonia
- Replication valleys in Norway, Sweden, Denmark, Latvia, Lithuania, Poland and Northern Germany
- Total budget 33 M€, EU funding 25 M€



# Our overall Hydrogen Valley concept

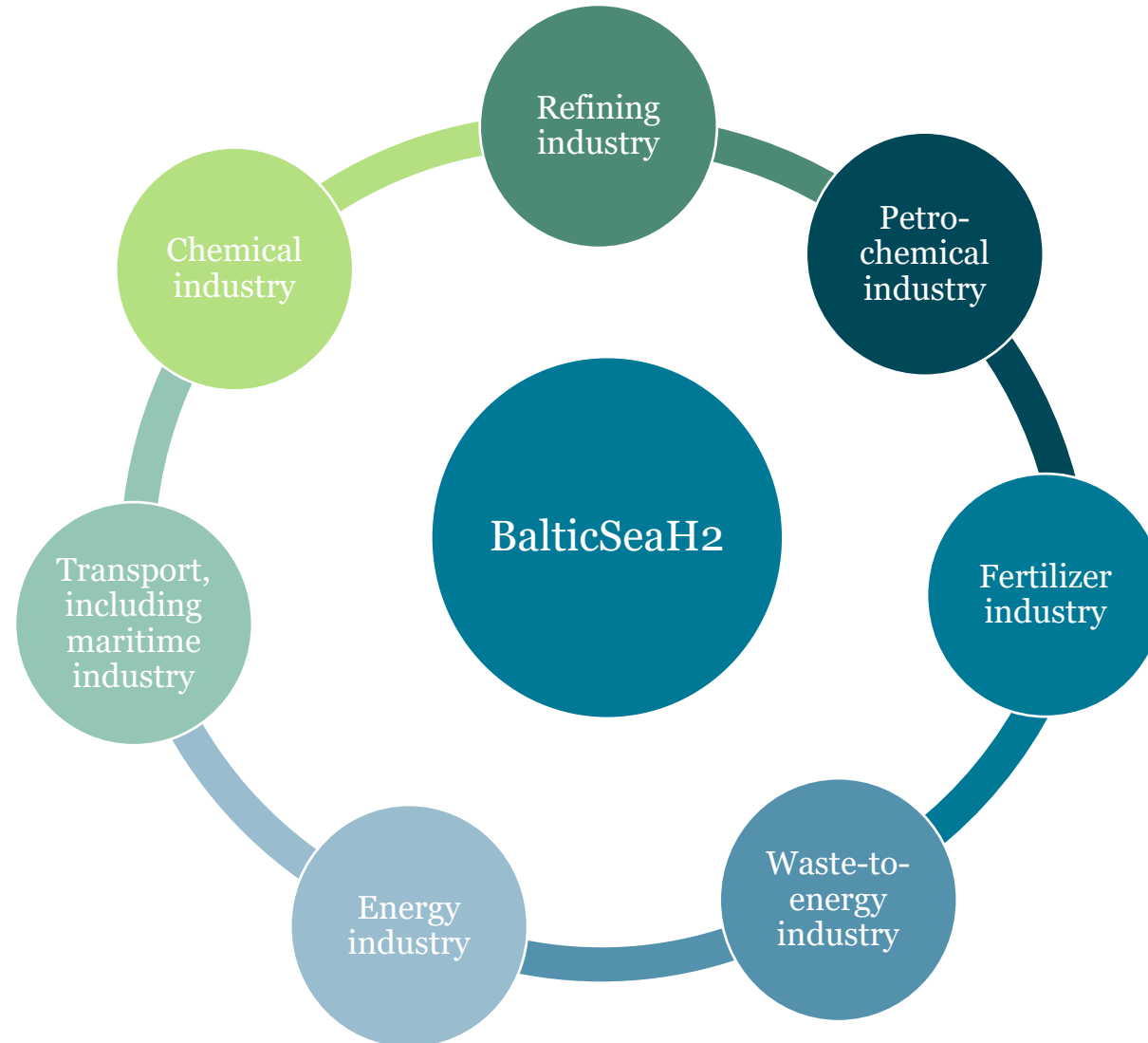
Coverage of **the whole value chain**: renewable electricity providers - hydrogen producers / heat utilizers - H2 logistics providers - biobased CO2 sources - e-fuel producers



**Sector integration** leads to more efficient use of primary energy, minimizes carbon emissions in various industries, and improves energy security and self-sufficiency.

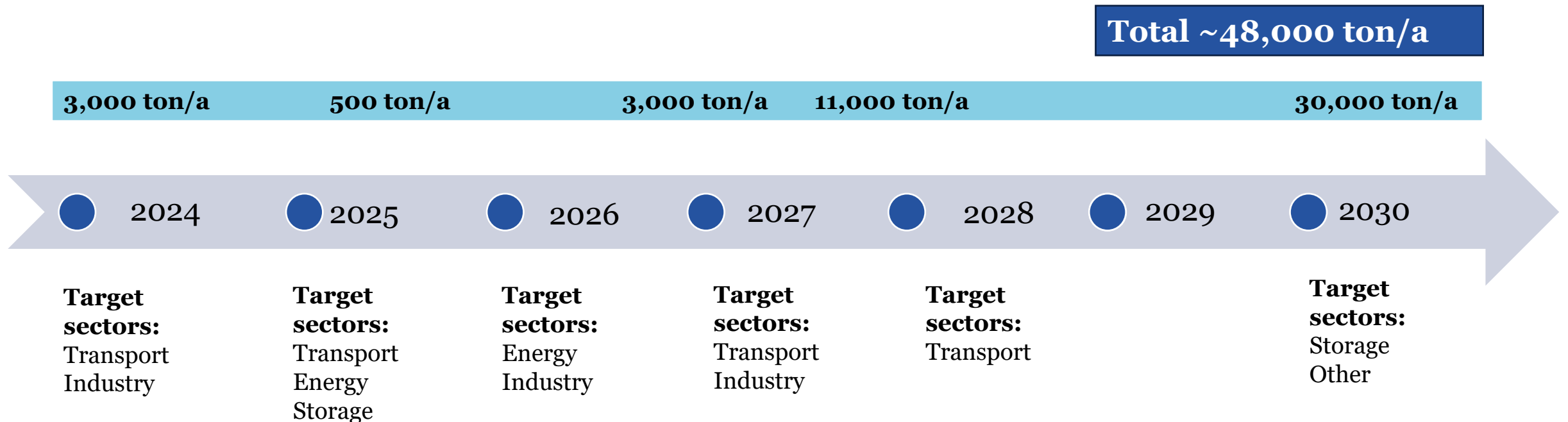
# Use Cases and industries involved

BalticSeaH2 will demonstrate over 20 Use Cases for the production, storage, transmission, and use of hydrogen.



# Valley implementation plan

## BalticSeaH2 renewable hydrogen production targets - Roadmap 2030

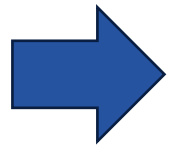


**Note:** The plants that are already under construction have received investment financing from the Innovation Fund, or IPCEI, RRF, or other funding from the Finnish ministry or the Finnish Climate Fund.

# Greatest risks & challenges for success

Greatest risks for the implementation of clean hydrogen economy in the Baltic Sea region include:

- Regulatory barriers for implementation
- Failure in raising financing for the investments
- Social acceptance

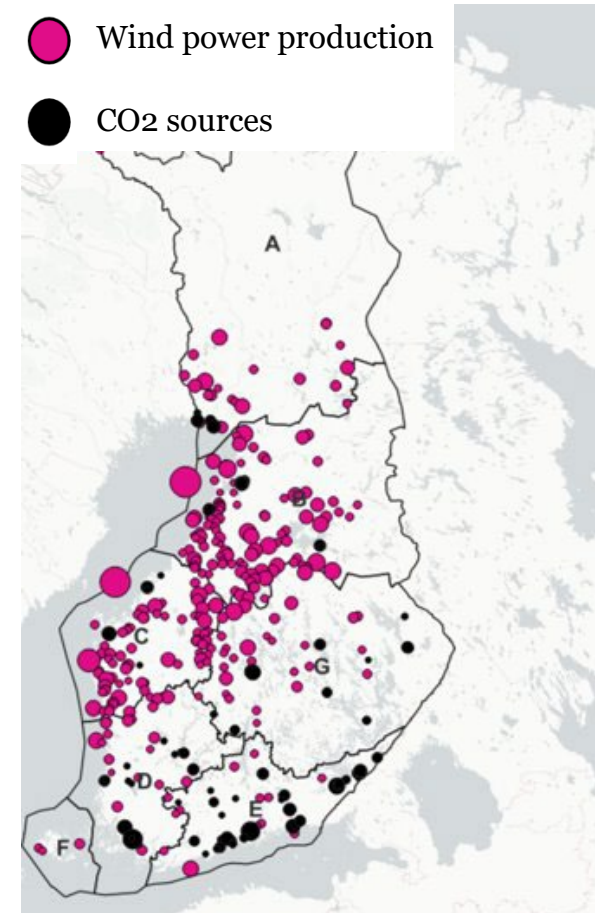


1. We will build on our strengths
2. We will collaborate, engage, and share



# Regional strengths of BalticSeaH2

- **Interconnected markets**
- **Existing electricity and gas infrastructure connections between the countries**
- High amount of cost-competitive renewable and **emission-free electricity available** with large growth potential
- **Good availability of biogenic CO<sub>2</sub>** and the **abundant clean freshwater resources**
- Coverage of **the whole value chain**: renewable electricity providers - hydrogen producers / heat utilizers - H<sub>2</sub> logistics providers - biobased CO<sub>2</sub> sources – e-fuel producers
- **High level expertise** in designing, building, and integrating complex industrial systems, and in digitalization



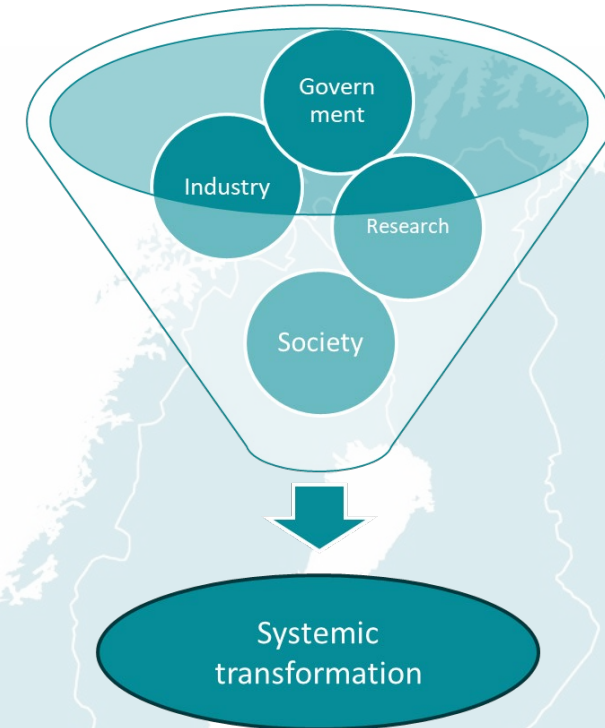
Source: Gasgrid Finland

# System strengths of BalticSeaH2

- Extensive **sector coupling opportunities** across electricity, heat, and gas sectors for optimum cost-efficiency
- Strong capabilities to develop
  - a **replicable model** for the **system integration** of hydrogen technologies **across different industries and regions**
  - a highly **dynamic market model** with **digital** implementation for our cross-border hydrogen valley, which can later be scaled up to other regions
- Our systemic approach **improves energy security and self-sufficiency**, not forgetting safety and cyber security issues

# Societal strengths of BalticSeaH2

- Committed **industries** around the BalticSeaH2
- Committed **cities with carbon neutrality goals and possibilities for advanced sector coupling**, including heat, electricity and transport
- Committed **education sector** willing to launch new programs for skills development
- A good level of **trust!**



Geels et al. Science (2017); König et al. In: Industry, Innovation and Infrastructure (2020)

Together we will **co-create** our Baltic Sea-wide joint Hydrogen Economy:



# Learn more about BalticSeaH2



We will collaborate, engage, and share



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## BalticSeaH2

Demonstrating hydrogen economy with the largest cross-border Hydrogen Valley in Europe

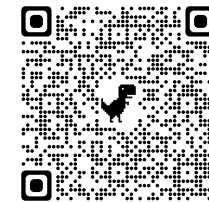
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# Thank you!

Get in touch: [Jatta.Jussila@clicinnovation.fi](mailto:Jatta.Jussila@clicinnovation.fi)