



Electrolysers in Germany and France: Planning, Operation and Financing

**DFBEW-Conference
5th November 2025**



“

Some think renewable hydrogen is the future.
We believe it is here and **now**.

Matthieu Guesné - CEO

Our history



2017

Birth of the project by Matthieu Guesné



2019

The official launch of Lhyfe



2021

Launching of the first production site



2022

Lhyfe lists on Euronext Paris!



2022

World's first hydrogen production at sea



2023

Launching of 3 new production sites in France and Germany



2024

First green hydrogen powered train in Germany



Lhyfe

INTRODUCTION
EN BOURSE

23 MAI 2022

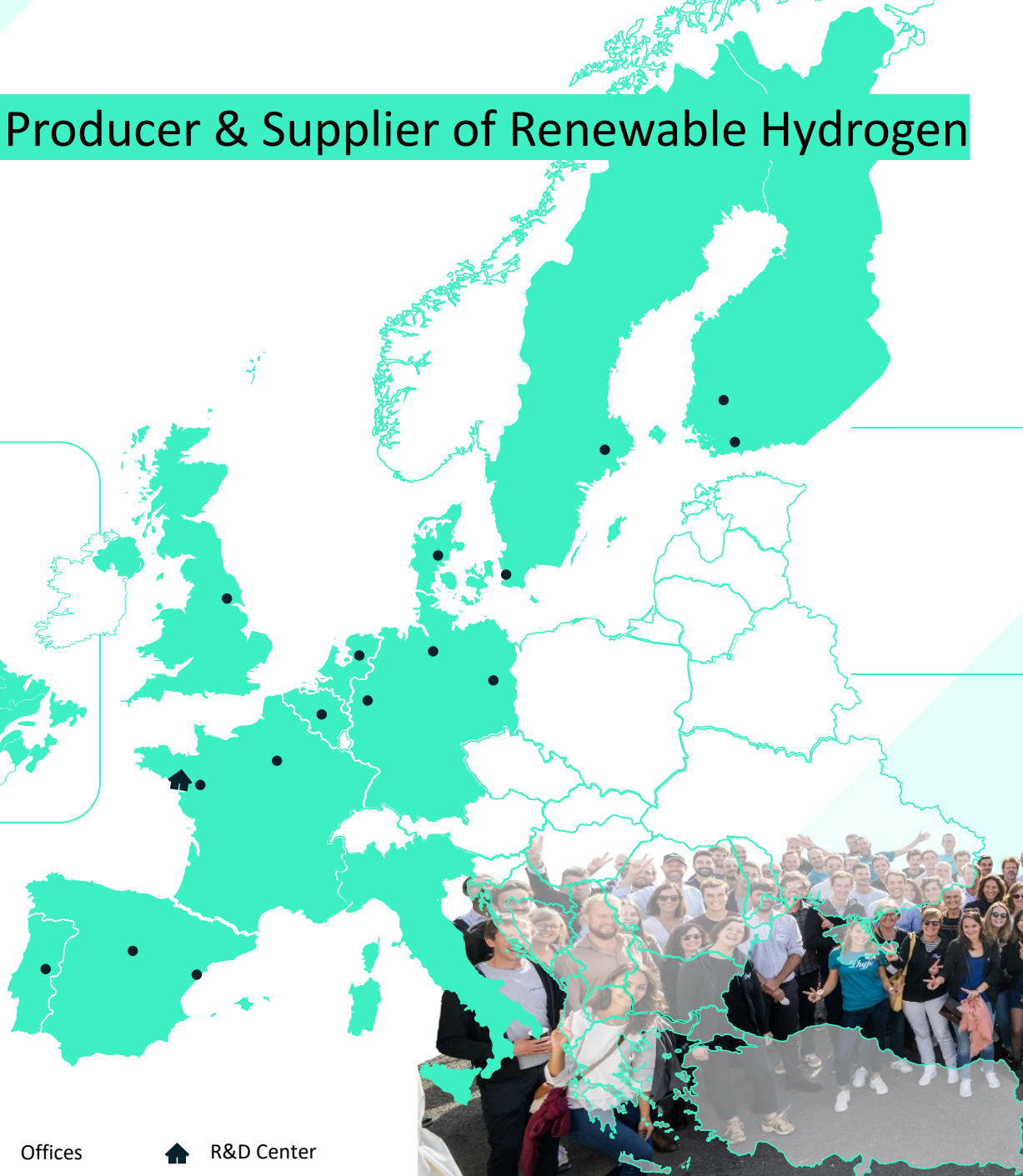
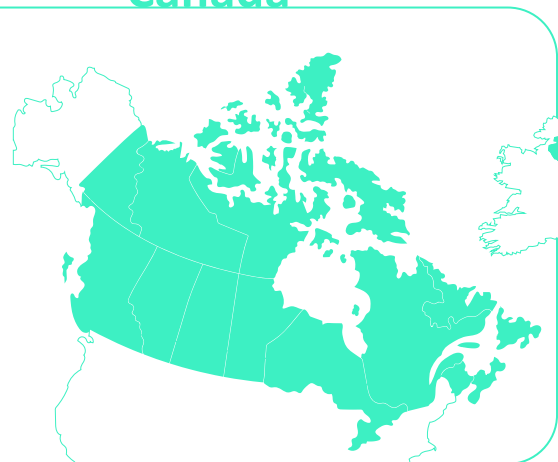
EURONEXT

LHYFE
LISTED
EURONEXT

Paris

► Lhyfe, Producer & Supplier of Renewable Hydrogen

Canada



200

Talented people (2023)

12

Countries

• Offices 🏠 R&D Center





► Bouin (France)



Start of operation:
H2 2021

Key figures:
1 MW
300 kg H₂/day

Plant upgrade:
IBN 2024/1.HJ 2,5 MW
1,000 kg H₂/day

Power source:
Onshore wind (direct connection)

Water supply:
Sea water

Applications:



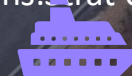
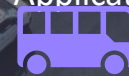
► VHyGO, Buléon (France)

Start of operation:
2024

Key figures:
5 MW
2,000 kg H₂/day

Power source:
Wind farm

Applications: Strat of



► Corridor H₂ Occitanie, Bessières (France)

Start of operation:
2024

Key figures:
5 MW
2,000 kg H₂/day

Power source:
Wind farm

Applications:



► Schwäbisch Gmünd (Germany)

Key figures:

10 MW (2x5MW)

2,500- 4,000 kg H₂/day

Power source:

Solar and wind farm

Water supply:

Drinking water (network)

Applications:





Deutsche
Ölwerke Lubmin

LNG-Terminal Lubmin

Hafen Lubmin

Bethleh
Spandow

Lubminer
Korrosionsschutz

Kernkraftwerk
Greifswald (Lubmin)

ZLN Zwischenlager Nord

FREESENDORF

Viterra Lubmin

EWN Entsorgungswerk
für Nuklearanlagen

Umspannwerk Lubmin

MAL Maschinen- und
Armaturenwerkstatt

Besucherparkplatz EWN

Schwarzwaldwiese
Lubmin

L262

L262

L262

Waldperle

► First Offshore pilot plant : LE CROISIC (France)

Prototype:

September 2022 – October 2023

Key figures:

1 MW

400 kg H₂/day

Power source:

Offshore wind (direct connection)

Water supply:

Sea water

from May 2023:

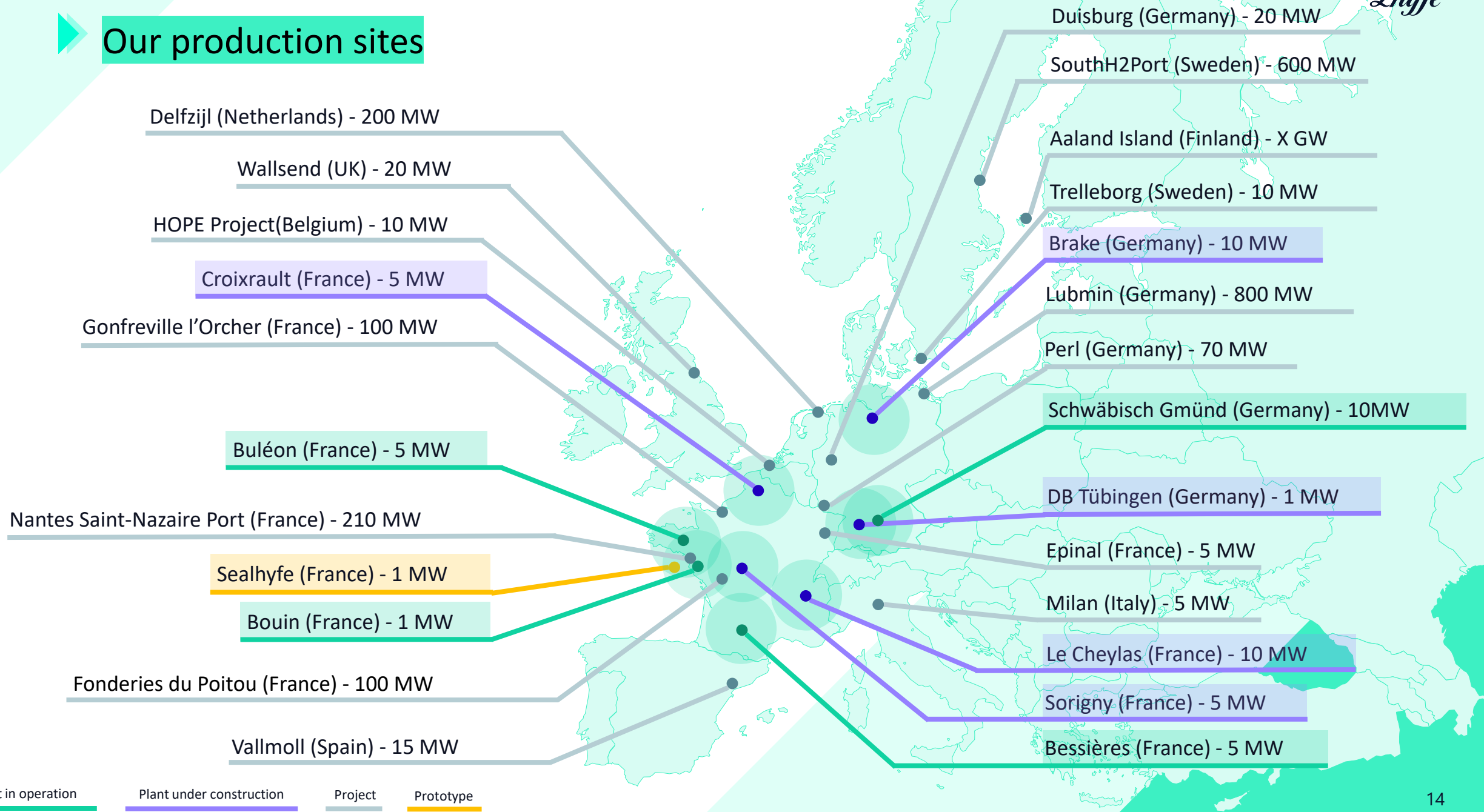
7-month operational test of the floating electrolyzer, which is supplied with electricity directly from the floating wind turbine



Lhyfe Tubetrailer: 20 – 40 Feet / 350 – 480 bar / Up to 1 t H2

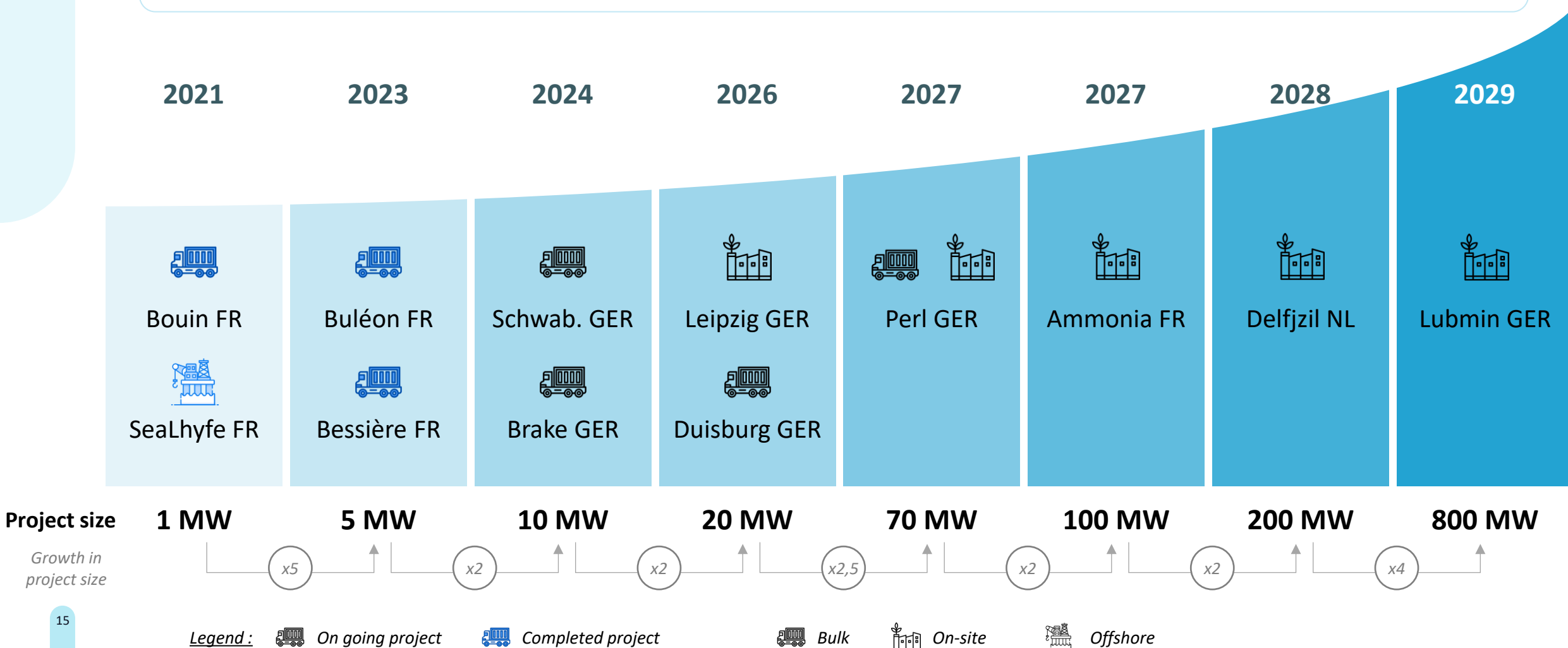


Our production sites



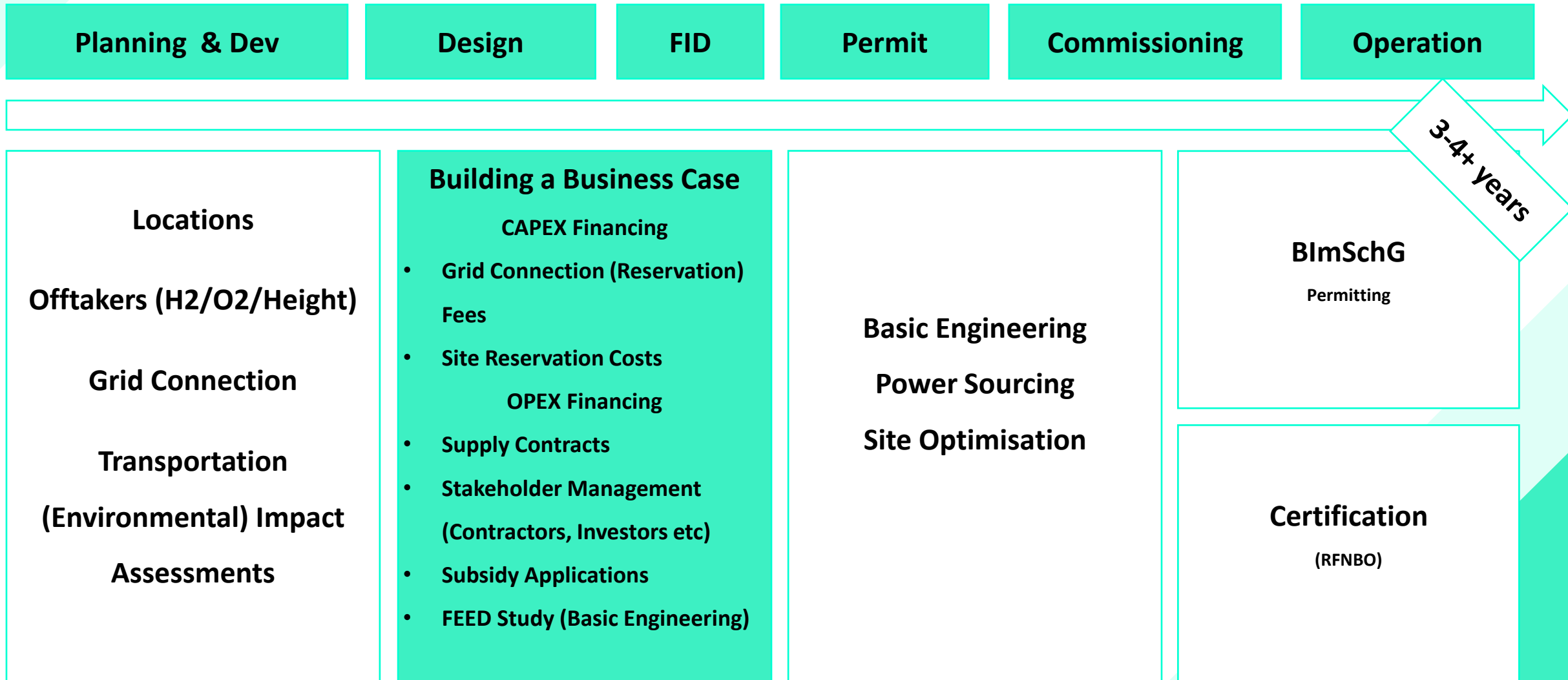
LHYFE'S ITERATIVE AND PROGRESSIVE APPROACH IS KEY IN DERISKING PROJECTS

By executing a proper industrial roadmap, we can build on the gathered experience to achieve large scale sites on time and at cost.

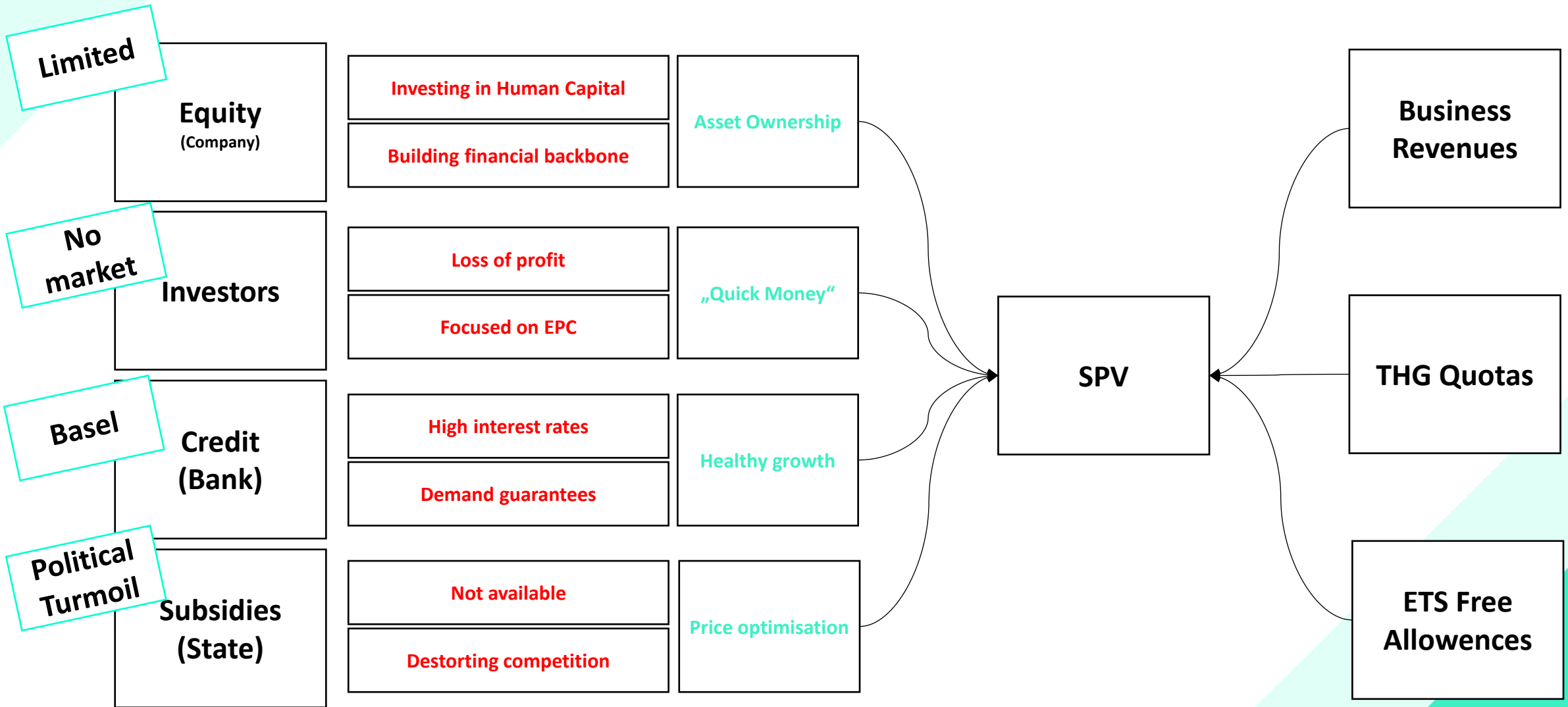


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▶ Planning Process



Investment Structure



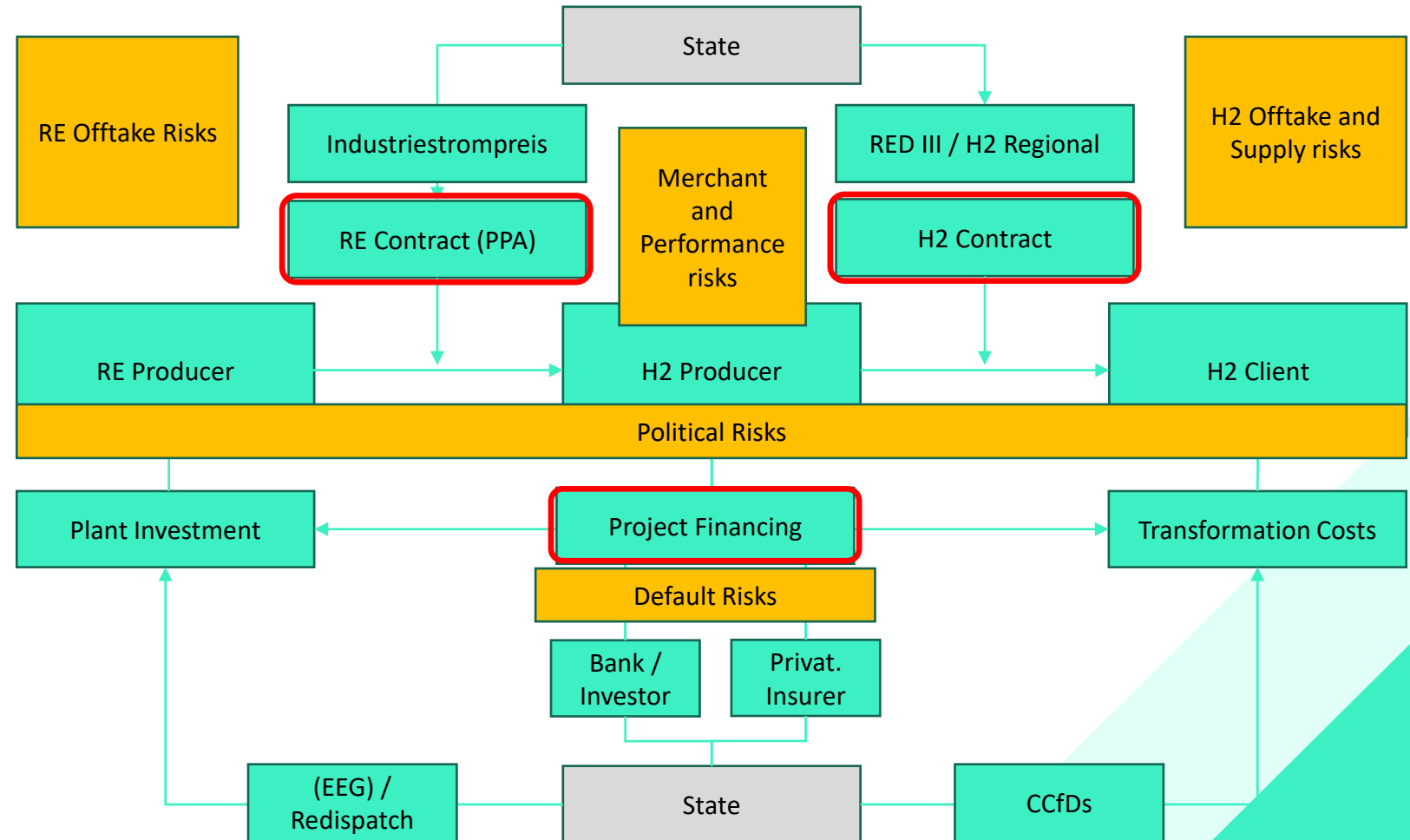
Risk Management

Bottlenecks

- Project Financing
- Power Sourcing
- Offtake Contracts
- Political Risks

Risk Management Tools

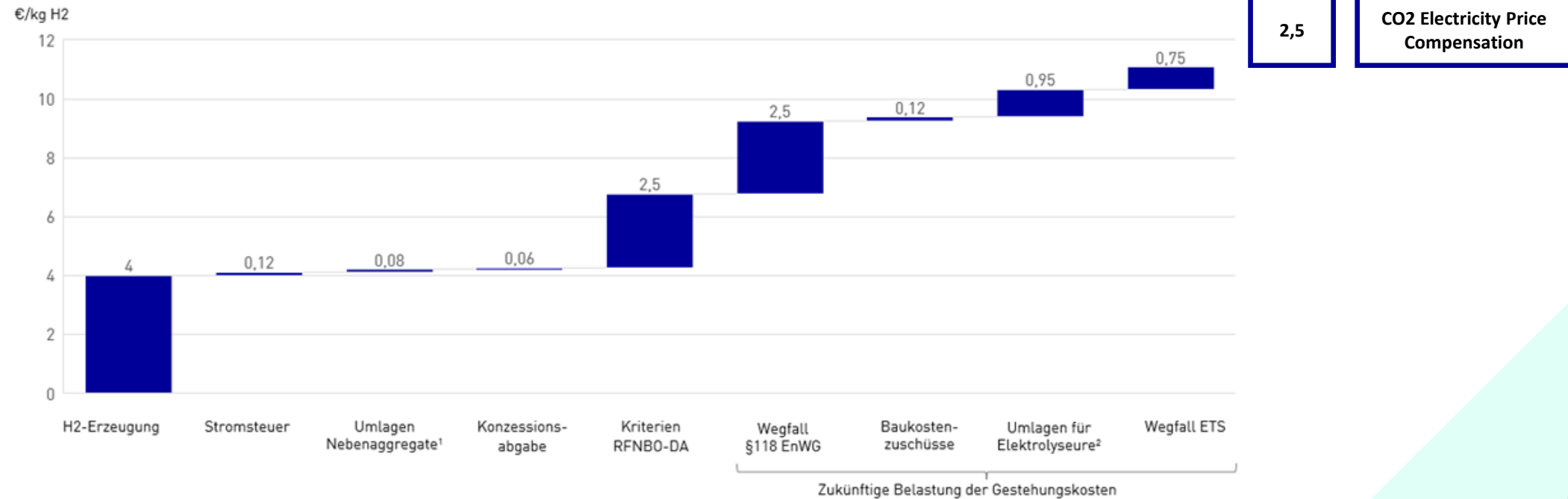
- PPA Counter Guarantees (EIB trail)
- H2 Regional Double Auction
- Default Guarantees
- Performance Guarantees?
- Political Risk Insurance?



Regulatory Cost Components of Hydrogen

Regulatorische Mehrkosten der RFNBO-konformen H2-Erzeugung in Deutschland (BDEW: 2025)

EnBW

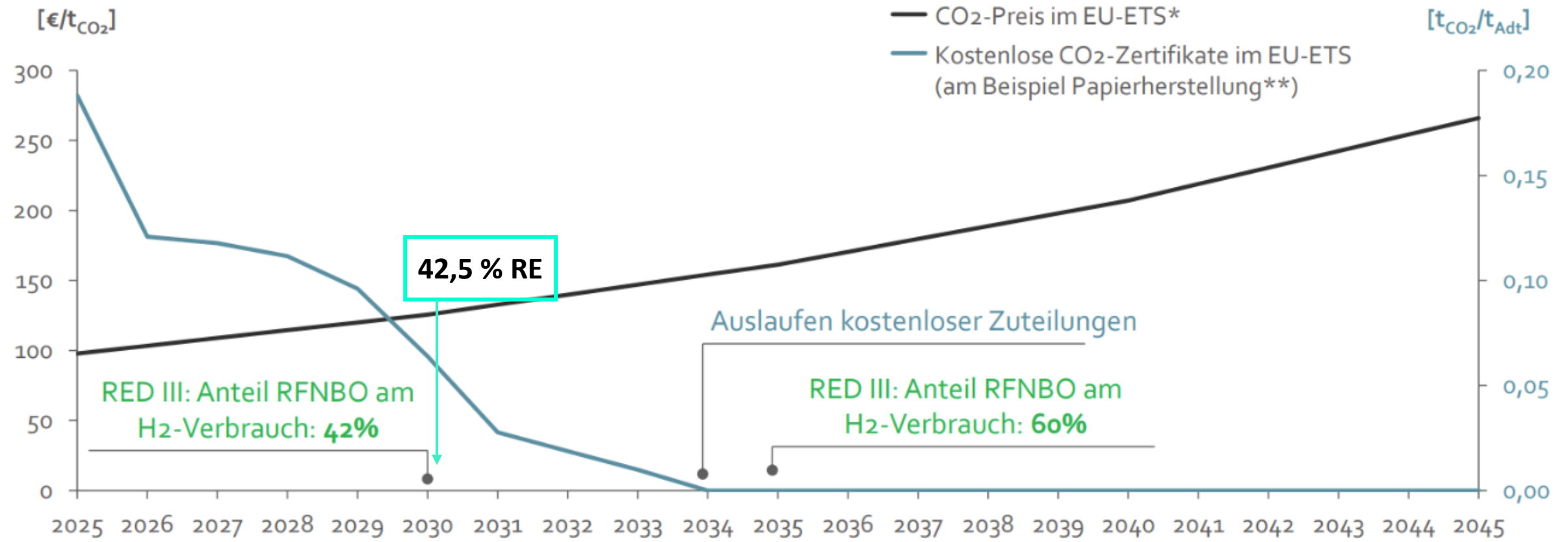


¹KWK- sowie Offshore-Umlage von denen Elektrolyseure laut §25 EnFG mit IBN vor 2030 befreit sind, welche Nebenaggregate allerdings entrichten müssen

²Wegfall der Befreiung von der KWK-Umlage, der Offshore-Umlage sowie der Umlage für die Sonderform der Netznutzung ab IBN 2030

► Is the regulatory Framework sufficient?

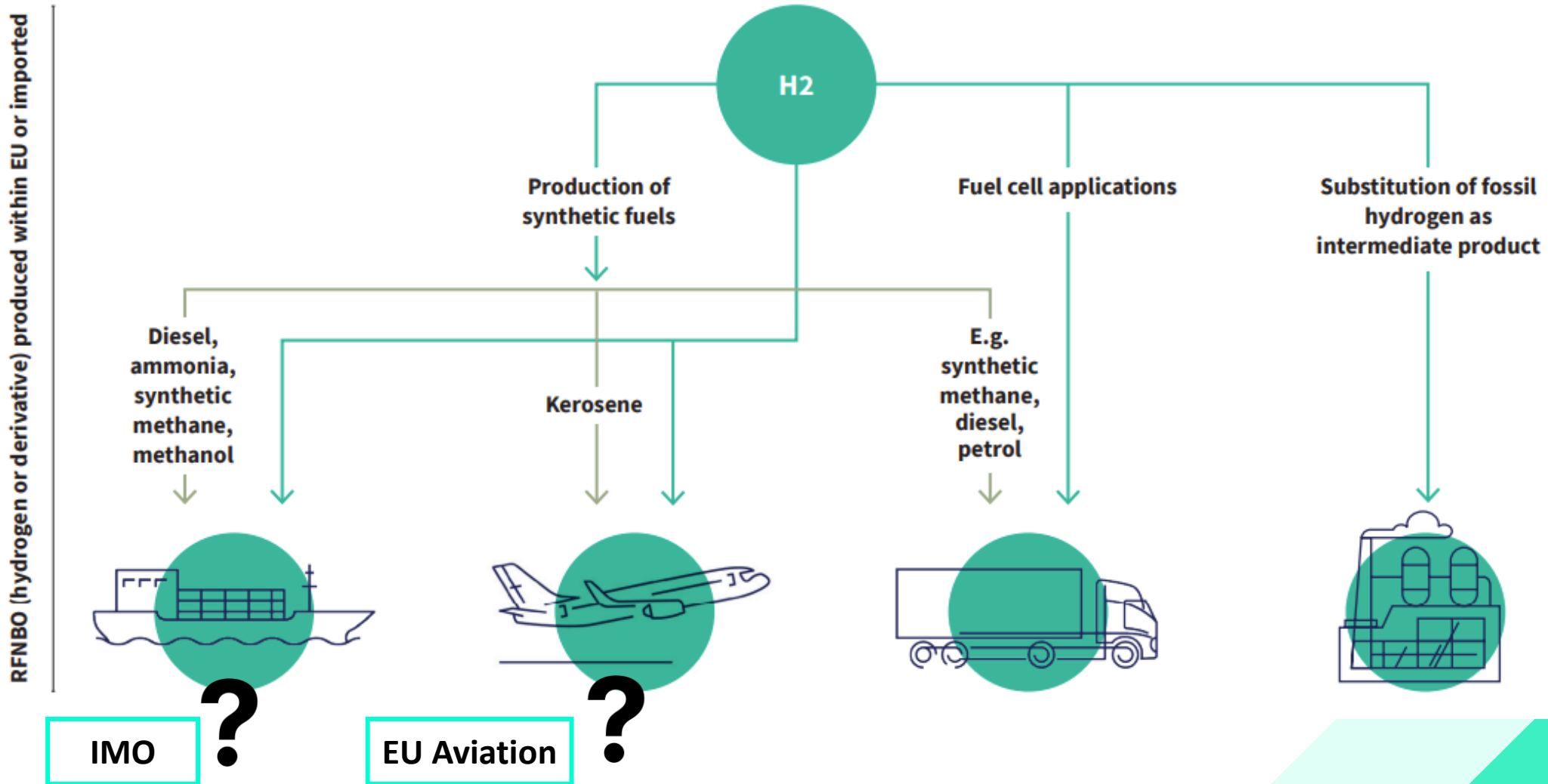
Handlungsdrücke auf Industrie



* Reform-Szenario des Potsdamer Instituts für Klimafolgenforschung;

** mit CBAM-Faktor

RED III Business Cases RFNBO (Transport)



What Future for RFNBO?

Good News: Hydrogen remains an essential component of the renewable energy system

Bad News: Without appropriate steering instruments, the market could turn sour

Much on the table:

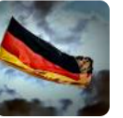
- Revision of the H2 Backbone
- Regional / Cluster Based H2 Double Auctions
- Grid Development Plan revision
- Green markets in public procurement
- Green Gas Quota
- **RED III Implementation**
- Power Plant Strategy and H2 readiness (12.5 GW)
- Future of the electricity price compensation
- Grid system criteria / Grid Connection Costs
- H2 Storage Strategy Rollout
- Wind-on-Sea System Supporting Electrolysis Subsidies
- Mid Streamer Guarantees

Hydrogen Central

[Germany must revise hydrogen strategy in view of slow ramp up – auditors](#)

Germany must revise hydrogen strategy in view of slow ramp up – auditors Germany is failing on its targets to expand the hydrogen economy,

vor 1 Tag



Fuel Cells Works

[German Renewables Lobby Rejects Audit Office Criticism of Hydrogen Strategy.](#)

The German Renewable Energy Federation (BEE) defends the country's hydrogen strategy, stating it is an investment in the future for climate...

vor 2 Tagen





Contact us

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Lhyffe