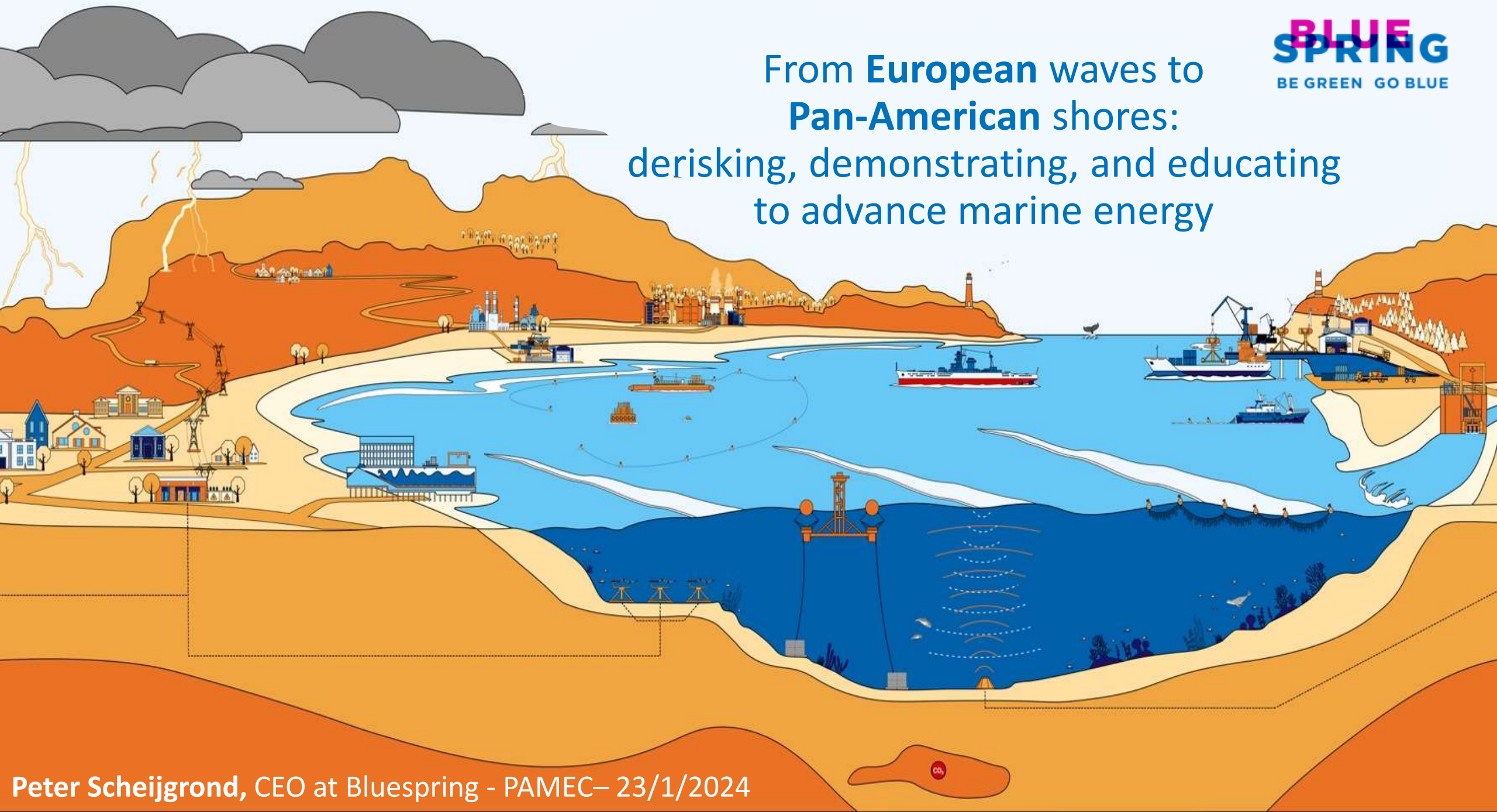


From **European** waves to
Pan-American shores:
derisking, demonstrating, and educating
to advance marine energy



About BLUESPRING



1.25MW dam-integrated array of 5 turbines
Eastern Scheldt Storm surge barrier for Tocardo



200kW floating platform
Island of Texel for BLUEWATER

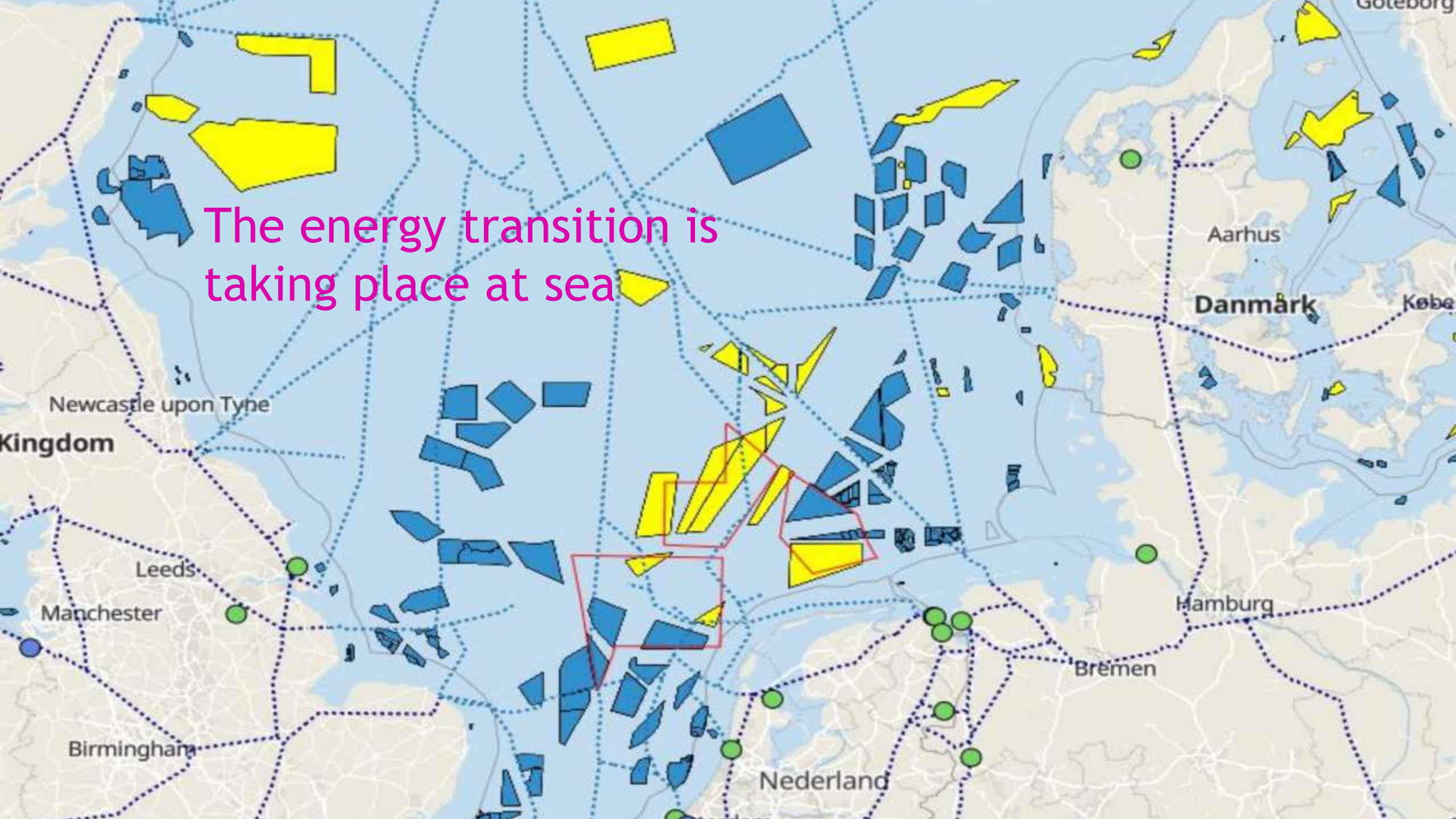
Content

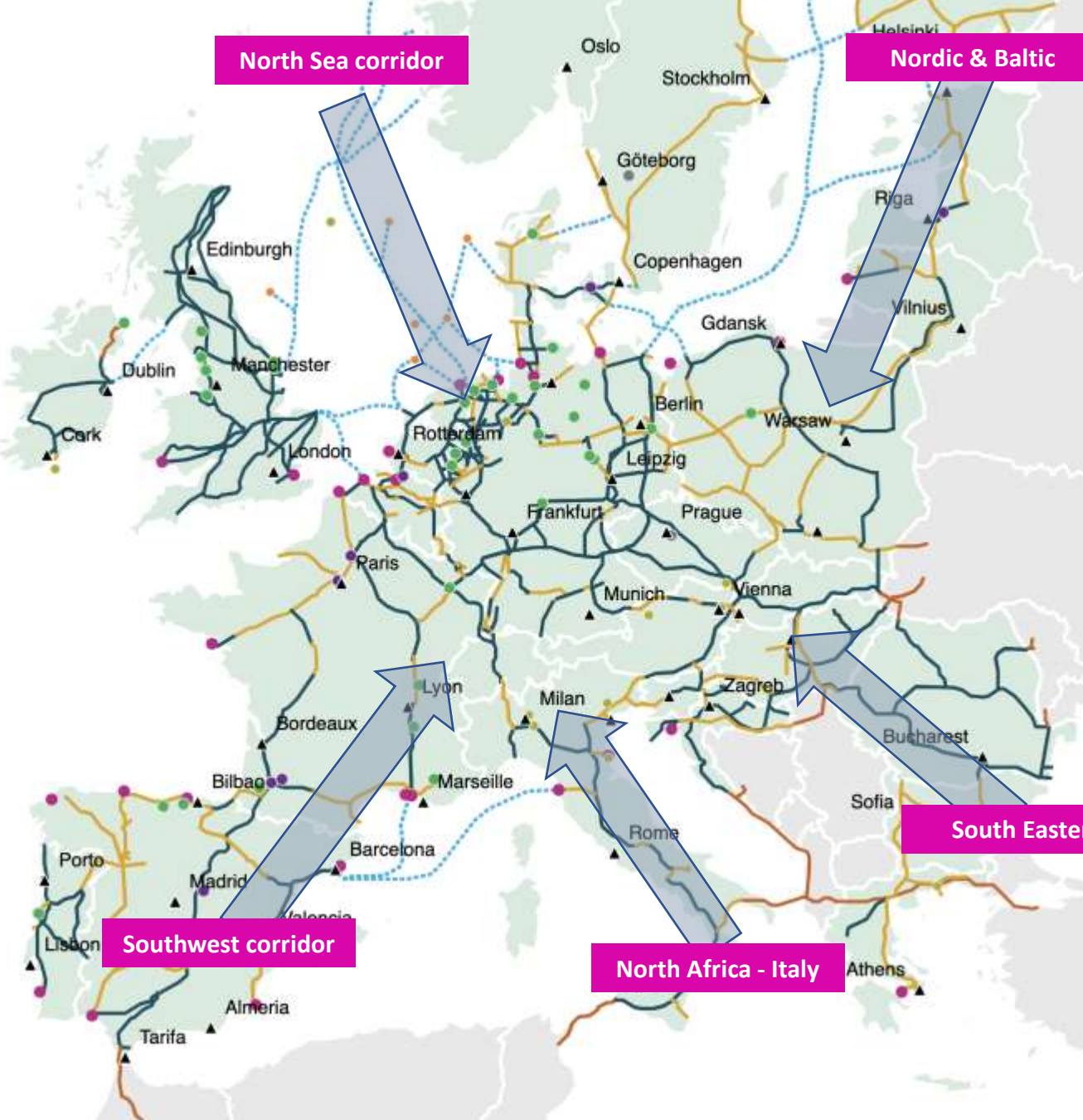
- Vision
- Adaptive policies
- Derisking
- Markets & Business Cases
- Services
- Skills & training
- What's next & your role

Vision

A 100% renewable energy system for all by 2050

The energy transition is taking place at sea





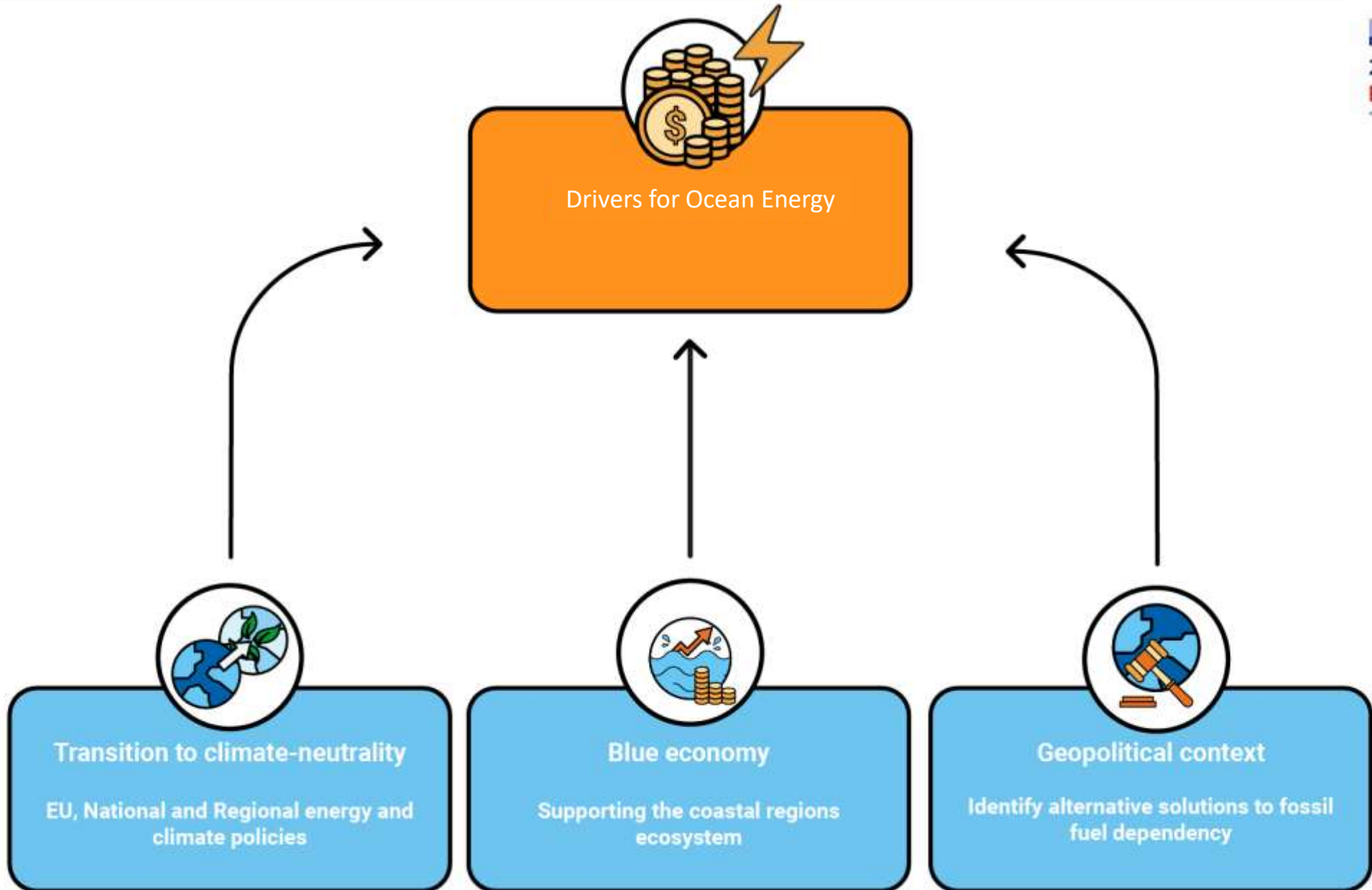
The European Green Hydrogen Backbone requires all forms of renewable energy and lots of it, 24/7!



SPRING
BE GREEN GO BLUE

Adaptive Policies

A tool box for policy makers



In simple Dutch:

- Designing a policy that takes stock of **technology progress** and supports **commercialization**
- Building **trust** to keep moving forward and unlocking ORE potential in coastal regions



Policy recommendations

- Removal of commercial barriers as technology progresses.
- A feedback mechanism, based on validation of technology progress like stage-gate metrics, enables regulatory action
- Value-based approach to the design of policies to support the roll-out of OREs
- Regions and test sites have a key enabling role.
- Include multi-use considerations in offshore wind developments

derisking & demonstration

floating solar, wave energy and tidal energy

Oceans of Energy



Wide open corridors for wind turbine access







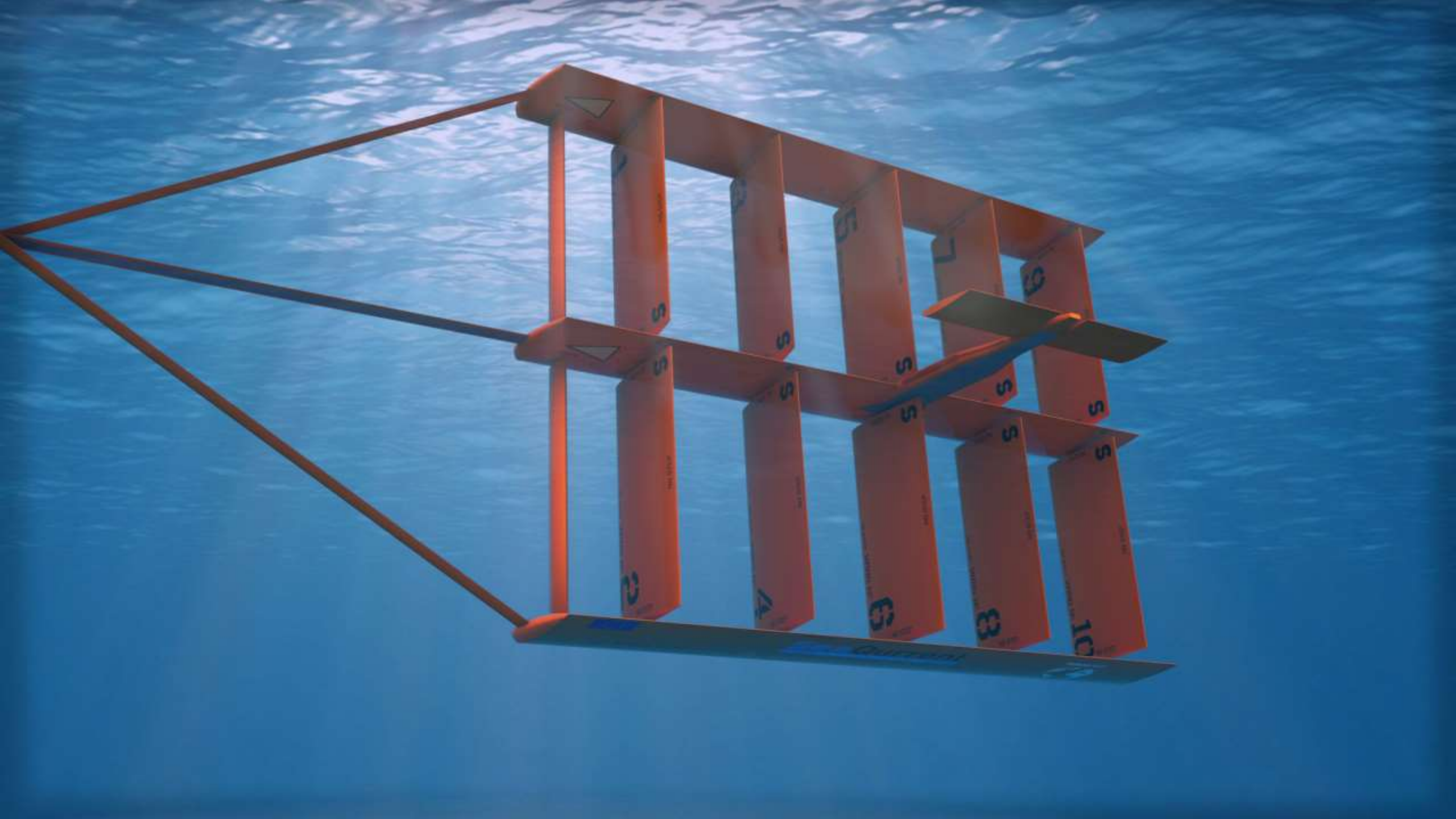














powered by **DIAMEN**

Markets & Business Cases

Ports, infrastructure, standalone/autonomous applications and offshore energy farms

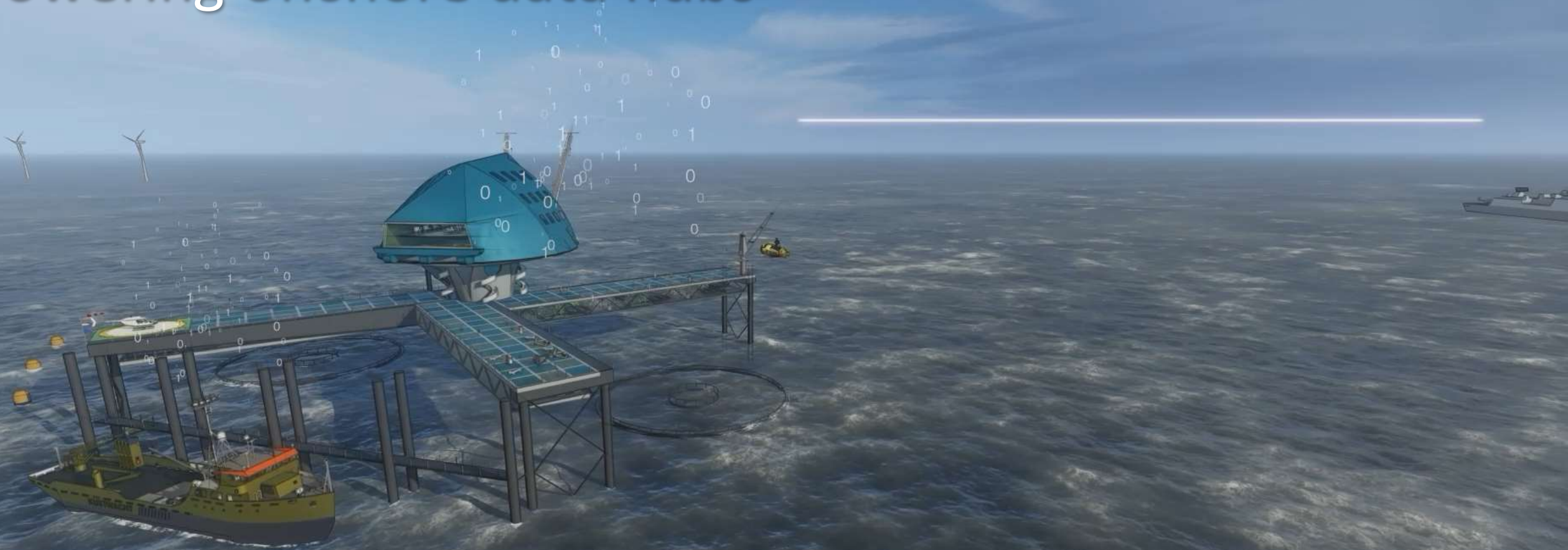
Powering ports and infrastructures

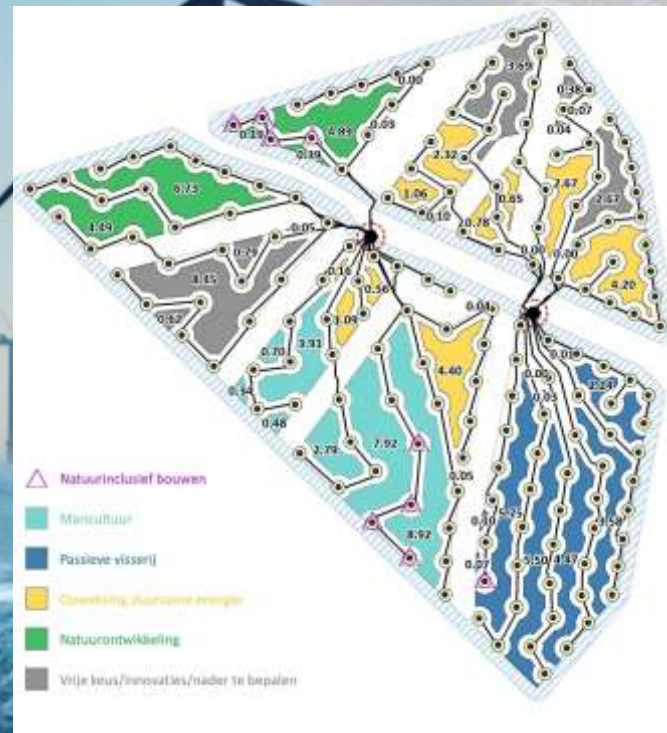


Powering aquaculture



Powering offshore data hubs



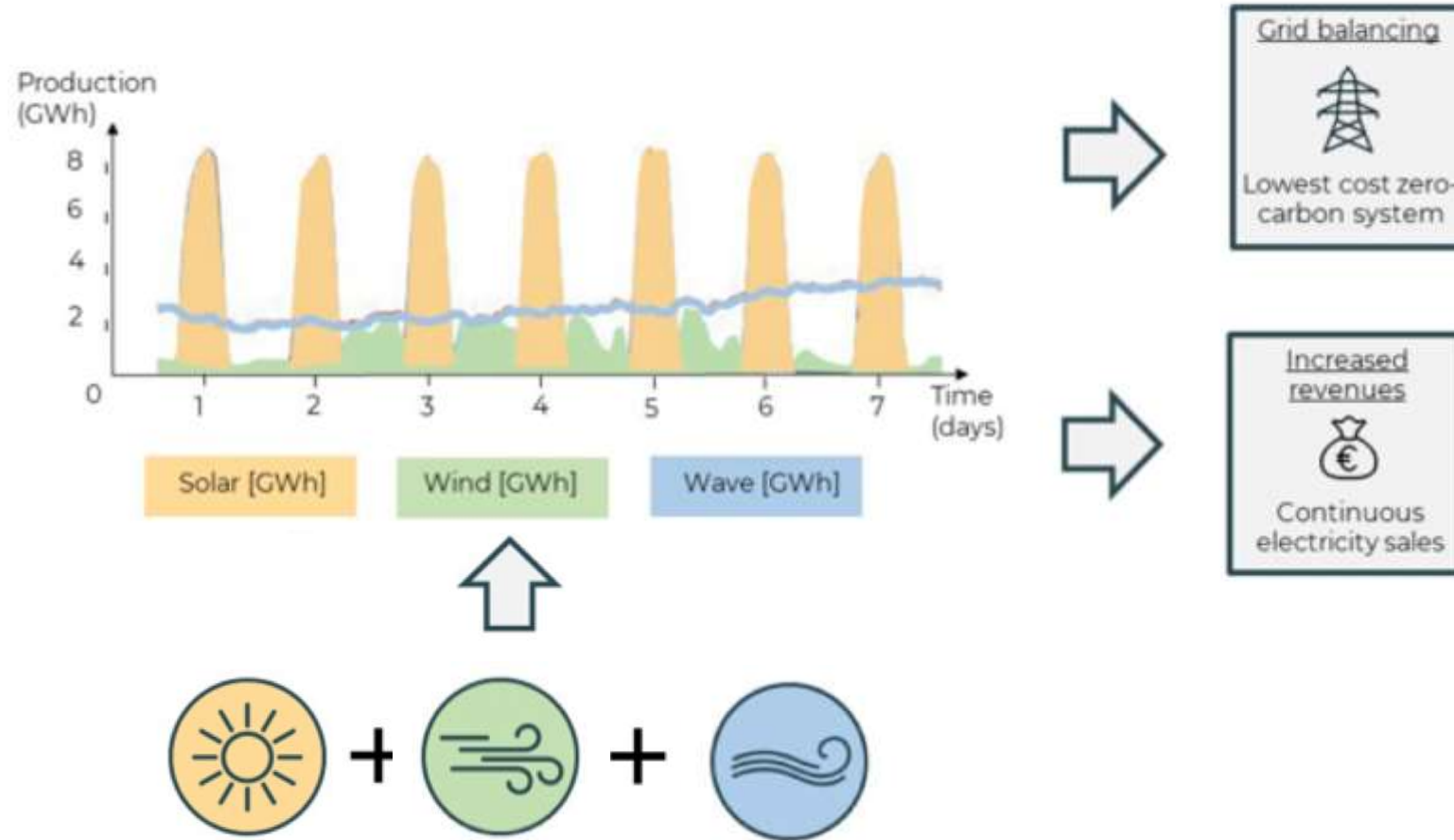


Multi-use at offshore energy farms

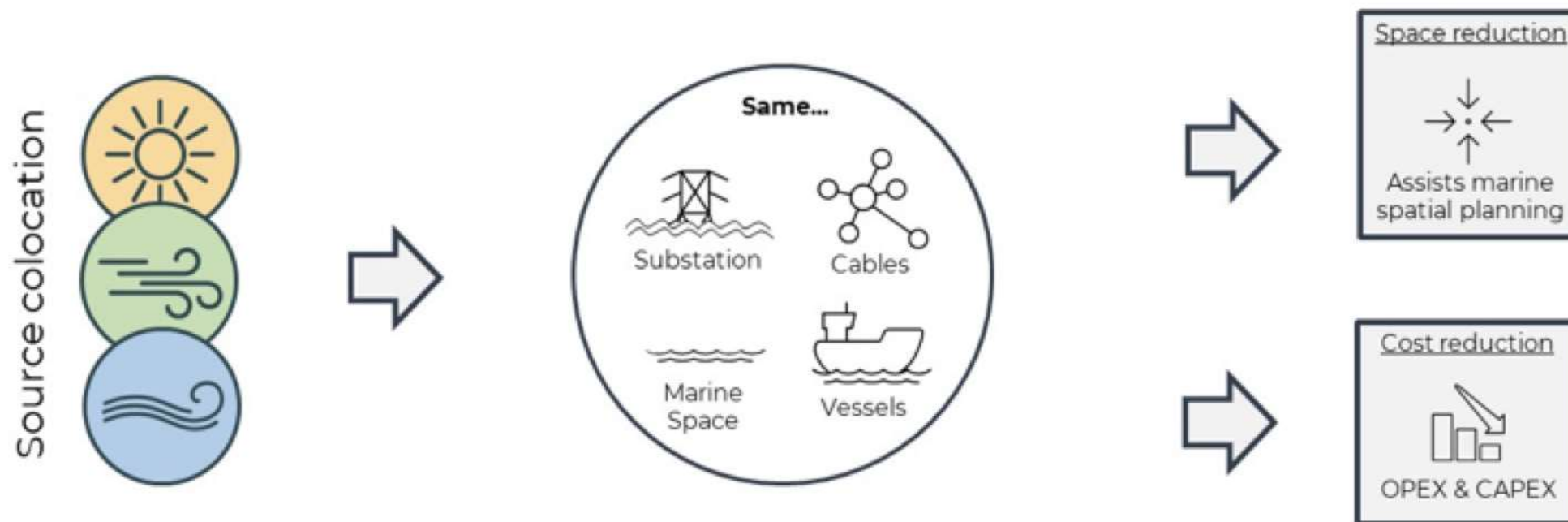


Impression North Sea Farm #1 in Borssele © SMARTLAND

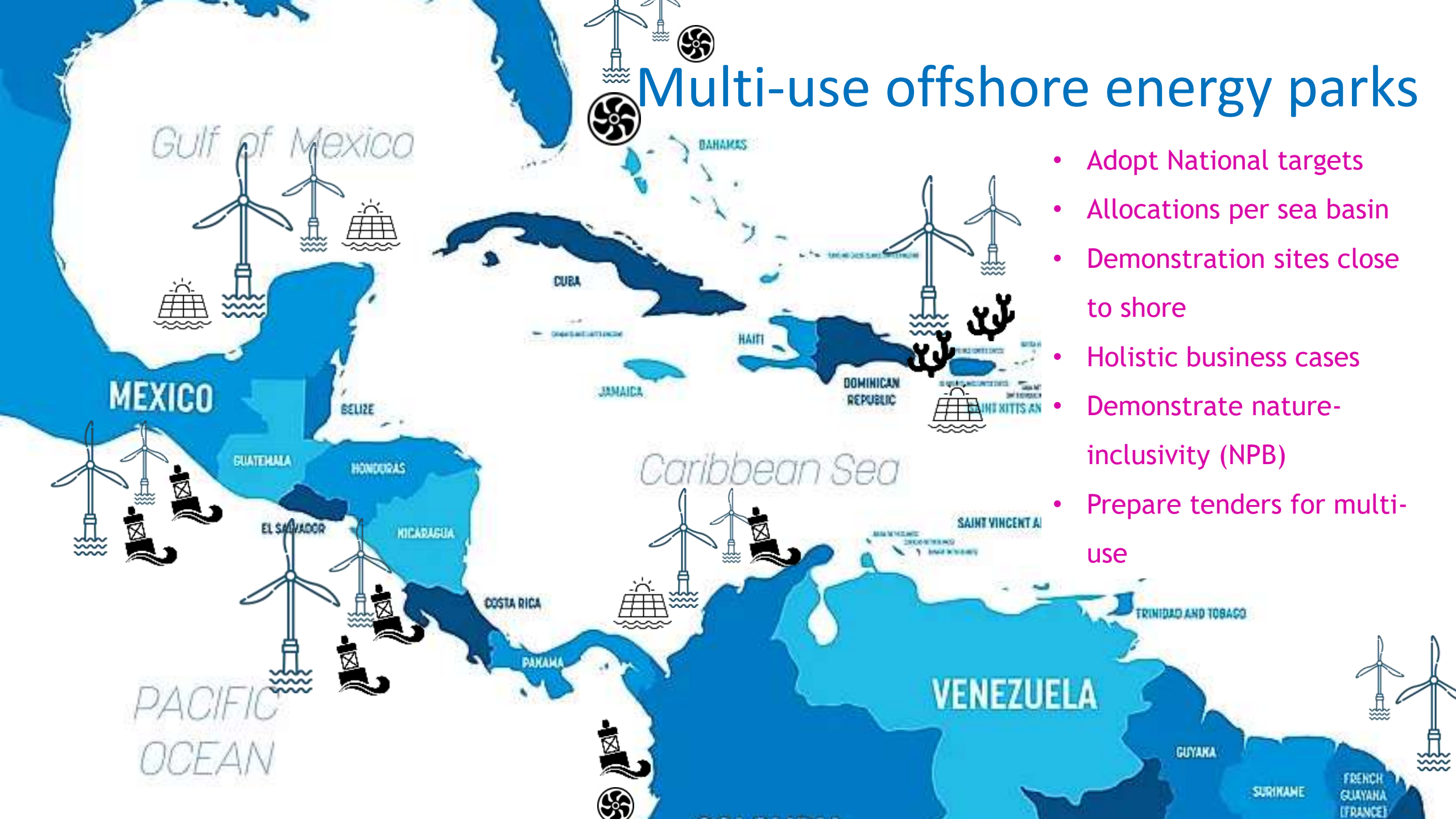
Benefit 1: balanced energy production
Benefit 2: increased revenues



Benefit 3: space reduction
Benefit 4: cost reduction



Multi-use offshore energy parks

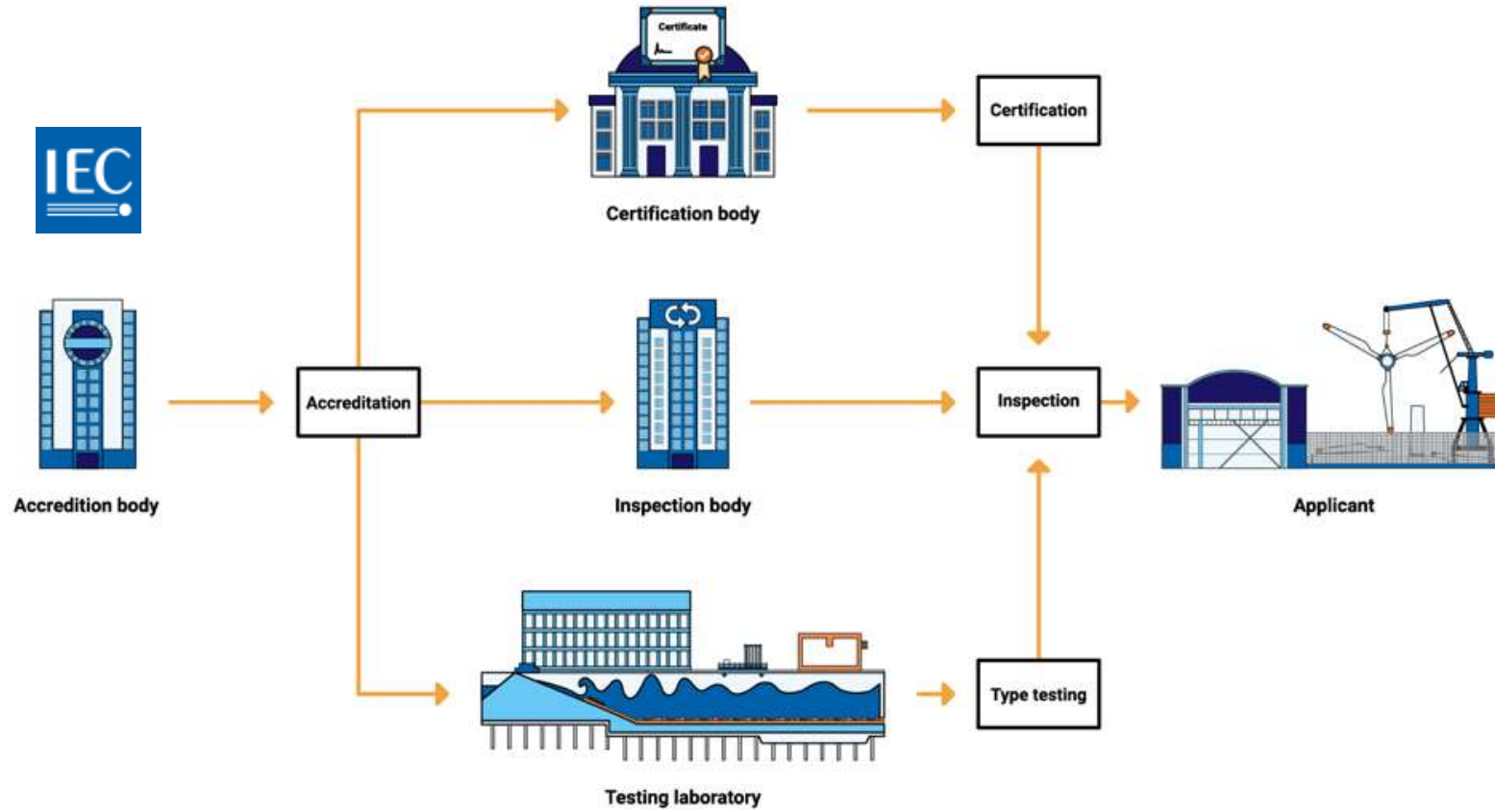


- Adopt National targets
- Allocations per sea basin
- Demonstration sites close to shore
- Holistic business cases
- Demonstrate nature-inclusivity (NPB)
- Prepare tenders for multi-use

Services

Technical & commercial services

Certification



Supply chain opportunities

- Components, manufacturing & assembly
- Installation & inspection
- Smart Maintenance (remote & unmanned)
- Nature-inclusive solutions -> Net Positive Biodiversity (NPB)
- Seabed security

Skills & Training

Online elearning, Master Classes & EU Pact for Skills



Trends by technology









The market is taking an interesting turn. On the one hand, the technology of horizontal axis turbines is being pursued and pushed as the core of many large-scale generation commercial tidal farms. On the other hand, products with different characteristics are being tested and deployed at a faster rate than before.

One explanation could be that horizontal axis tidal turbines, despite countless attempts and an increasingly positive outlook, still have not managed to properly commercialize and thereby show their viability.

The fish cards below show tidal stream technologies, the amount of active capacity (MW), active projects, active devices, planned capacity, planned projects and developers with TSL, etc. Flip the cards to see the information on the backside.

Technology	Active Capacity (MW)	Active Projects	Active Devices	Planned Capacity (MW)	Planned Projects	Developers
Horizontal axis turbine	100	10	100	200	20	10
Vertical axis turbine	50	5	50	100	10	5
Tidal stream turbine	200	20	200	400	40	20
Tidal stream turbine	150	15	150	300	30	15
Tidal stream turbine	100	10	100	200	20	10
Tidal stream turbine	50	5	50	100	10	5

8 online courses

 EN	 EN	 EN	 EN
Course 1 - Introduction to Offshore Renewable Energy DETAILS	Course 2 - Technology Development DETAILS	Course 3 - Testing Marine Energy Converters DETAILS	Course 4 - Transportation, Installation and Operation & Maintenance. DETAILS
 NL	 480 min FREE	 EN	 EN
Course 5 - International certification of marine energy technology within IECRE DETAILS	Course 6 - Finance and commercialization of marine energy technology (Available soon) DETAILS	Course 7 - Environmental Impact DETAILS	Course 8 - Policy (Available soon) DETAILS



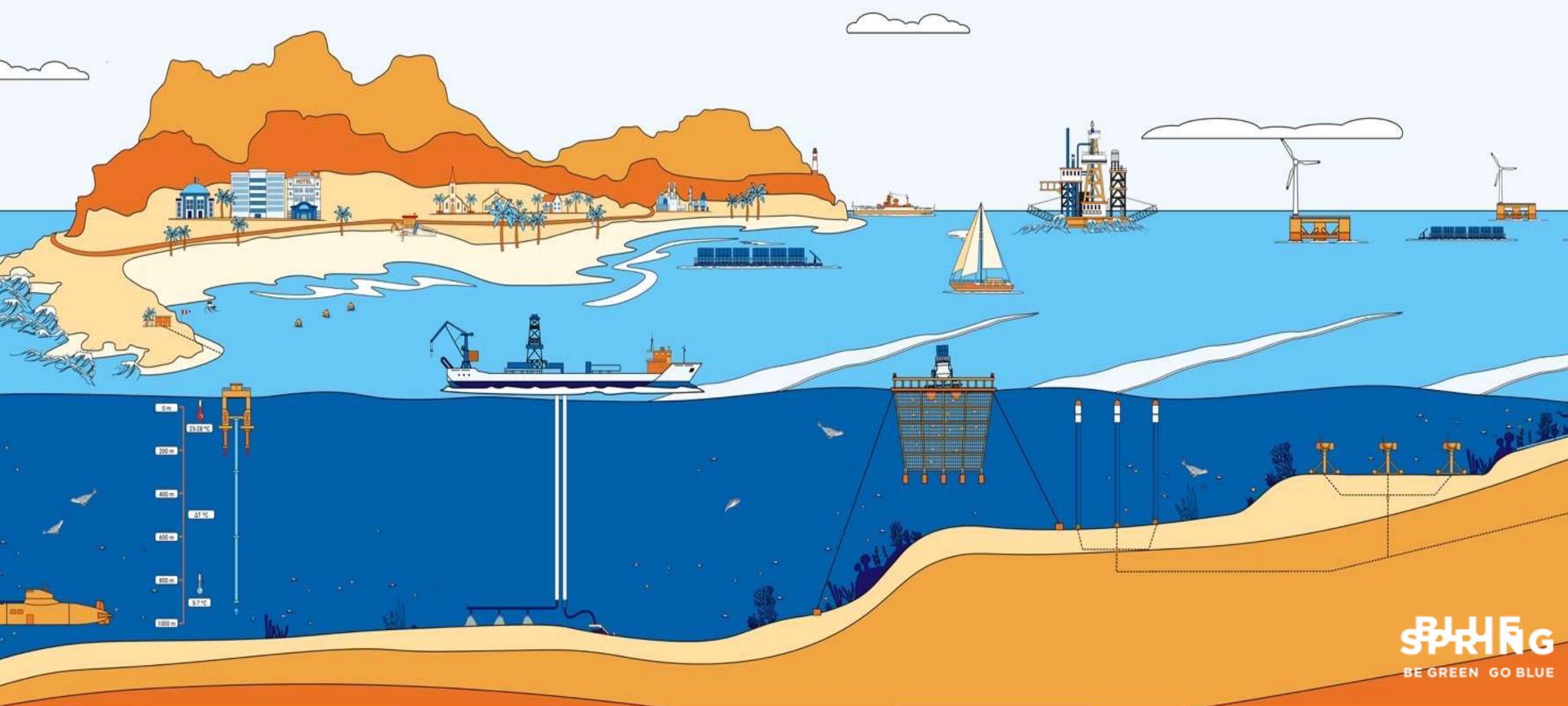
Join the Offshore Renewable Energies partnership in the EU Pact for Skills



What's next?

Scale-up & accelerate?

Large scale demonstration projects



Summary

- **Vision:** we need all forms of renewable energy to feed the hydrogen economy
- **Technologies:** we showed its possible, now scale up
- **Markets:** from niche to large scale
- **Services:** added value through supply chain, expertise and networks
- **Adaptive policies:** in order to celebrate successes, we need to share the risks
- **Skills & training:** >700.000 people need to be trained in EU
- **Scale-up & accelerate:** projects, projects, projects

Thank you for your attention

p.scheijgrond@bluespring.blue

Here to finance and implement
your project

