

Offshore Wind Supply Chain Challenges for Finland

26.3.2026 Wind Offshore



Esa Holttinen, M.Sc, Business Director Offshore Wind, Arenso Oy

Pekka Pokela, Ph.D, Project Director, Team Renewables Arctic Finland, Professor of Practice

Team Renewable Arctic Finland 2025–2026

- competencies with great synergies within 23 companies

- offshore wind planning, construction and operation support
- special vessel design, construction, technologies and operations



Arenso – Arctic Energy Solutions

Over 25 years of experience in and end-to-end onshore and offshore wind energy solutions

Thorough understanding of the challenging conditions at the Baltic Sea based on first hand experience

Expertise covering all phases of offshore wind

Holistic understanding of offshore wind projects from permitting and pre-studies to design and construction as well as O&M of wind farms

Cost-efficient and sustainable offshore wind solutions and supply-chain management

Successful track record of installing and operating offshore wind turbines

Arenso is management-owned and fully independent of suppliers and contractors



Offshore wind market globally:

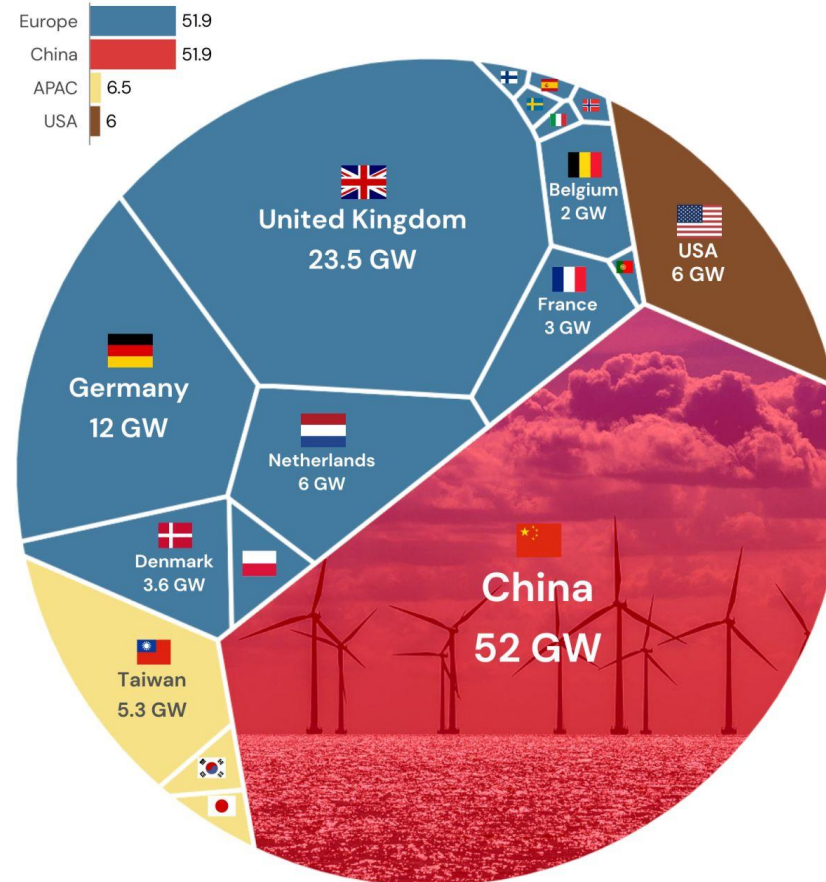
- **Two key playing fields: China & the North Sea**
- **Everything outside of the two is Niche!**
- **Hamburg Declaration 2026:**
 - 300 GW offshore wind capacity by 2050!
 - 2031-2040 tender pipeline 15 GW/year
 - Subsidies are available again in most of the North Sea markets!




JOINT OFFSHORE WIND INVESTMENT PACT FOR THE NORTH SEAS

Offshore wind capacity, mapped: a duopoly plus two

Offshore wind capacity producing & under construction, GW



Finnish companies already compete and succeed on broader markets:

- Crew transfer vessels
- Power and propulsion systems for special vessels
- Steel structures for jacket and monopile foundations
- Welding automation solutions of towers and foundations
- Offshore subsea cables
- Technologies for offshore substations, wind turbines and grid connections
- Local networks and ITC systems
- Surface engineering of offshore structures
- Testing and monitoring solutions



VAISALA



PEMAMEK

NOKIA



ABB



Status of our regional market

Sweden:

- Projects south of Åland stopped due to military concerns
- Projects north of Åland are in standstill – waiting either for political decisions, permit decisions, or both

Lithuania and Estonia:

- Uncertainty regarding the future of CfD mechanisms and related auction processes

Latvia:

- The only project in active development (ELWIND) is a state-run project, not a commercial development

Finland:

- First EEZ auction starting this year (?), but no state support available
- Territorial waters: auctions coming at some point, but also no state support available

Poland:

- One of the most active European markets at the moment!
- BUT: A bit too far from Finland (and too close to Denmark and Germany)



Challenge for the Finnish Supply Chain:

Ramping up of **scalable** and **competitive** local supply chain requires **predictable** and **growing** project volumes in **nearby** areas with **similar** technical specifications!

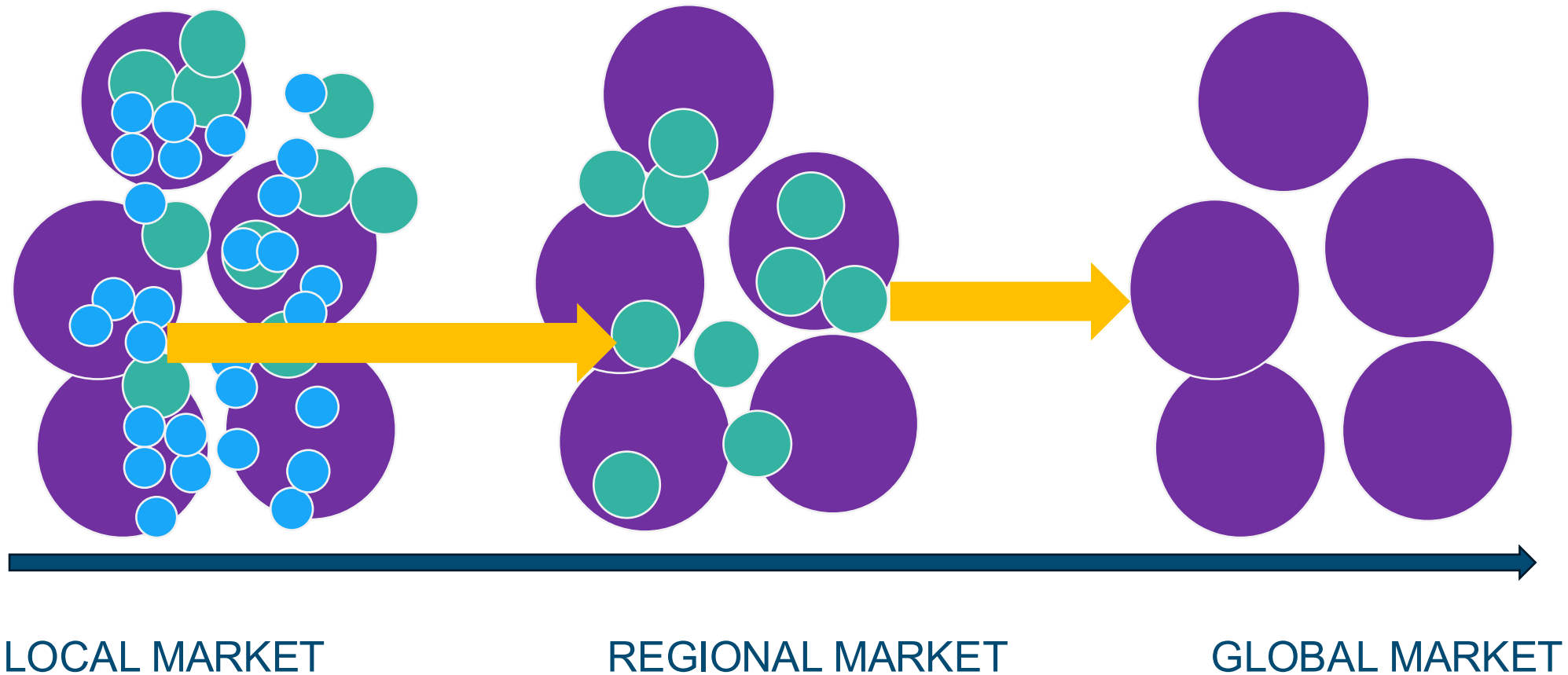
	Impact on CAPEX	Impact on accessibility	Impact on OPEX	Impact on production	Impact on lifetime
Lower average wind speed	+	+	+	--	+
Lower extreme wind speed	+	0	0	0	+
Lower wave heights	++	+	+	0	0
Zero tidal range	+	+	0	+	+
Soil conditions	-	0	0	0	0
Shallower water	++	+	+	0	0
Low water salinity	+	0	++	0	++
Sea ice	--	-	-	-	-
Cold climate issues	0	-	-	-	-

Northern Baltic Sea vs. the North Sea: radically different site conditions!

'+' Indicates cost advantage for the Baltic Sea vs. the North Sea sites

'-' Indicates cost disadvantage for the Baltic Sea

Number of
companies



Potential new products for Finnish Offshore Wind Cluster – tailored for Northern Baltic Sea market!

- GBS foundations (have already been made in small series)
- Cable installation & protection methods and vessels, EPCI cable supply
- OSS topsides (electrical and structural parts)
- Innovative, cost efficient soil preparation methods and vessels
- Methods and vessels for rock material handling
- CTVs and special vessels optimized for Northern Baltic Sea conditions



How to solve the deadlock?

– driver project(s) to accelerate the local ecosystem

- Joint development involving both the project developer(s) and the supply chain side
- Public Funding via Business Finland
- Design-to-cost: Developer providing the Design Basis parameters & setting the target cost level
- Top-tier suppliers closely involving their sub-suppliers to optimize the split of scope & to optimize the supply chain
- Delivery schedule and logistics planned in close dialogue between the parties
- Active dialogue throughout the process keeping all parties continuously updated



Thank you!

Leading the way in offshore wind energy

www.arenso.fi/en/

esa.holttinen@arenso.fi
Tel. +358 44 760 8477



teamrenewablearctic.fi

pekka.pokela@traf.fi
Tel. +358 40 544 1582