
Ørsted
The future of sustainable energy

Executive Summary

Goal

Add 8 GW of installed offshore wind capacity by 2030 with a capital constraint of 200 DKKbn

Problem

How should Ørsted prioritize its efforts to best reach its 2030 target of 30 GW offshore wind capacity, while helping to improve the financial and environmental health of the industry?

Solution

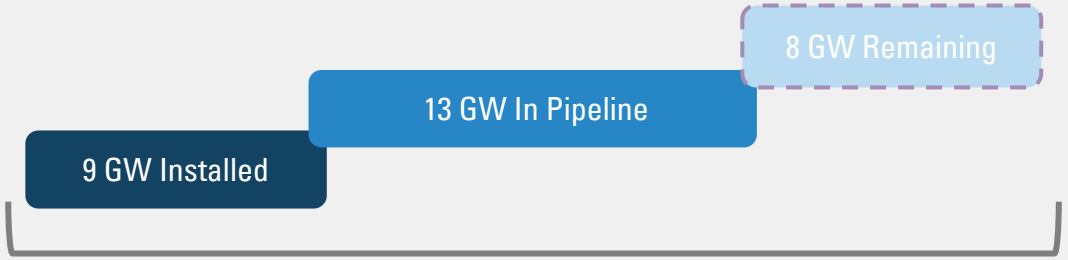
1. Take the lead in **floating offshore wind**
2. The Revive Campaign: **restore communities**
3. Initiate **strategic partnerships** with oil majors

Impact

8 GW capacity added, **700 DKKm** spent on initiatives per / local project, reinvented partnership model

Ørsted's current strategy fails to overcome its key challenges

Ørsted's vision: creating the future of green energy

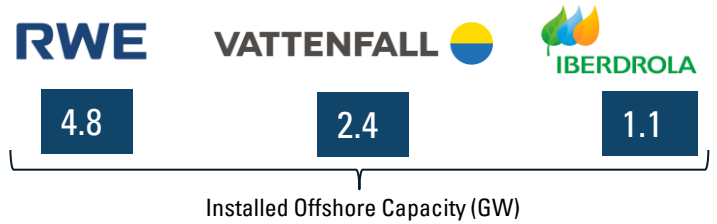


Existing Strategy

1. Be one of the world's largest generators of green power
2. Remain a leader in offshore wind generation
3. Maintain and expand sustainability leadership

Key challenges to current strategy

1. Intensifying Competition

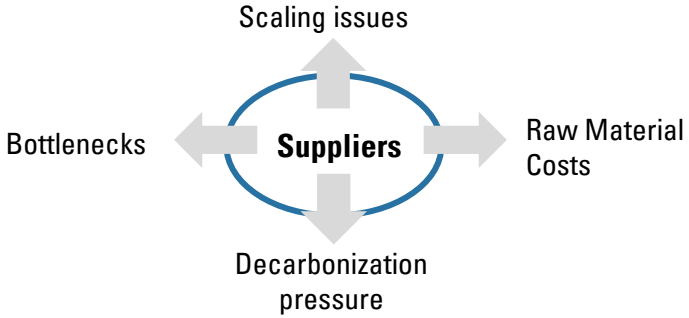


2. Regulatory Barriers

Monetization of Auctions

Bureaucratic Delays

3. Supply Chain Constraints



How should Ørsted improve its strategy to fulfill its vision and achieve target capacity?

Three winning initiatives can improve Ørsted's strategy, achieve its vision, and meet target capacity

Winning Initiatives	Strategic Dimensions			Key Challenges		
	Maintain Offshore Leadership	Expand Sustainability	Increase Global Scale	Mitigate Regulatory Barriers	Control Supply Chain Risk	Reduce Competition
1 Develop Offshore Floating Platforms *Position Ørsted as a leader in a very high growth market for subsequent decades* ▪ Maintains Ørsted's position as a first-mover in new energy technologies ▪ Contributes to 30 GW installed by 2030 ▪ Differentiates Ørsted from competitors	✓		✓			✓
2 Transform Local Environments through Revive Campaign *Invest on average 700 DKKm per bid in local impact and biodiversity initiatives* ▪ Plays to Ørsted's historical strengths and mission by furthering its biodiversity and local impact leadership ▪ Targets geographies that value Ørsted's ecologically constructive practices (Germany and France)		✓		✓		
3 Partner with Supermajor Oil & Gas Producers *Form strategic and financial partnerships with supermajors to scale more quickly* ▪ Improves on current asset farm-down model by selling equity stakes to strategic supermajor partners earlier in project lifecycle ▪ Reduces development risk for supermajors with little experience in the renewables market ▪ Reduces offshore wind auction competition	✓				✓	✓

Ørsted needs an auction prioritization framework that supports the three winning initiatives

Develop offshore floating platforms

Transform local environments through Revive Campaign

Partner with supermajor oil & gas producers

Auction Prioritization Framework

	Action	Outcome
1	Bid on all floating/optional projects available in core/adjacent markets with minimum COD 2030. Use floating construction in all optional bids won	Generates experience in developing floating projects, pushing Ørsted further in its position of leadership in offshore wind
2	Bid on all fixed projects in core/adjacent markets with high demand for sustainability and positive ecological impact (Germany + France). Include 700 DKKm in ecological mitigation initiatives per project	Differentiates Ørsted from competition by showing high willingness to spend on ecological and sustainable impact Increases likelihood of winning bids and improving relationships with regulatory bodies

Goal: achieve ~ 60/40 fixed/floating composition to accomplish winning initiatives and manage portfolio risk

Auction prioritization framework results in a strategically focused portfolio

Proposal: Bid for up to ~3.2 GW floating and ~5 GW fixed

Assumptions:

- Floating/optional auction win rates of **40%** (we believe this is justified due to lower overall competition in the space)
- Sustainable/ecological markets win rate of **17%** (below historical average)

Highlights:

- 60/40 fixed/floating mix accomplishes winning initiative #1 while managing risk
- Concentrated growth in 3 geographies that play to Ørsted's strengths and allow for deeper relationships with regulators
- Concentrated, large project size portfolio present construction cost synergy opportunities

A sample portfolio from the project selection framework that achieves the desired 60/40 fixed/floating mix

	Project	Country	Market	Auction Format	COD	GW	DEVEX (DKKm)	CAPEX (DKKbn)	Initiatives (DKKbn)	Total Cost (DKKbn)
Floating	Round 2.2	Japan	Core	Central	2028	0.9	0.075	23	0.7	23
	Round 4	Japan	Core	Central	2029	1.25	0.075	31	0.7	32
	Round 11 Med. Ext.	France	Adj	Central	2030	1	0.1	25	0.8	25
Fixed	Round 10	France	Adj	Central	2028	1	0.1	20	0.8	20
	Germany N-11.1	Germany	Core	Central	2028	2	0.075	40	0.6	40
	Germany N-10.1	Germany	Core	Central	2030	2	0.075	40	0.6	40
Total						**8.15 GW**	**0.5**	**179**	**4.2**	**183 DKKbn**

**0.5bn DEVEX does not include additional 2.5 bn DEVEX spent on unsuccessful bids. See appendix.*

Initiative #1: Develop offshore floating platforms to maintain industry leadership

The Future is Floating…

Ørsted became an industry leader in fixed offshore farms by building on its knowledge of land-based turbines. Now, it must **repeat the process** with floating turbine technology

Floating turbine technology will increase offshore wind generation in existing markets and enable offshore wind in new geographies

80% of total offshore generation potential is in waters deeper than 60 meters, which is beyond the feasible depth of most fixed turbines

Current Reality

Only 50 commissioned floating turbines globally as of October 2022

Growth Potential

14 GW of electricity from floating turbines by 2030 (Commitment from Global Offshore Wind Alliance)

Global areas with potential for offshore floating turbines

Initiative #1 accomplishes all strategic objectives and key challenges

Increases Global Scale

Floating turbines are the only viable source of offshore power in many key developed and developing markets. By first **strategically launching offshore floating initiatives** in developed regions, Ørsted will position itself to later **scale into currently untapped markets**

Maintains Offshore Leadership

Offshore floating technology is effectively the **third generation** of wind-powered electricity (after land-based and offshore fixed). Early intentional investment will maintain Ørsted's offshore leadership as **adoption accelerates** and floating LCoE declines

Expands sustainability

As developed nations place **a higher premium on sustainability**, floating projects will disproportionally benefit. No pile driving means minimal subsea noise which can be harmful to some aquatic life. Further distance from shore places the turbines beyond the range of many bird feeding groups and migration routes

Controls Supply Chain Risk

Global scale facilitates **larger partnerships and economies of scale**, providing Ørsted with the means to strengthen its supply chain. This will **promote lower construction costs and quicker project completion**

Reduces Competition

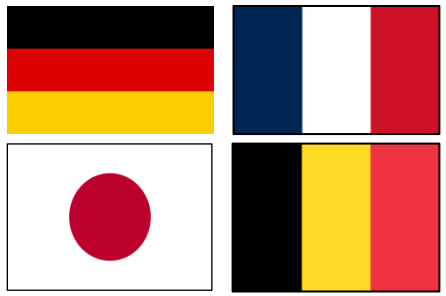
Industry-leading expertise and lower LCoE expand Ørsted's ability to provide local content. In turn, this makes **their bids more attractive** relative to competition

Mitigates Regulatory Barriers

Conscientious countries will not allow renewable energy to come at the expense of local environmental wellbeing. By establishing itself as a sustainable floating turbine leader, Ørsted will **benefit from strong relationships** with regulatory authorities

Initiative #2: Transform local environments through Revive Campaign

Target Geographies



- **Japan** is a biodiversity hotspot facing habitat loss and dozens of endangered species
- **France, Germany,** and **Belgium** also have strong ecological, community, and biodiversity concerns

Community impact and biodiversity initiatives have high market value for these countries

Holistic Community Transformation

Reimagining what it looks like to take care of our planet through a new:

Ørsted Revive Campaign

Educate citizens and draw awareness to local environmental issues

Collaborate with local communities on projects and sustainability initiatives

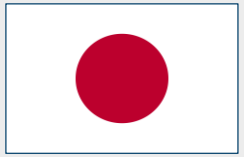
Invest in independent projects to repair local biodiversity and alleviate pollution

Revive Campaign Commitment

Commit to invest in 4-6 local initiatives for each location Ørsted develops, totaling **700 DKKm** average investment in initiatives per site

- Leverages Ørsted's **size** and **capital** to accomplish more transformation than other developers competing for bids
- Fulfills Ørsted's goal of building **a greener world** in collaboration with others

Revive Campaign case study: achieving community and environmental transformation in Japan



Japan's High Market Value Priorities

- Local Content
- Ecological Mitigation

National Goal: Protect and conserve 30% of land and sea by 2030

- ✕ Coastal wetland habitats continually lost to human development
- ✕ Over 150 threatened species reside in Japan
- ✕ Less than 5% coral reef coverage in key regions

Ørsted Revive Campaign

meets the specific needs of each nation through **customized solutions** built around our three core pillars:

700 DKKm invested

		Actions[1]	Outcome
+150m	**Educate**	▪ Run 100 school events and awareness campaigns at urban public schools ▪ Create awareness flyers and digital media assets	Drive increased awareness of climate issues among citizenry
+300m	**Collaborate**	▪ Use local contractors to build projects ▪ Lead community waste removal projects	Enhance economic opportunity while cleaning waste
+250m	**Invest**	▪ Repair 16,000m^2 of Okinawa coral reef ▪ Sponsor study on conserving coastal wetlands with NGO Friends of the Earth Japan	FoE Japan Opportunity to address Japan's most pressing biodiversity issue

[1] See Appendix for Cost Justifications

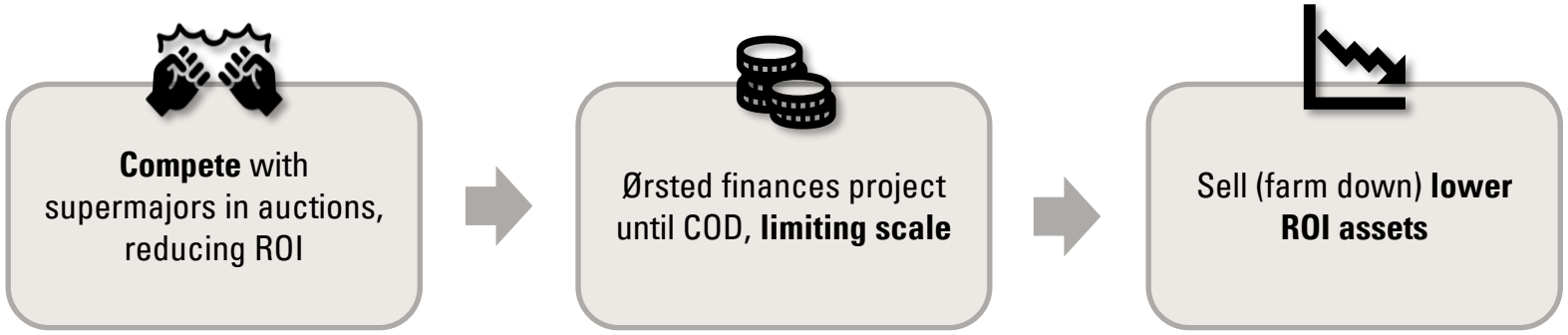
Initiative #3: Enter partnerships with supermajor oil & gas producers so Ørsted can scale faster

Partnership Structure:

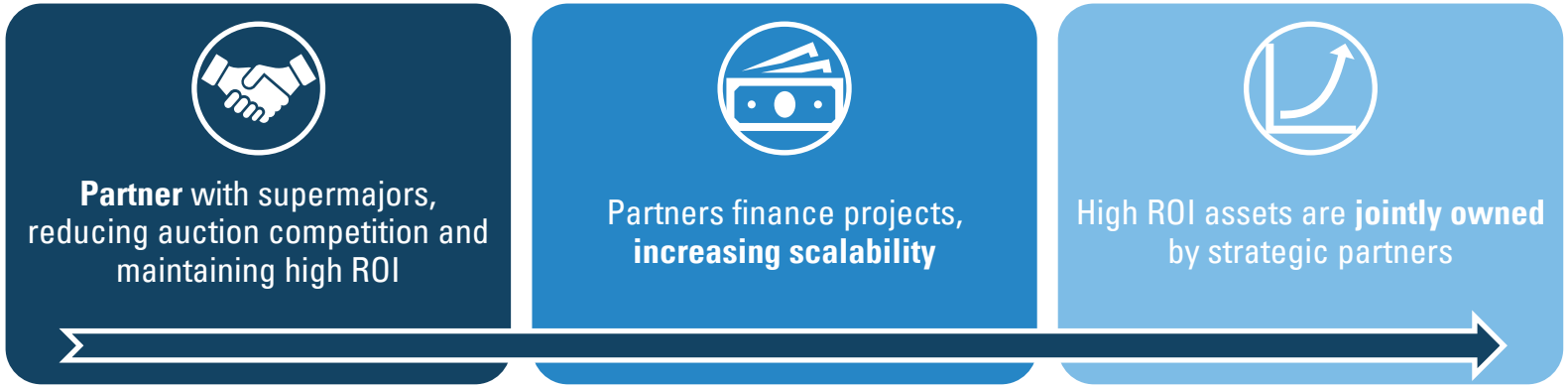
Improve on Ørsted's current farm-down model by partnering with supermajors, who will provide equity financing to projects earlier in the project lifecycle

Partners can leverage Ørsted's superior construction expertise and Ørsted can leverage superior partner capital, creating a win-win scenario – Ørsted builds more farms, sells them sooner, and doesn't compete with the partner at auction. The partner de-risks by having Ørsted build the project

Current Offshore Wind Industry Dynamics:



Post-Partnership Offshore Wind Industry Dynamics:



Impact: superior cash flow, higher project ROI, and mitigated competitive threat

Initiative #3: strategic partnerships mitigate supply chain challenges in several areas

In addition to reducing industry competition, Ørsted's most painful supply chain challenges can be creatively solved via access to a supermajor partner:

1 **Labor Costs**	A supermajor partner may have cyclical need for construction crews, and Ørsted could use those crews during oil & gas offcycle to construct turbines
2 **Input Costs**	Jointly purchase key inputs like steel with a supermajor to drive down overall costs
3 **Installation Vessel Bottlenecks**	As supermajors slow oil well installation, there is potential to repurpose supermajor offshore oil-rig construction vessels to install turbines
4 **Carbon-heavy supply chain**	Consider buying a steel production company outright as a JV with a supermajor to reduce climate impact – 50% of climate footprint in offshore wind comes from steel inputs

Supermajor Partnership Candidate:

- New entrant to offshore wind
  - 2.2 GW under construction
  - 3.7 GW pipeline
- Large CAPEX budget for renewables
  - 90 DKKbn in 2021
  - Added 12.1 GW overall renewables to pipeline in 2022

Potential Additional Synergies:

- BP's e-fuel focus and Ørsted's P2X division (sell Ørsted's biofuels into BP's distribution network)
- Access to BP's construction labor force
- Economies of scale from combined purchasing of raw materials like steel

Proposed capital deployment strategy secures Ørsted's position as an offshore wind leader while investing for maximum impact in local communities

Capital Deployment Plan

DEVEX	CAPEX	Initiatives
3 DKKbn in total bid development costs	**179 DKKbn** for target portfolio	**4.2 DKKbn** for Revive Campaign initiatives

Remainder

13.8 DKKbn buffer or return to shareholders

200 DKKbn allotted

Leverages Existing Capabilities

- Leader in biodiversity and local impact
- Utilizes scale and brand to expand partnership model to include oil and gas producers

Furthers Ørsted's Goals

- Achieves target offshore capacity with extra 13.8 DKKbn buffer
- Secures Ørsted's place as a leader in innovation

Investing for Impact

700 DKKm average local initiative investment per project

Ørsted

Power the World through Renewable Energy

30 GW offshore capacity installed by 2030

Appendix #1: Revive Campaign and Initiative Costs

Japan Revive Initiatives Cost Breakdown

Initiative	Category	Expenditure (DKKm)	Notes
School events	Education	50	Custom spend assumed less than local impact or biodiversity initiative
Flyers and media	Education	100	Custom spend assumed less than local impact or biodiversity initiative
Local contractors	Local Content	150	Case assumption of local impact expenditure (pg. 30)
Waste removal	Local Content	150	Local impact expenditure
Repair Okinawa reef	Biodiversity	150	Assumed premium of 50m at median price of $9,000 DKK / m^2 for price of development[1]
FoE Japan study	Biodiversity	100	Case assumption of biodiversity expenditure
Total Spend per site:		**700 DKKm**	

Revive Initiative Expenditure by Country

Country	# of Sites in target portfolio	Expenditure per site (DKKbn)	Total Expenditure (DKKbn)	Notes
Japan	2	0.7	1.4	See above
France	2	0.8	1.6	France will be more expensive to conduct Revive initiatives as it is in an adjacent market. This analysis assume six projects at an average cost of ~133 DKKm per project for a total spend of 800 DKKm in initiatives per site.
Germany	2	0.6	1.2	As a core market, assume four-six projects at an average cost of 100-150 DKKm per project
Total Spend on Initiatives			**4.2 DKKbn**	

[1] "The effectiveness of coral reefs for coastal hazard risk reduction and adaptation." Nature communications. 5. 3794. 10.1038/ncomms4794.

Appendix #2: Breakdown of all bid projects and win rates

All bid floating and optional projects

Tender name	Country	Auction format	Technology	Year	Capacity (GW)	DEVEX (DKKm)
Round 2.2	Japan	Central	Optional	2023	0.9	125
Round 4	Japan	Central	Optional	2024	1.25	125
Round Three Centralized Auction 3	Taiwan	Central	Optional	2024	3	75
Round 5	Japan	Central	Optional	2025	1.25	75
Round 11 Mediterranean Extension	France	Central	Floating	2025	1	100
Celtic Sea	United Kingdom	Lease	Floating	2023	.8	800
Total					**8.2 GW**	**1,300 DKKm**

Expected win rate of **40%** for these projects gives 3.3 expected GW. 40% seems reasonable given far lower expected competition in the floating market. Additional spending on ecological and sustainability initiatives and local collaboration should improve Ørsted's chances of realizing a 40% win rate

All bid ecological/sustainable emphasis projects

Tender name	Country	Auction format	Technology	Year	Capacity (GW)	DEVEX (DKKm)
PEZ	Belgium	Central	Fixed	2023	1	100
Princess Elisabeth 2	Belgium	Central	Fixed	2025	1.4	100
Princess Elisabeth 3	Belgium	Central	Fixed	2025	1.4	100
Round 10	France	Central	Fixed	2023	1	100
Round 12	France	Central	Fixed	2025	1	100
Germany N-11.1	Germany	Central	Fixed	2023	2	75
Germany N-12.1	Germany	Central	Fixed	2023	2	75
Germany N-12.2	Germany	Central	Fixed	2023	2	75
Germany N-3.5	Germany	Central	Fixed	2023	0.4	75
Germany N-3.6	Germany	Central	Fixed	2023	0.5	75
Germany N-6.6	Germany	Central	Fixed	2023	0.6	75
Germany N-6.7	Germany	Central	Fixed	2023	0.3	75
Germany O-2.2	Germany	Central	Fixed	2023	1	75
Germany N-11.2	Germany	Central	Fixed	2024	1.5	75
Germany N-12.3	Germany	Central	Fixed	2024	1	75
Germany N-9.1	Germany	Central	Fixed	2024	2	75
Germany N-9.2	Germany	Central	Fixed	2024	2	75
Germany N-9.3	Germany	Central	Fixed	2024	1.5	75
Germany N-10.1	Germany	Central	Fixed	2025	2	75
2025 Auction	Germany	Central	Fixed	2025	5	75
Germany N-10.2	Germany	Central	Fixed	2025	0.5	75
					30.1 GW	**1,700 DKKm**

Expected win rate of **17%** gives 5.1 GW for these projects. A 17% win rate is below the historical average and should be easily attainable. Additional spending on ecological and sustainability initiatives and local collaboration should improve Ørsted's chances of realizing a 40% win rate