

Direction of the Wind Over the Japanese Sea

REVision2022 Conference

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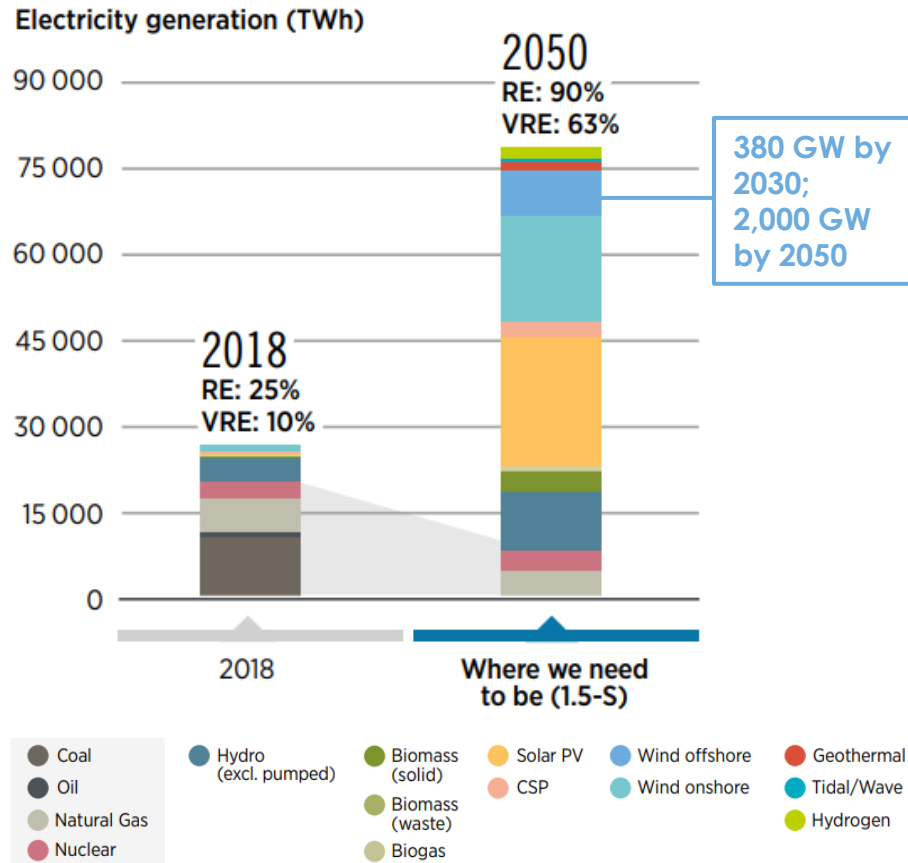
- GWEC is the **voice for the global wind energy industry**
- It is **the most active lobbying body for the sector** and plays a leading role through different task forces in opening and developing new markets for the wind industry to accelerate the global energy transition.
- It brings together all the **leading wind energy associations** around the world from Asia, to Africa, to Europe and Latin America.
- It has high level relationships with the **leading global institutions which influence policy for the wind industry such as** IRENA, IEA, UNFCCC, World Bank/IFC, and collaborates with adjacent technologies such as solar PV and storage.
- Its membership is made up of **the leaders in the international wind sector** including developers, equipment suppliers, service providers, and more.

IRENA, IEA and Energy Compact show need for rapid scale up



SUPPORTED BY: UN ENERGY

Growth of renewables in global power mix in IRENA 1.5°C Scenario



Source: Preview of IRENA (2021), World Energy Transitions Outlook: 1.5°C Pathway.

- GWEC and IRENA have responded to the UN High Level Dialogue on Energy by **co-registering a Global Offshore Wind Energy Compact**
 - Pledges collaboration on capacity-building, knowledge exchange and raising ambition among policymakers throughout this decade
 - Provides preliminary estimate of regional breakdown of 2,000 GW by 2050
 - Outlines the need for coordinated technical assistance on policy and regulation for new governments to offshore wind

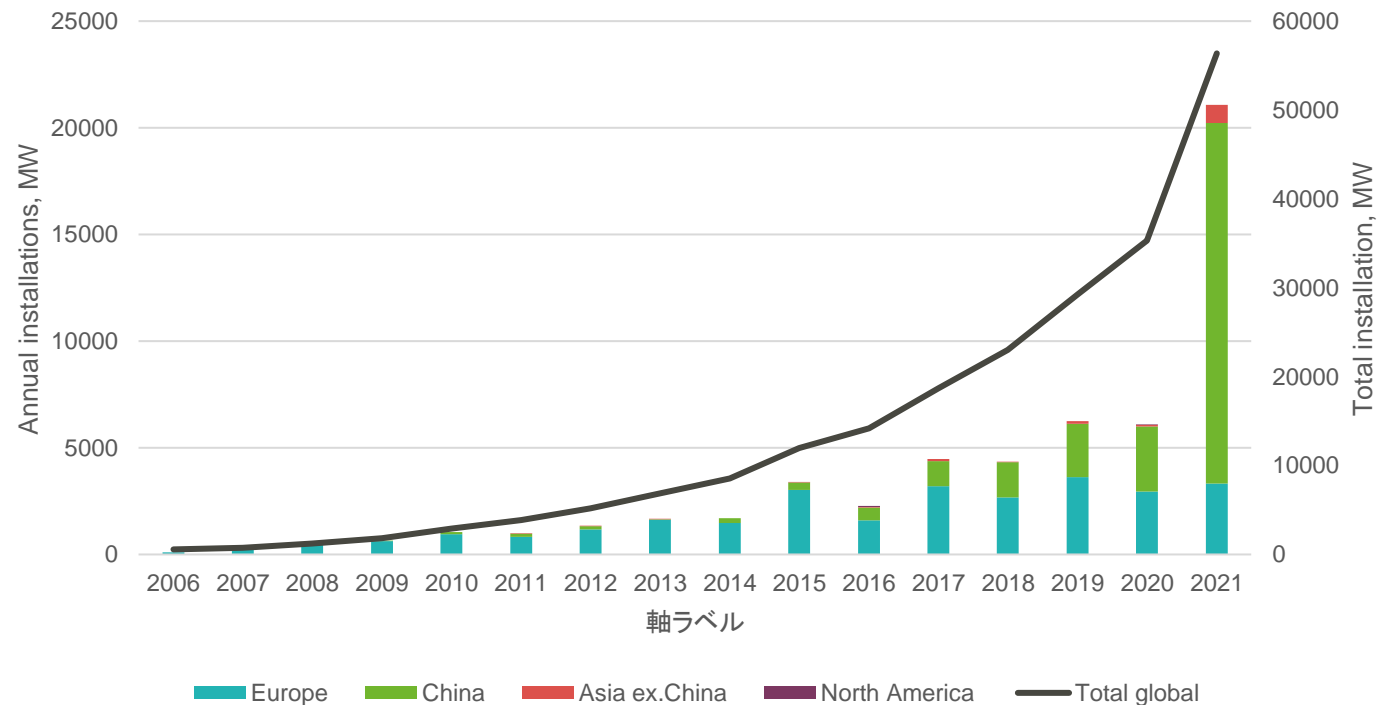
2021 marked a record year for wind deployment

Our preliminary data shows that 2021 is a record year with more than 21 GW of new offshore wind installations, more than three times as much as that in 2020, bring the total global offshore wind capacity to 56GW. The primary driver is China, from where 16.9 GW offshore wind was grid-connected last year, making it replace the UK as the No.1 market in total offshore wind installation;

Europe built the world's first offshore wind project in 1991 and used to be offshore wind market leader, however, Asia took over the title as the largest offshore market in new installations in 2020 and in total installations in 2021;

In North America, there are only 42MW in operation by the end of 2021, but strong growth expected from 2023 onward.

Global offshore wind power development 2006–2021



Note:

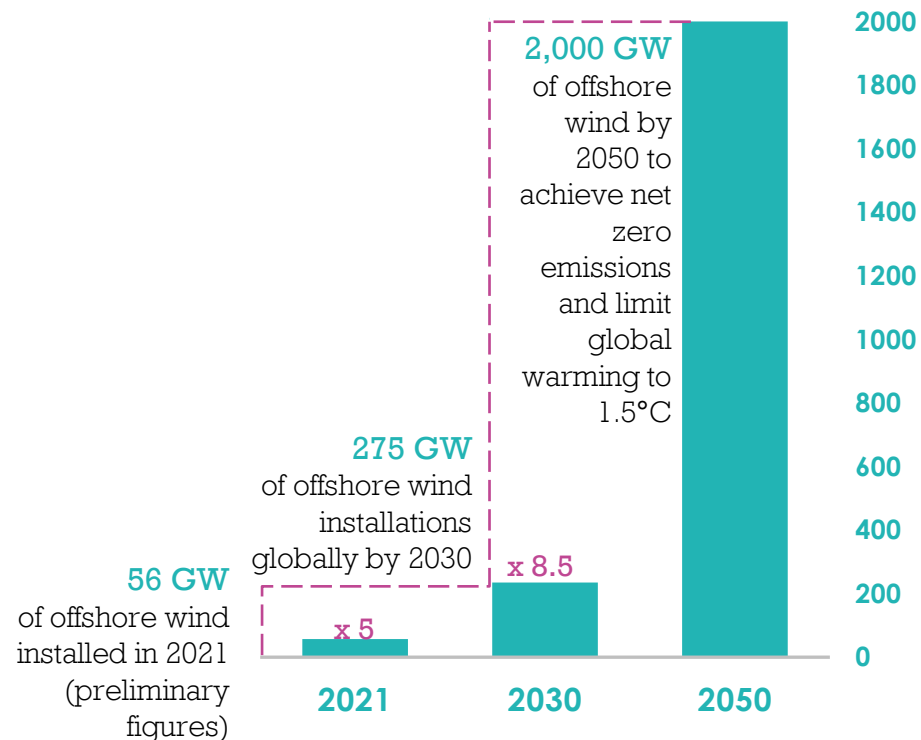
1. 2021 installation statistics is based on preliminary data.

2. **Japan's total net offshore wind installation as the end of 2021 is only 51.6MW, making it the fifth offshore wind market in Asia (after China, Vietnam, Taiwan and South Korea)**

Source: GWEC Market Intelligence, February 2022

But even with record installations, there is a long way to go to close the wind gap

The Glasgow Climate Pact means that the 2020s need to be a decade of climate action.



Offshore wind had its best ever year in 2021 – total installed capacity is now 56GW. This was driven by FiT closure deadline in China.

Even in best ever year, growth is nowhere near quick enough. Offshore needs to grow from 56GW of capacity to 275 GW by 2030 – **leaving a huge gap to close to reach 2,000 GW by 2050**. This is the volume of offshore wind being called for by IRENA and IEA to meet our net zero targets.

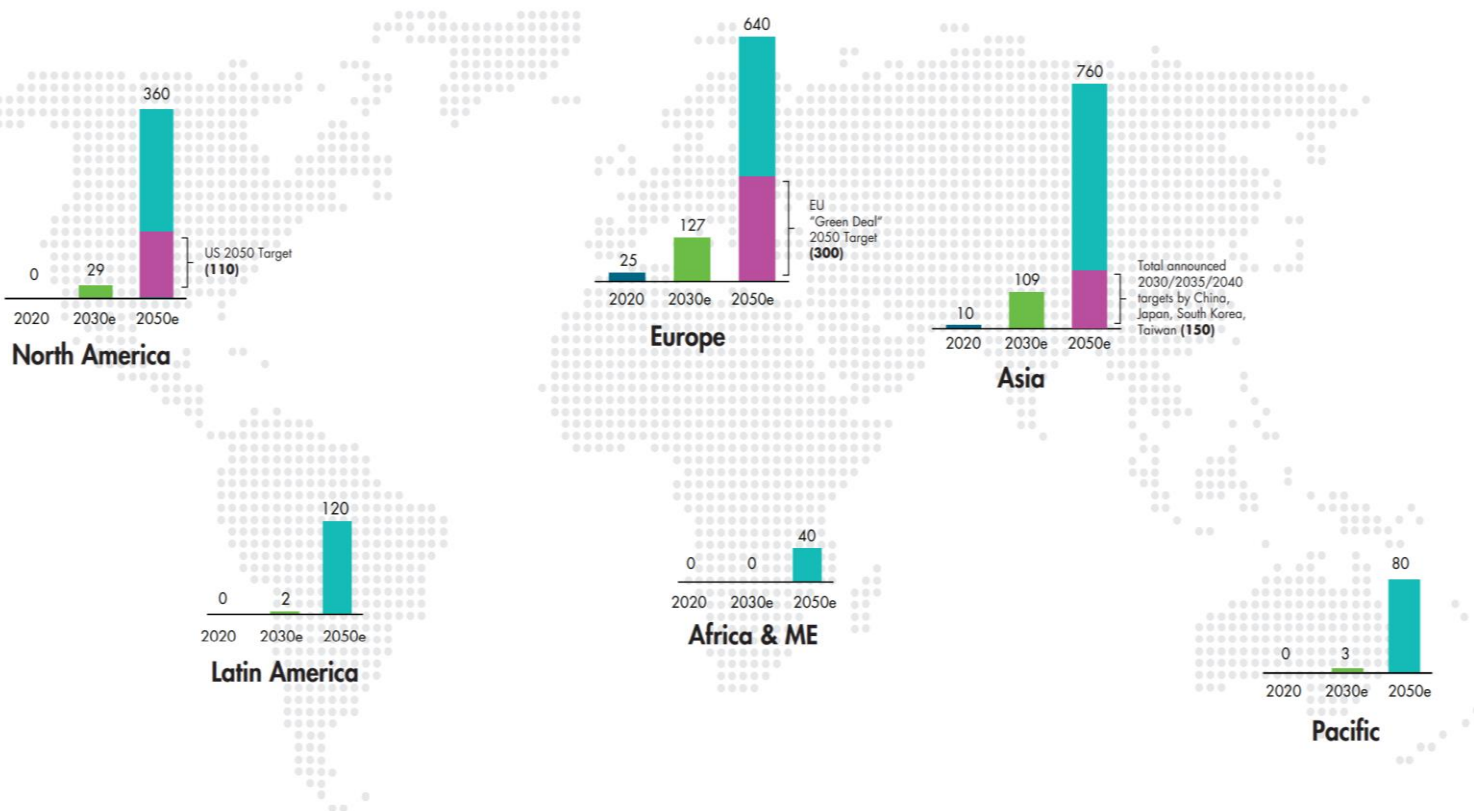
We need to see a rapid upscale of offshore wind around the world. At present, policy frameworks do not recognize this urgency.

Credit: GWEC Market Intelligence; IRENA World Energy Transitions Outlook 2021.

Much of this growth will come from Asia, which will become the world's largest offshore wind market



Where could 2,000 GW of offshore wind by 2050 be built?



GWEC has estimated regional offshore wind shares of the IRENA/GWEC Compact figure - 2,000 GW by 2050.

Asia is likely to be the world's largest offshore wind market with nearly 40% market share by 2050, followed by Europe (32%), North America (18%), South America (6%), Australasia (4%) and Africa & ME (2%).

Unit: GW
Source: GWEC Market Intelligence

- Installations as of 2020
- Installations by 2030 under current policies
- Regional forecast by 2050, based on 2,000 GW global target
- Current regional or national targets

Public private partnerships to scale offshore wind –Ocean Energy Pathways

- OEP will be an offshore wind delivery accelerator. Working with global governments around the world, it will provide a one stop shop for technical and policy assistance for country governments wishing to expand offshore wind
- The initiative will partner with governments to support regional capacity building, establishing regional centers of offshore wind knowledge and expertise
- The program is designed to be complementary to GOWA, and will support global governments in delivering against their ambition by helping them design delivery roadmaps.
- The program is ambitious and GWEC is working with leading philanthropic donors to secure funding



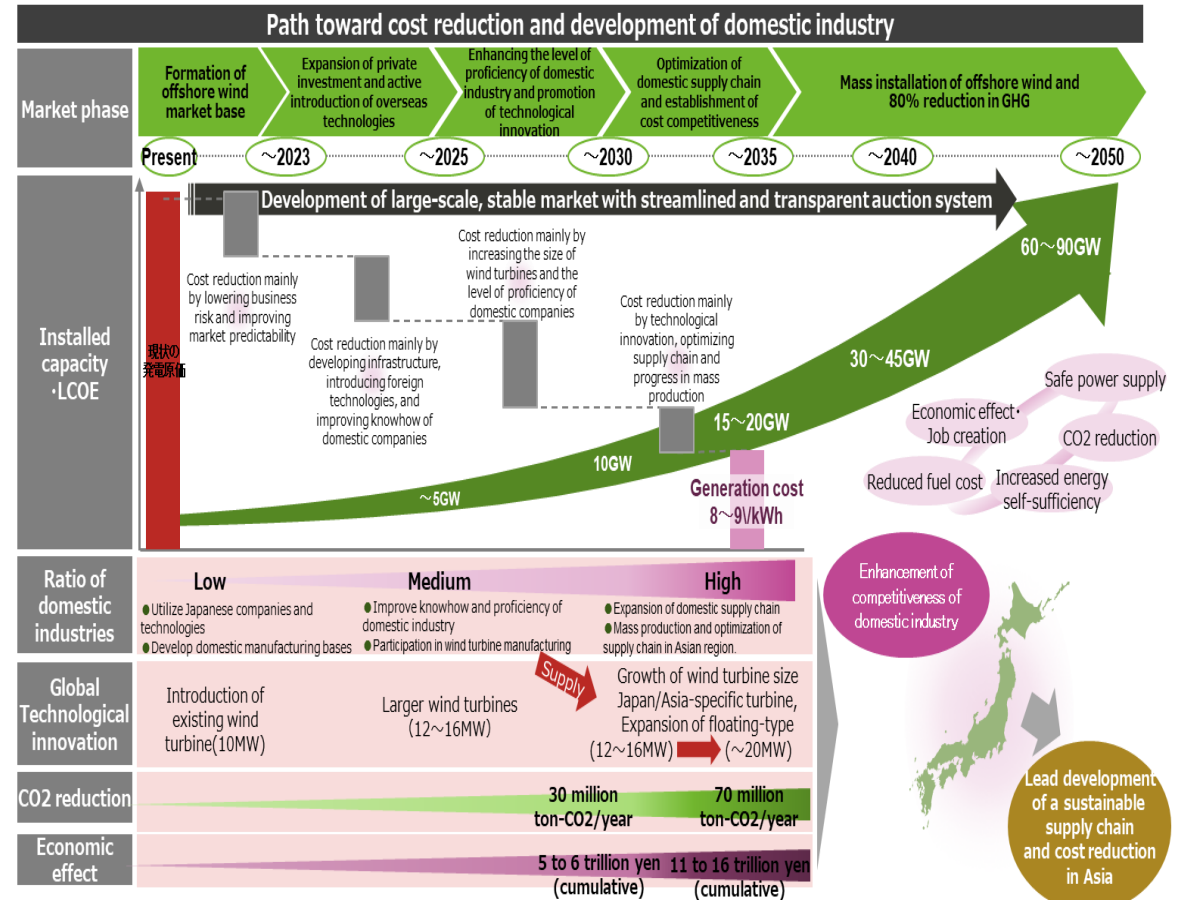
Public private partnerships to scale offshore wind–Global Offshore Wind Alliance

- GWEC, IRENA and Government of Denmark have co-founded a new global alliance of countries committed to accelerating offshore wind deployment in line with IRENA and GWEC energy compact (2000GW by 2050)
- The Alliance will bring together Governments, industry and multi-lateral institutions to create political momentum for greater ambition and delivery of offshore wind
- Many countries have expressed initial interest. We hope Japan will join the alliance.



Global wind industry engagement with Japan Government

- GWEC began engagement with Government ministries in 2018, and supported a 2019 delegation and tour to the UK with the JWPA.
- GWEC and JWPA jointly established a Japan Offshore Wind Task Force, and initiated Government engagement via a Public-Private Council for Strengthening the Industrial Competitiveness of Offshore Wind, and commissioned the Mitsubishi Research Institute and BVG Associates work on cost-competitiveness and socio-economic benefits
- Engagement resulted in Government and industry agreeing cost reduction pathway to reach JPY 8-9/kWh



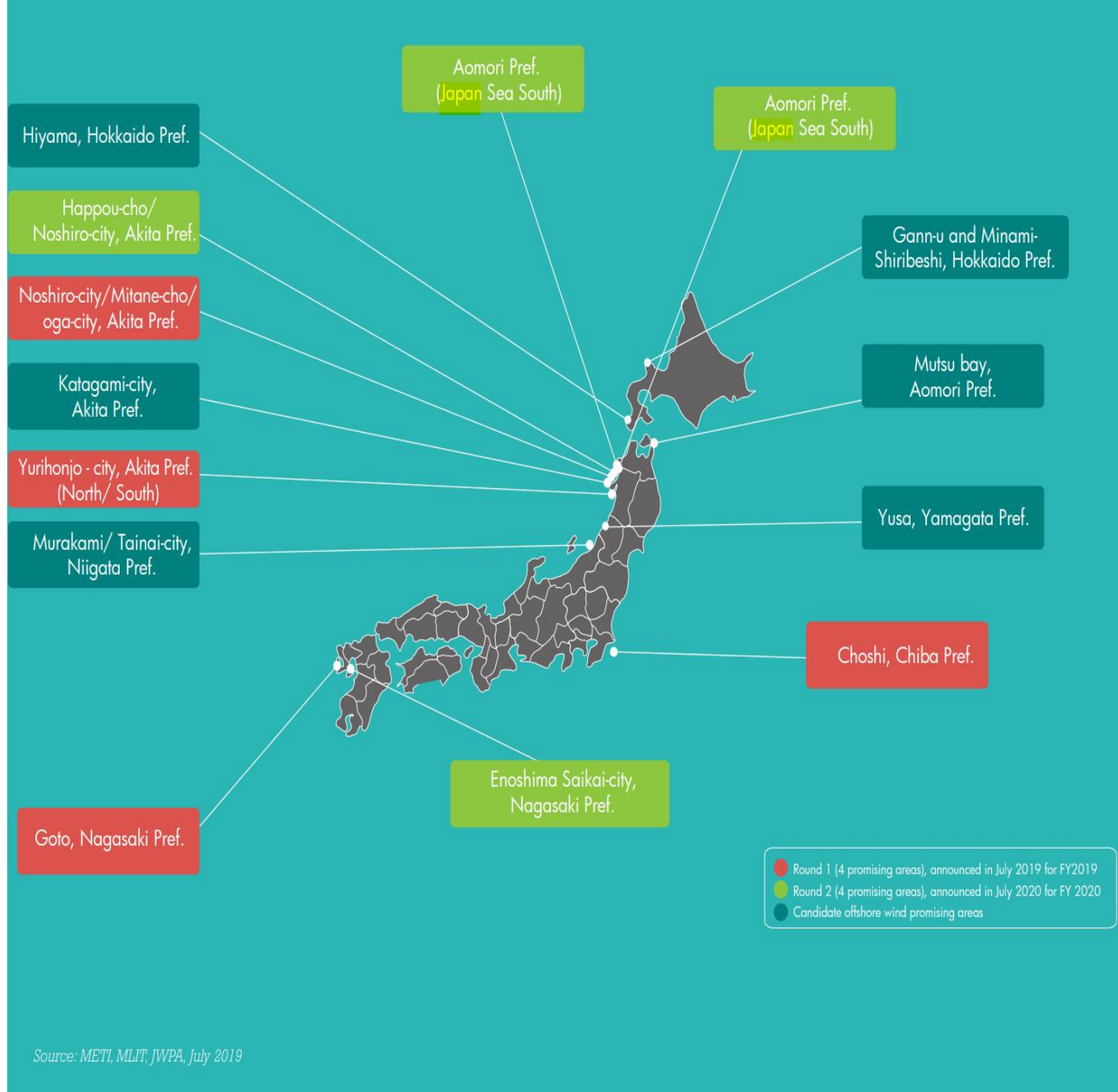
Offshore wind in Japan – the journey so far

- Japan's total net offshore wind installation as the end of 2021 is 51.6MW, making it the fifth offshore wind market in Asia (after China, Vietnam, Taiwan and South Korea)
- However, there are ambitious targets of 45GW by 2040 and huge technical potential
- Second tender has now concluded with three sites awarded:
 - Noshiro·Mitane·Oga, Akita (478.8 MW)
 - Yurihonjo North, Yurihonjo South (819 MW)
 - Choshi (390.6 MW)
- Half allocation criteria were based on price and half on non-price factors
- All sites were won by Mitsubishi-led consortia



Offshore wind in Japan – the next steps in the journey

- Visibility over Japan’s offshore wind deployment roadmap will enhance investor confidence
- Greater auction volume could bolster supply chain growth
- It will be important that future tenders continue to make the most of best practice in the areas of transparency and developer diversity
- The global wind industry is looking forwards to multi-site auctions



THANK YOU!

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