Asia Wind Energy Association

IN PARTNERSHIP WITH

Baker McKenzie.

AWEA WEBINAR SERIES 2020 - MARKET SESSION

Outlook for the Japanese Offshore Wind Market

SPEAKERS:

EAN MACPHERSON
PARTNER, CO-HEAD OF THE RENEWABLE AND CLEAN ENERGY GROUP
BAKER & MCKENZIE

NAOAKI "NICK" EGUCHI
PARTNER, CO-HEAD OF THE RENEWABLE AND CLEAN ENERGY GROUP
BAKER & MCKENZIE

TUESDAY, 9 JUNE 2020 - 3 PM SGT

Asia Wind Energy Association

The Asia Wind Energy Association was established in December 2016 to become the leading trade association for the wind energy sector in Asia Pacific.

The association acts as the regional platform for all wind power industry stakeholders to collectively promote the best interests of the wind power sector.

The Asia Wind Energy Association is supported by a wide variety of stakeholders from the offshore and onshore wind industry.

Information

Asia Wind Energy Association

www.asiawind.org

@asiawindenergy

Asia Wind Energy Association

(65) 6679 6071

membership@asiawind.org

CapitaGreen - Level 24
138 Market Street, Singapore 048946

Asia Wind Energy Association Silver Members

Asia Wind Energy Association Corporate Members

Ean Mac Pherson

Partner, Co-head of the Renewable and Clean Energy Group, Baker & McKenzie

Ean Mac Pherson is the co-head of the Baker McKenzie's Projects Practice Group and Renewable and Clean Energy Group in Tokyo. He has been based in the Baker McKenzie Tokyo office since 2003, and in the 16 years that he has worked in Japan, he has developed strong experience in assisting foreign companies to invest in Japan, and Japanese companies to invest overseas.

His practice focuses on renewable and conventional power projects, resources acquisitions and joint ventures and major projects and corporate work. Since the introduction of the Japanese renewable energy feed-in tariff regime in 2012, he has acted for numerous foreign renewable energy project investors to acquire and develop renewable energy projects in Japan. His experience includes assisting clients on onshore and offshore wind projects inside and outside Japan, and he has been active in advising foreign companies on early stage offshore wind development projects inside Japan. He has particular experience in the negotiation of EPC contracts and subcontracts for renewable energy projects in Japan and financing for such projects. He has also assisted Japanese utilities, trading houses and energy companies investing in power projects in countries such as Thailand, Australia, Indonesia, Malaysia and other jurisdictions.

Naoaki (“Nick”) Eguchi

Partner, Co-head of the Renewable and Clean Energy Group, Baker & McKenzie

Naoaki (“Nick”) Eguchi is Co-head of the Tokyo office’s Renewable and Clean Energy Group. Nick’s practice focuses on project finance, infrastructure PPP and PFI. He has been a special member of the Cabinet Office (Naikaku-fu)’s PFI Promotion Committee since 2010 and is a member of the Japan Wind Power Association’s Offshore Wind Task Force since 2017. Representative work for Nick includes more than 17 wind power projects totalling more than 300 MW, including the Horonobe and Saraki Tomanai in Hokkaido, the Rokkasho mura in Aomori, the Hachiryu in Akita, the Wajima in Ishikawa, the Misakicho in Ehime, the Hibikinada in Kita Kyushu and the Akita Port. Nick is also working on early stage of offshore wind projects in Japan. On solar power, he worked on projec finance of Marubeni’s 82 MW Oita No. 6 solar power plant, SB Energy / Mitsui & Co’s 111 MW Tomatoh and 43 MW Yonago solar power plants and Renova’s 40 MW Futtsu solar power plant among more than 200 projects totalling over 2,500 MW last 7 years. Nick has also been working on financing of three 75 MW and five 50 MW biomass power plant projects. He was involved in project finance (1) to Universal Studios in Osaka financed by SMBC, the Development Bank of Japan and other syndicated banks (USD 1.1 billion), (2) to Soma Port 1,180 MW Gas-to-Power (USD 1.3 billion) for JAPEX, Mitsui & Co, Osaka Gas and other sponsors and, (3) to Fukushima 1,080 MW IGCC coal power project (USD 2.65 billion) for MUFG Bank and other syndicated banks.

Asia Wind Energy Association

IN PARTNERSHIP WITH Baker McKenzie.

AWEA WEBINAR SERIES 2020 - MARKET SESSION

Outlook for the Japanese Offshore Wind Market

Outlook for the Japanese Offshore Wind Market

Baker McKenzie.

Outlook for the Japanese Offshore Wind Market

Asia Wind Energy Association Webinar

| 9 June 2020

Naoaki "Nick" Eguchi, Ean Mac Pherson

Background to Japan’s offshore wind laws

Legal barriers to Japanese offshore wind development to date:

1. No national level laws covering general sea areas (i.e. areas outside ports and harbors)

2. Although 38 prefectures have their own rules for sea area development, their rules are not detailed and have only limited development periods (e.g. 5 years etc), so generally not bankable

3. Ports and Harbors Act was amended in 2016 to allow development in ports and harbors, but only limited projects have proceeded so far under these rules.

The above issues are intended to be addressed by the new offshore wind laws enacted in 2018.

However, some progress has been made

- Pilot Projects:
  - Fukushima 7MW semi-sub floating
  - Goto Island floating test unit
- Near shore: 65 MW only
- Ports and Harbors Projects:
  - Kitakyushu Hibiki-nada Port Project: 220 MW
  - Ishikari Port Project: 112 MW
  - Akita/Noshiro Ports Project: 140 MW
  - Kashima Port Project: 93.5 MW

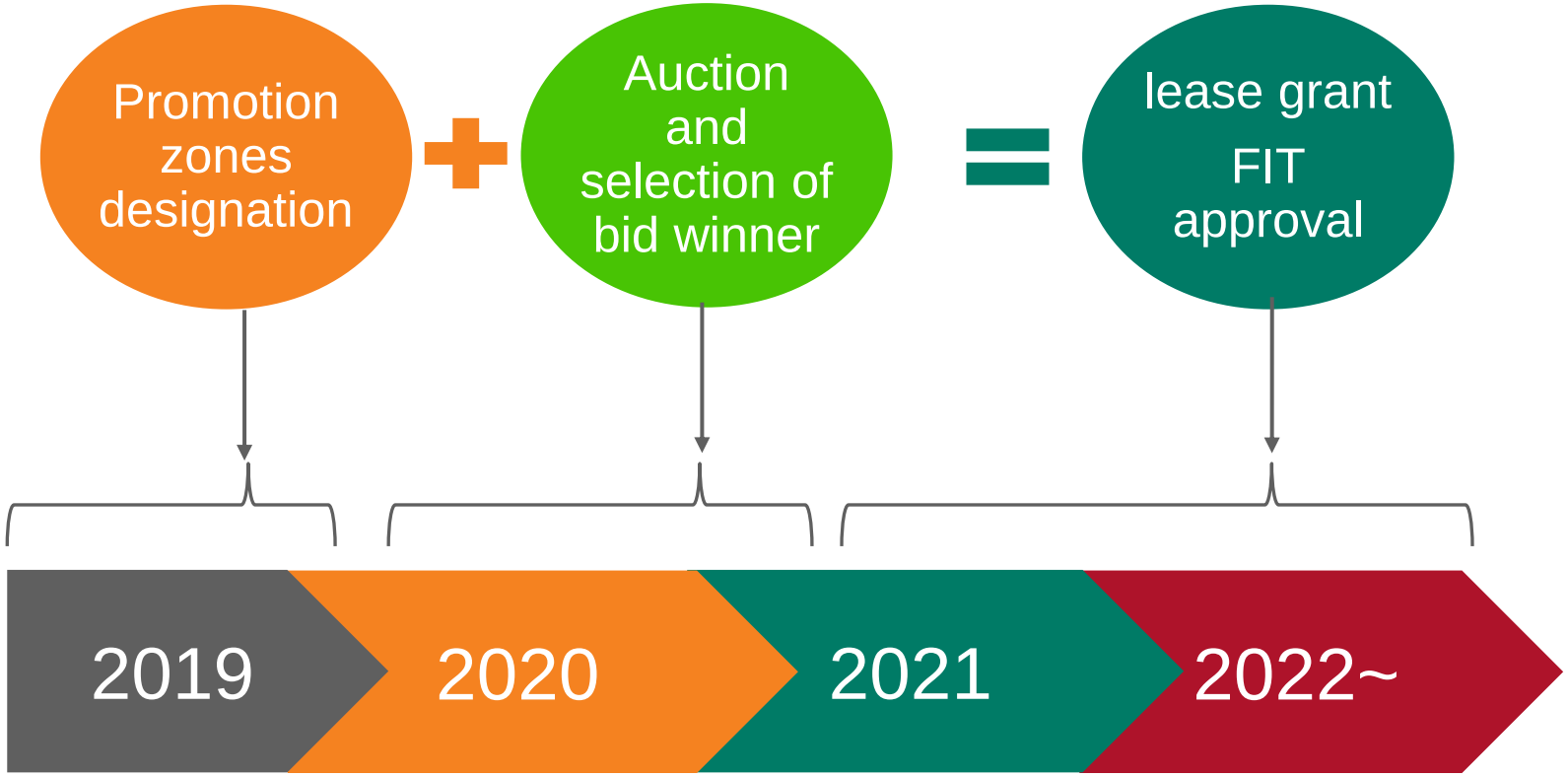
7 MW Semi-Sub Photo Credit: Fukushima FORWARD

New offshore wind law

What are the key characteristics of the new law?	
Area subject to lease	▪ General waters (i.e. non ports and harbors areas)
Procedure to grant lease	▪ Two-step process: 1. Promotion Zone designation 2. Auction Process
Lease period	▪ Maximum 30 years (20 year PPA + construction and decommissioning periods)
Feed-in Tariff	▪ FIT rate granted by reverse auction process
Award Criteria	▪ Points system, based on supply price/bidder qualifications (i.e. ability to deliver and operate project)

New offshore wind law

When will the first round likely occur?



1st step: designation of promotion zones

What are the key steps for designating “promotion zones”?

(1) Information gathering by national gov.

(2) Discussion by expert committee

(3) Discussion by local “council”

(4) Site survey by national gov.

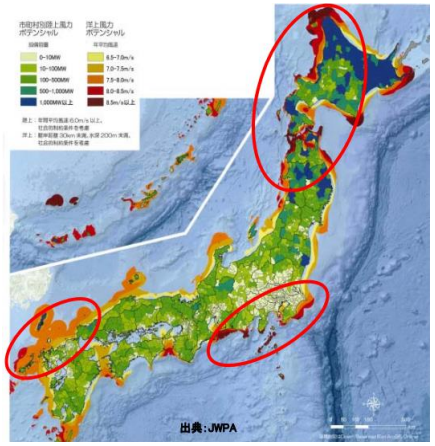
(5) Further discussion by expert committee

1st step: designation of promotion zones

What are key criteria for “promotion zones”?

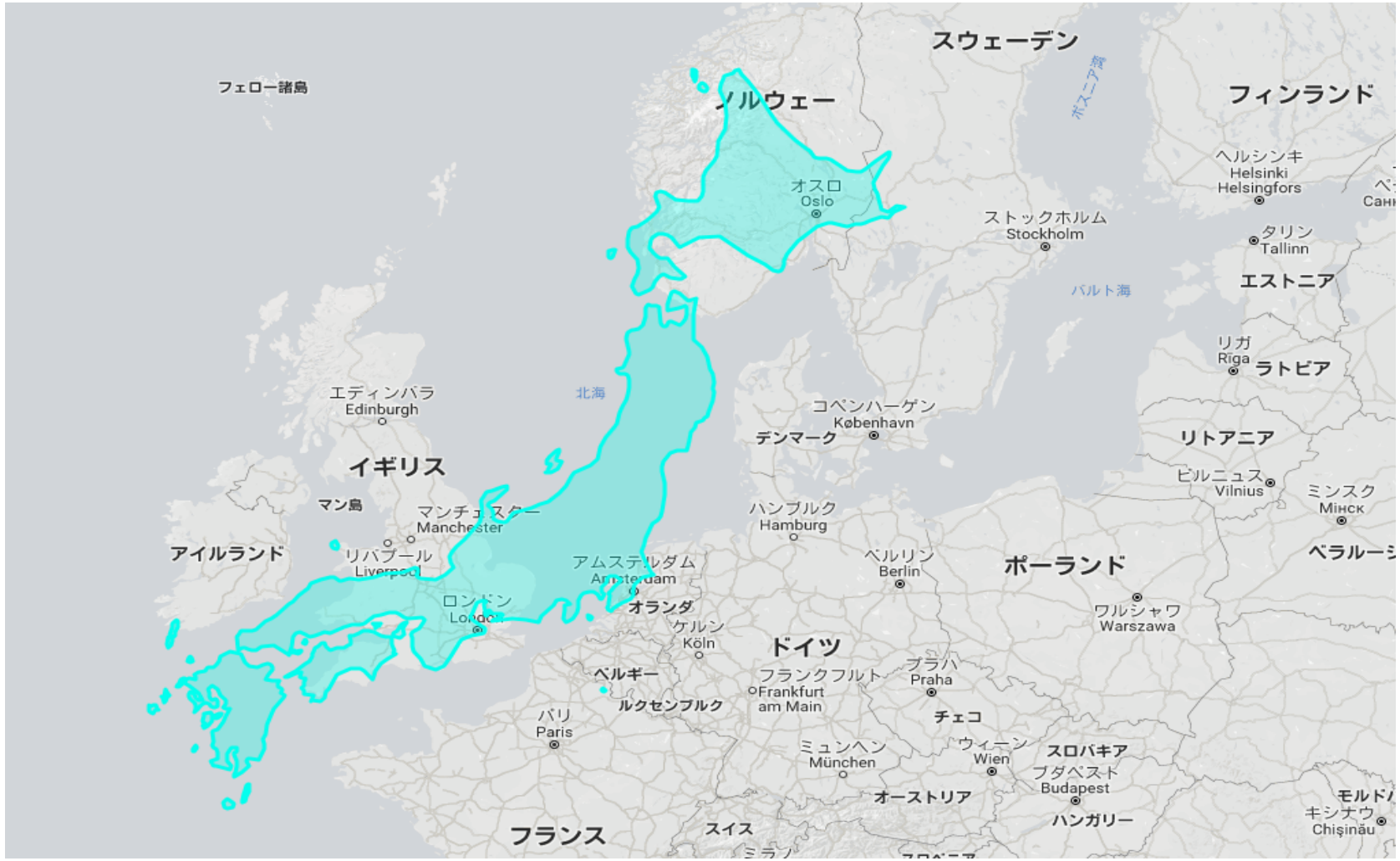
Natural conditions	• 7 m/s wind speed • ~30 m depth (for fixed foundation)
Potential output	• Minimum 30 MW? • Most likely 200+ MW?
Potential grid connection	• E.g., utility accepts application • E.g., auction process in progress
Fishery groups	• Discussion before “council” starts • Consent before lease grant

Current Status: 1 Designated Promotion Zone and 10 Possible Promotion Zones



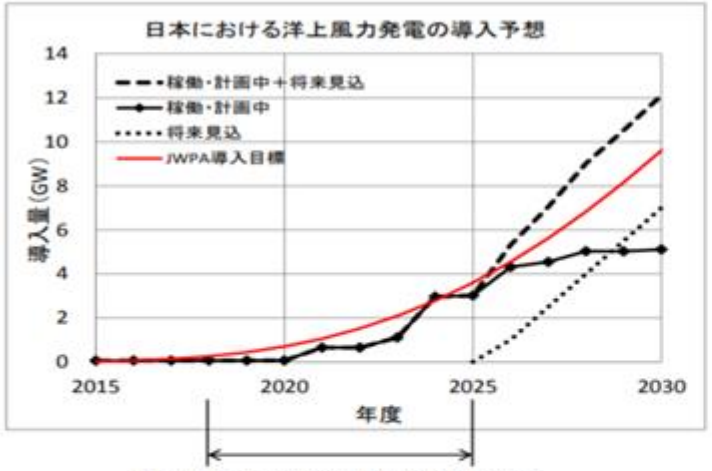
Where is the Japanese offshore wind sector heading?

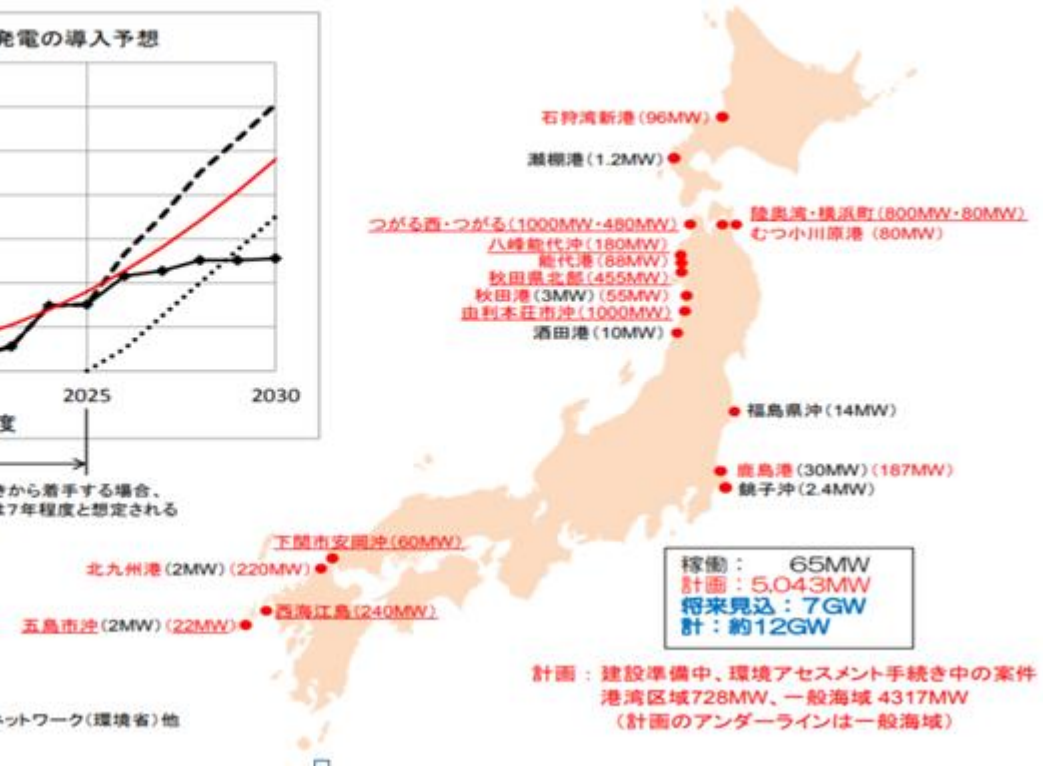
Japan’s Coastline and Sea Areas



Potential Projects: JWPA targets 10 GW by 2030
EIA: 5GW, East North Grid Application: 2.21GW

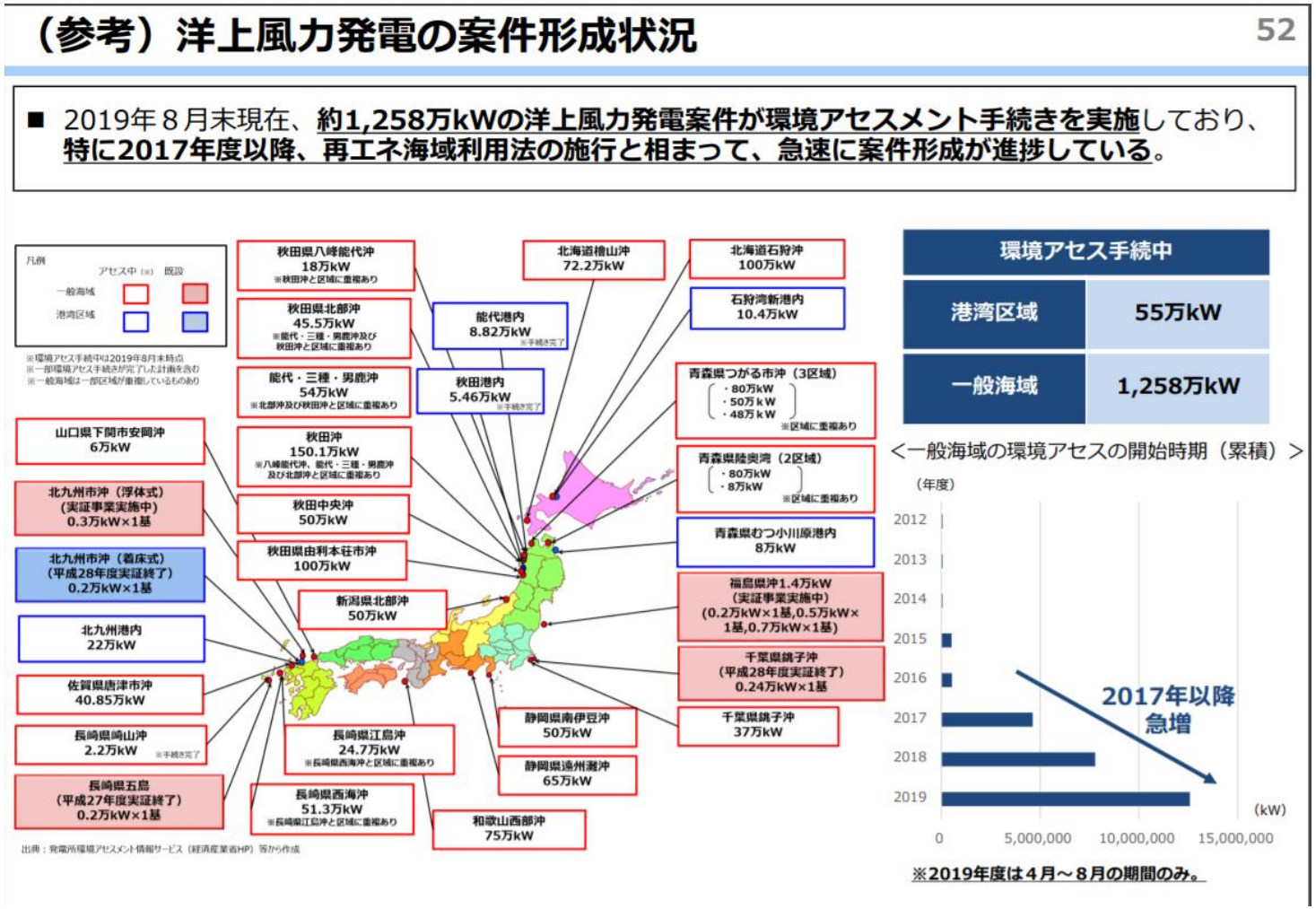
現在、建設準備中、環境アセスメント手続き中の案件は約5GW、一般海域利用のルール化によりさらに7GW程度（1～1.5GW/年）の運転開始が見込まれ、2030年10GWの目標は達成可能と想定



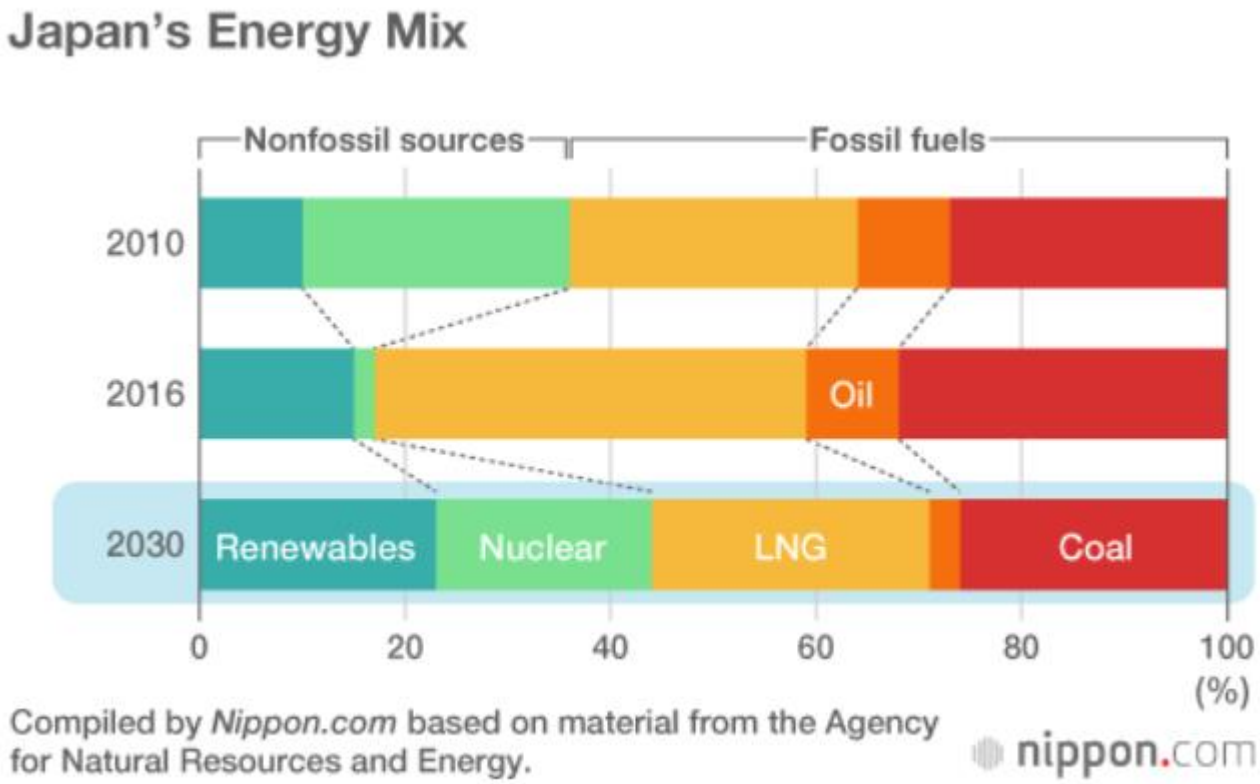


出典：環境影響評価情報支援ネットワーク（環境省）他

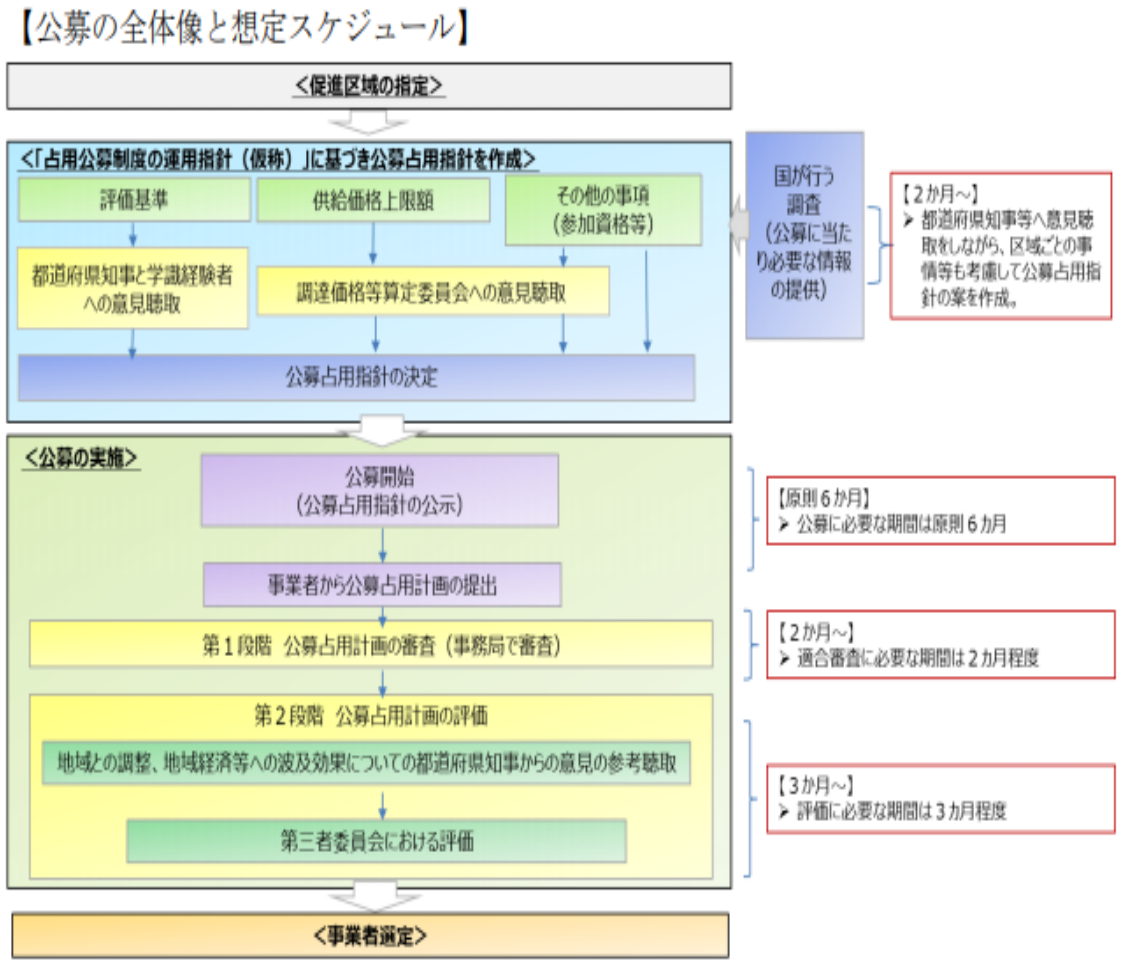
Potential Projects: As of August 2019, 12.58 GW Offshore Wind under EIA



Is this durable to have 50% thermal in 2030?
Is it realistic to have 22% Nuclear in 2030?
Energy Mix Revision is under way



Auction Process



2 months Auction conditions dox preparation

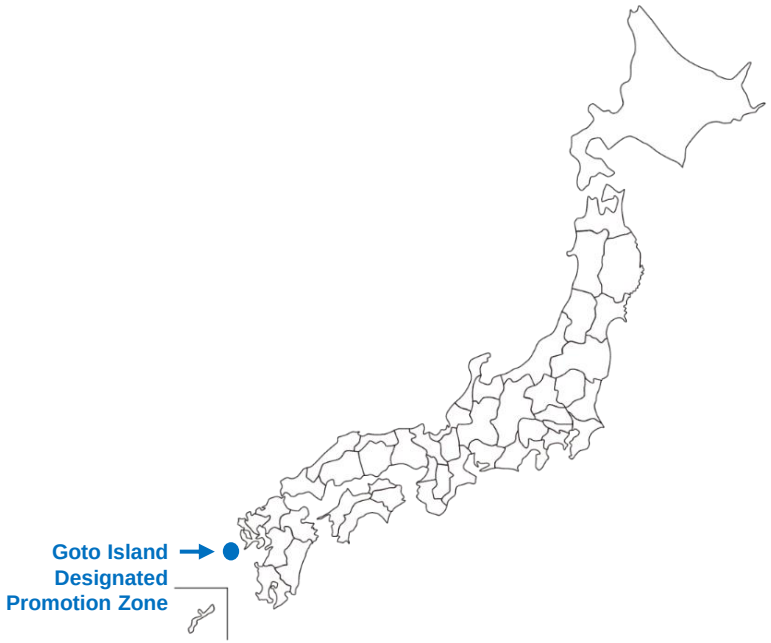
6 months Proposal to be prepared

2 months PQ check

3 months evaluation

The Goto Island Auction – a new precedent?

Goto Island Promotion Zone



- First Designated Promotion Zone in General Waters
- 21 MW
- Auction likely within 2020

Goto Islands Offshore Wind Auction Conditions 1

- FIT Price is set at JPY 36 (USD 32.7)/kwh plus VAT (10%). There is no reverse price auction. This is because under the current FIT program, FIT Price for floating offshore wind power generation is JPY 36/kwh during FY 2020
- This is exceptional for Goto Island Offshore Auction where floating technology is used. This would not apply to bottom fixed offshore wind auction where reverse price auction is implemented.
- FIT Price Committee recommended not to disclose the maximum FIT Price in the auction. This was because the Committee felt it was not certain how many bidders would participate in the auction leading to a risk that the prices bid by developers would be at the maximum indicated price if that maximum price was announced in advance.
- This means bidders will be forced to participate in auctions without knowing the maximum price. If a bidder's bid exceeds this undisclosed maximum amount, the bidder will fail in the auction and it will have wasted all its bid preparation cost.
- Exceeding undisclosed maximum amount happens in solar auctions and biomass auction. Bid preparation cost is huge for offshore wind project and it would discourage bid participation

Goto Islands Offshore Wind Auction Conditions 2

- FIT Period is 20 years
- Bidders should propose their operation period within 30 years occupancy period.
- Extension of 30 years is subject to discretion of METI/MLIT
- Bid participants are required to set a specific commercial operation date deadline in their occupation plan (= bid proposal) within 8 years from the date of their selection in the auction. If their project do not start operation by such deadline, their PPA term will be shortened, month by month or day by day basis (to be decided later)
- Overall Capacity is 21 MW, no limitation of a wind turbine unit capacity
- Reduction of capacity up to 20% is allowed
- Bidders are allowed to apply a relevant grid company, during the auction period, to research grid capacity change to be made after winning the auction and after succeeded the grid right from the original grid right holder.
- In principle, IPP should decommission everything (this may be ok for Goto Island floating offshore wind project but may be too expensive for bottom fixed offshore wind projects) Minimum is 5% of Capex, cash deposit, bank guarantee, decommission L/C

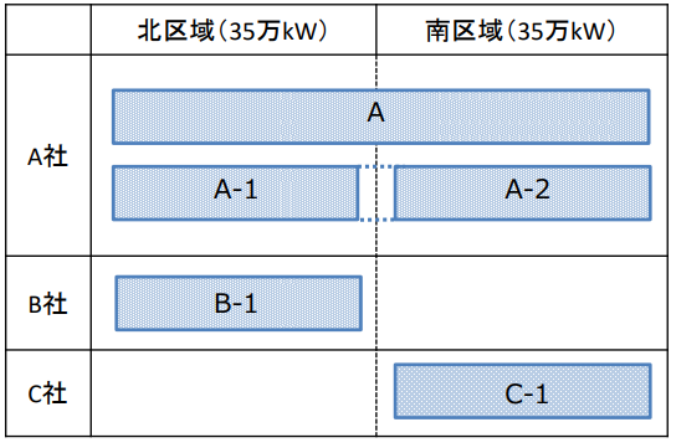
Goto Islands Offshore Wind Auction Conditions 3

- Winning bidder should follow local requests attached to the Auction
- Winning bidder should establish a fund with Goto City to be used by local community and fishery and impact assessment of fishery should be made
- Goto Island Fund amount will be stipulated in the local regulations
- Akita Fund would be 0.5% of FIT revenue for 20 years
- Yurihonjo City would like to have local contribution before the power generation starts
- Yurihonjo City stressed that this fund is not an individual fisherman's compensation rather promotion of fishery business as a whole. So fisherman should not ask individual compensation and participate in the fund use
- This fund may be expensive but one solution of final veto risk of fishermen who may ask individual compensation in order to permit offshore wind business occupation
- During the auction period, communication with local interested parties are restricted. Interested parties include private participants of the council meetings and member of organization that participants belong

Goto Islands Offshore Wind Auction Conditions 4

- Note that this Conditions are for 21 MW floating offshore wind project off the coast of Goto Islands and may not all apply to large scale bottom fixed offshore wind auction
- Maximum capacity is limited to 21 MW as this is the limit of grid in Goto Islands which is a small islands isolated from main Kyushu Island grid. Capacity limits for bottom fixed large scale offshore wind projects are much larger and would be above 350 MW
- In Akita Yurihonjo Local Council meeting, it was discussed that a bidder may bid 700 MW at one time or 350 MW x 2 or only 350 MW in north area or only 350 MW in south area

<公募参加イメージ>



Goto Islands Offshore Wind Auction Conditions 5

- Qualification of Participants in the Auction
- they must be Japanese legal entities (having their headquarters or main office in Japan);
- they must have experience in the installation and operation of a wind power generation facility inside or outside of Japan (which must be experience relating to more than 10 MW and within 10 years prior to the auction commencement date);
- they must have experience in marine civil engineering works inside or outside of Japan (which must be experience within 10 years prior to the auction commencement date);
- the aggregate net asset value of all consortium members must exceed the development cost of the project they are bidding to construct; and
- they must have secured indicative financing from a potential financial institution which has domestic project finance experience through an LOI being in place with such financial institution.
- Parents' companies track record would be counted if there are human resources assistance and information sharing is proposed.

Goto Islands Offshore Wind Auction Conditions 6

- Bid Bond Amount and Timing
- First Bid Bond: JPY 500 (USD 4.5)/kwh at the submitting the bid

  USD 1 = JPY 110
- Second Bid Bond: JPY 5,000 (USD 45)/kwh at the winning the bid
- Third Bid Bond: JPY 13,000 (USD 118)/kwh within 12 months from the selection
- This may be ok for a small scale 22 MW Goto Island floating offshore wind auction. However, it may be too short to commit such large amount of the Third Bid Bond within 1 year for a large scale bottom fixed offshore wind project. Assuming 700 MW, the Third Bid Bond amount would be JPY 9.1 billion (USD 82.7 million)
- Japanese government did pre-geotechnical research only by one drilling per site which is not enough to decide final investment decision within 1 year.
- Transfer of interest in the project company is subject to METI/MLIT especially for the largest shareholder, Project Implementing consortium member or more than 1/3 of original member (construction stage) or 1/2 or more of the original member (after COD)

Selection Criteria (Art 15)

- When the government sets the Selection Criteria, it must listen to the opinions of the relevant Governor and Academics (Art 13.2.15 and 13.5)
- Selection Criteria is set out in the description of Public Bid Business Plan (14.2）
  - Formation and capability for arrangements with relevant authorities and relevant regional government
  - Financial Plan and Revenue and Expenditure Plan
- Most economically advantageous Public Bid Business Plan shall be selected for the purpose of long term, stable and efficient implementation of offshore wind power stations (Art 15.3）
- When selecting a Preferred Bidder, it is necessary to listen to Academics opinions in advance (Art 15.4) ⇒ Cheaper Purchase Price and Stable Business Plan
- Please refer to Kita-Kyushu Port Offshore Wind Power Selection Criteria

http://www.city.kitakyushu.lg.jp/kou-ku/30300004.html
http://www.city.kitakyushu.lg.jp/files/000747919.pdf

Interim Report, Promotion Area Guideline and Auction Guide on 22 April 2019

- Auction Guide noted the general evaluation auction which has price component(120 points) and capability component (80 points) and local contribution component (40 points) should be used. This is similar to port offshore wind power auctions and airport privatization PPP auctions conducted in Japan but more emphasis on local contribution.
- Auction Guide noted 5 scale point system where top runner gets 100% of the maximum possible points, the middle runner gets 70%, a minimum runner gets 30% , the bottom runner gets 0 point and those who do not show any merit are treated as a failed bidder.
- Auction Guide noted a top runner's track record shall be based only on their project development experience in Japan. This means an overseas bidder without experience in Japan will not be able to qualify for top runner status by itself. Such overseas bidder need to form a consortium with a Japanese companies with good track record in Japan

Interim Report, Promotion Area Guideline and Auction Guide on 22 April 2019

Example for Criteria of Realization of Project

Big Criteria	Small Criteria	Point for Confirmation	Method for Confirmation
Capability	Execution of Offshore Wind Business	- Track Record	Including subcontractor: - Track record of construction, operation and maintenance of offshore wind power facility or - Track record of construction, operation and maintenance of onshore wind facility and marine civil work
		- Realization of Business Plan	- Concreteness, realization and reliability of schedule, plan for power facilities, construction plan O&M plan and financial plan
		- Risk Identification and Analysis	- Analysis and manage of risk of withdrawal from the project - Risk on construction (appropriate manufactures, jack up vessels, specific machines) - Risk on maintenance (any technical difficulty) - Risk on financial management (solution to wind speed change)
		- Appropriate Fiscal Plan (Financing Plan, Revenue and Expenditure Plan)	- Checked by Fiscal Plan (Financing Plan, Revenue and Expenditure Plan)
	Stable Power Supply	- Measures to swift repair of facility at the time of malfunction in terms of stable power supply, especially swift repair is possible in the given supply chain (Formation plan of supply chain in Japan who can take immediate action or equivalent supply chain)	- Location of parts manufacturing, stock keeping and measure for delivery - Any facilities for repair - Submission of formation plan for supply chain
		- Measure for future electric price down, especially formation plan of supply chain which meet electric price down	- Submission of formation plan of supply chain including cost reduction measures
		- Introduction of the most advanced technology and lead the industry	- Status of introduction of the most advanced technology (including construction technology)

Interim Report, Promotion Area Guideline and Auction Guide on 22 April 2019

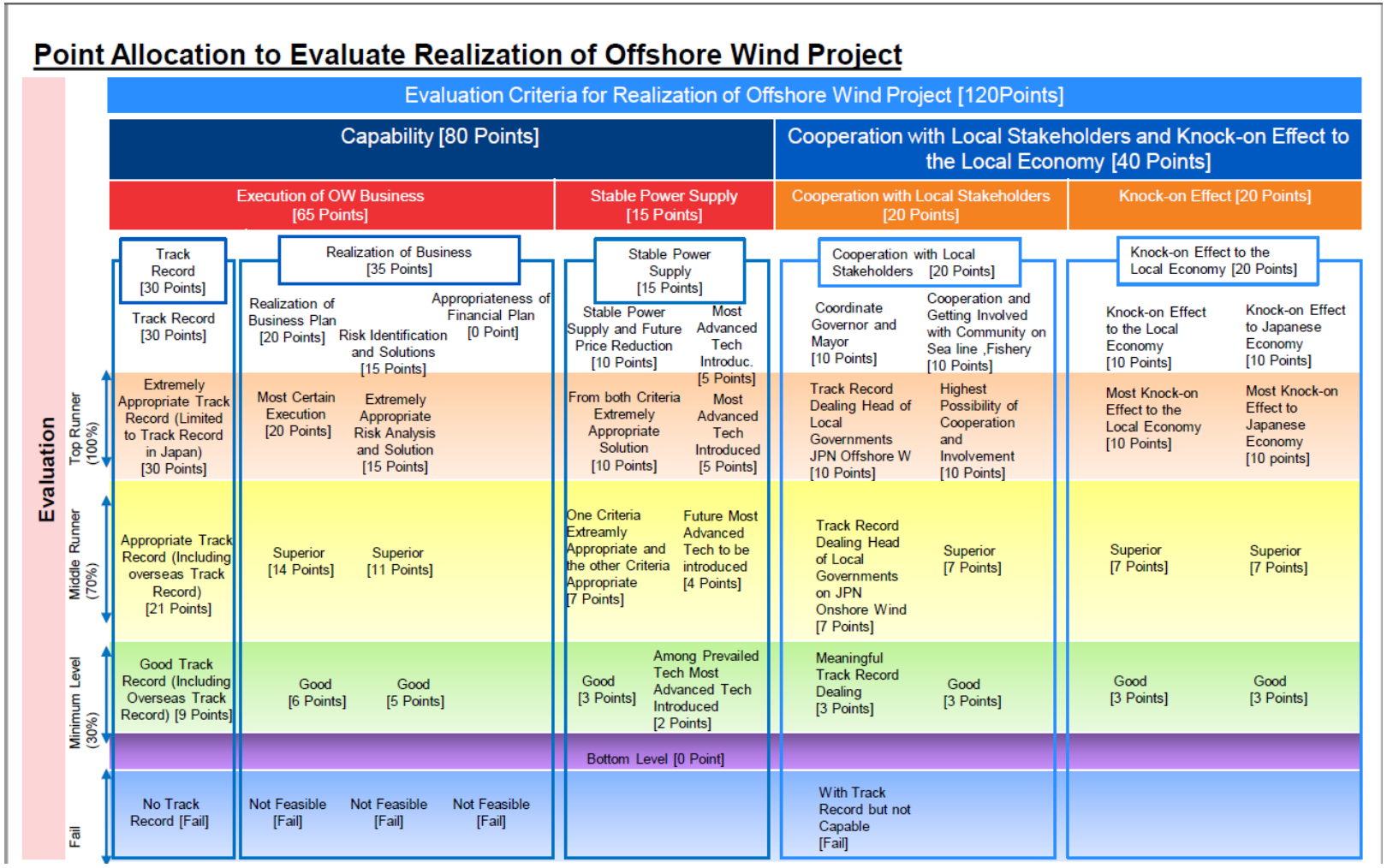
Sample of Evaluation Method of Occupation Plan

Big Criteria	Small Criteria	Point for Confirmation	Method for Confirmation
Cooperation with Local Stakeholders and Knock-on Effect to the Local Economy	Coordination Skill with Relevant Head of Local Governments	- Track record of those who coordinate with head of local governments	- Track record of coordination with head of local governments - Track record of offshore wind project in Japan - Track record of onshore wind project in Japan - Track record of other countries
	Cooperation and getting involved with sea line and fishery	- Method for cooperation and getting involved with relevant fishery person and shipping companies	- Whether it is clear how to communicate and getting understanding from relevant local stakeholders including fishery persons and shipping companies
	Knock-on Effect to local economy	- How much knock-on effect to local economy is expected	Check, for example: - How much and where local employment increase - How many factories etc. are constructed locally and how much investment is made locally
	Knock-on Effect to Japanese economy	- How much knock-on effect to local economy is expected	Check, for example: - How much and where Japanese employment increase - How many factories etc. are constructed in Japan and how much investment is made in Japan

Interim Report, Promotion Area Guideline and Auction Guide on 22 April 2019

- Auction Guide noted a bidder must be a Japanese incorporated company to be qualified to participate in an auction.
- Auction Guide noted a specific commercial operation date deadline is recommended to be set for each auction process with the FIT period reducing on a month by month basis for any delay in achieving operations past such deadline. From 1 April 2018, the commercial operation date (COD) deadline is set for wind power at 4 years from the FIT license date and 8 years if the project is subject to Environment Impact Assessment (EIA)
- Occupation Rent for the general sea area should be calculated based on the vertical axis turbine radius and the bird's eye horizontal swing area for the blades for each turbine and the length of chains and cables. This is generally expected to be 100 yen (US 92 cents) per square meter per year.
- Auction Guide noted bidders are generally prohibited to communicate with local stakeholders during the bid period in order to ensure a transparent and fair procedure.

Interim Report, Promotion Area Guideline and Auction Guide on 22 April 2019



The Advisory Committee for Natural Resources and Energy, Energy Conservation and Renewable Energy Department / Electricity and Gas Unit, Subcommittee on Mass Introduction of Renewable Energy and Next-Generation Electricity Networks of METI (Massive Introduction Committee) 3rd Interim Report on 20 August 2019

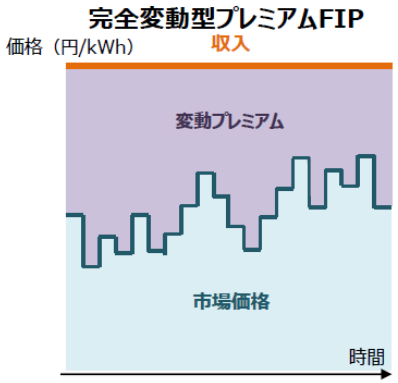
- A grid connection right holder must agree in advance to transfer its grid connection right to the winner of the auction process under the Offshore Renewable Promotion Law. Auction Guide requested to specify capacity and price of grid connection right to be succeeded to the winning bidder of the general sea auction in the bid documents objectively in advance.
- 3rd Interim Report page 36: Price for the grid transfer comprise of (a) direct cost (i.e. grid improvement cost allocation paid by the grid connection right holder (kouji futankin)), (b) associated cost of 1 % of (a) or JPY 7.5 million (USD 69,500), whichever smaller and (c) 0.1% of (a) + (b)

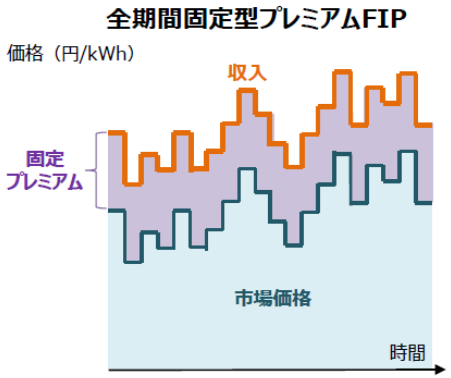
Latest Renewable Energy Status in Japan

- Current Status of Renewable Energy in Japan: Thanks to Renewable Energy Law 2012 and its Feed-in Tariff (FIT) Incentives, we have projects reached Commercial Operation Date (COD) which are 41.8 GW Utility Scale Solar, 11.4 GW Rooftop Solar, 3.8 GW Wind, 3.4 GW Biomass, 709 MW Small Scale Water and 79 MW Geothermal in Japan as of end of December 2019.
- However, surcharge to individual household reached JPY 2.97/kwh (US¢ 2.7/kwh) and averaged household burden is JPY 774 per month (USD 7.2). The government reviewed the law.
- Amended Renewable Energy Law passed the Diet on 5 June 2020
  a) FIT Invalidation Deadline will be implemented after 2022. If the project is not reach COD after certain period (this period will be determined in a regulation for each renewable power station) of the FIT date, FIT will be invalidated. This rule will also apply to the existing FIT.
  b) Change from FIT to Feed-in Premium and linked to power market price. Frequency of adjustments to the premium based on market price will be important. In particular, will the adjustments occur every month, every week, every day or every 30 minutes? Not decided yet.
  c) Mandatory Decommission Reserve for Solar Power station in the last 10 year period at JPY 10,000 to 17,000/kwdc (USD 93.4 to 158.8/kwdc). This rule will also apply to the existing FIT.

Amendment of the Renewable Energy Law passed the Diet on 5 June 2020

= CfD

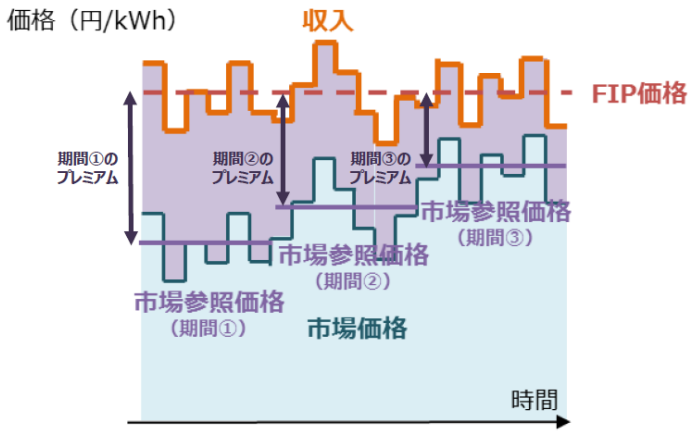




Discussion just started which is the best system after FIT from 1 April 2022
For bankability purpose, CfD is preferable but METI prefer Hybrid to reduce cost of electricity

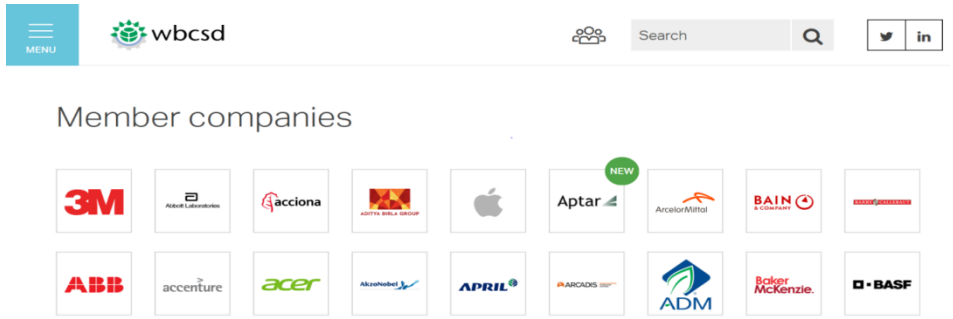
Also Generation Side Wheeling Charge will be levied after 2023 and imbalance charge will no longer be exempted for FIT generation companies

Hybrid



Baker McKenzie is the first law firm joined WBCSD

- The members are listed on World Business Council for Sustainable Development (WBCSD) web site: https://www.wbcsd.org/Overview/Our-members

- 

- Here is the announcement of our joining from 2017: https://www.wbcsd.org/Overview/News-Insights/General/News/Baker-McKenzie-becomes-the-first-law-firm-to-join-WBCSD

Asia Wind Energy Association

IN PARTNERSHIP WITH Baker McKenzie.

AWEA WEBINAR SERIES 2020 - MARKET SESSION

Outlook for the Japanese Offshore Wind Market

Q&A Session

Asia Wind Energy Association

IN PARTNERSHIP WITH Baker McKenzie.

AWEA WEBINAR SERIES 2020 - MARKET SESSION

Outlook for the Japanese Offshore Wind Market

Closing

Information

Asia Wind Energy Association

www.asiawind.org

@asiawindenergy

Asia Wind Energy Association

(65) 6679 6071

membership@asiawind.org

CapitaGreen - Level 24
138 Market Street, Singapore 048946

Next Webinar

Asia Wind Energy Association

IN PARTNERSHIP WITH Baker McKenzie.

AWEA WEBINAR SERIES 2020 - MARKET SESSION

Outlook for the Japanese Offshore Wind Market

Thank You