



# Overview of Japan's Offshore Wind Power Market

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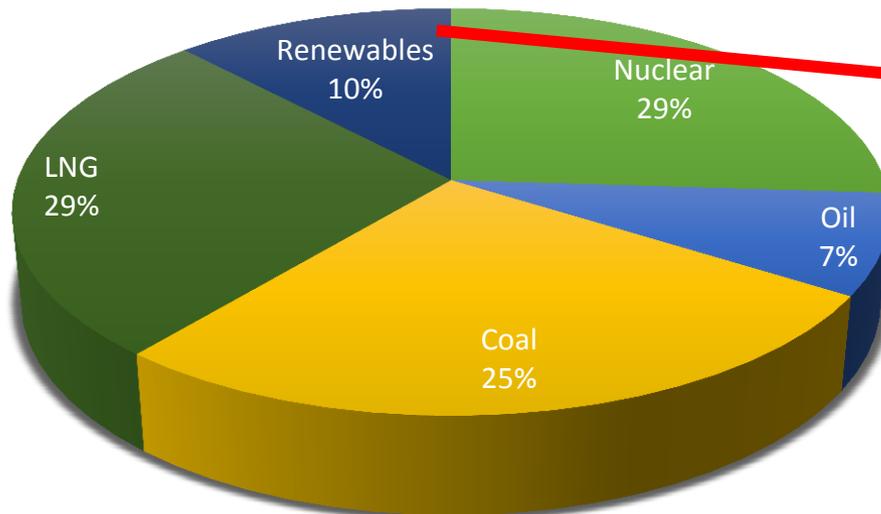
# Japan Power Market Snapshot

- ❑ World's third largest economy and second largest electricity market in the OECD.
- ❑ Prior to the Fukushima Daiichi Nuclear Accident – power generation was dominated by fossil fuels (c.60%) and nuclear (c.30%).
- ❑ After the Fukushima Daiichi Nuclear Accident – big increase in fossil fuel imports for thermal generation, causing:
  - Increasing electricity prices
  - High dependency on imports
  - Increase in Japan's greenhouse gas emissions
- ❑ Energy policy has shifted – to reduce fossil fuel dependency:
  - **Changing power generation mix:** Shift away from nuclear and thermal power generation towards renewable energy, and expanding the mix of renewable power sources
  - **Market liberalization:** Liberalization of power generation, liberalization of retail supply, ensuring independence / fairness of transmission and distribution
  - **Rising awareness of energy conservation:** Efforts towards increased efficient energy usage.

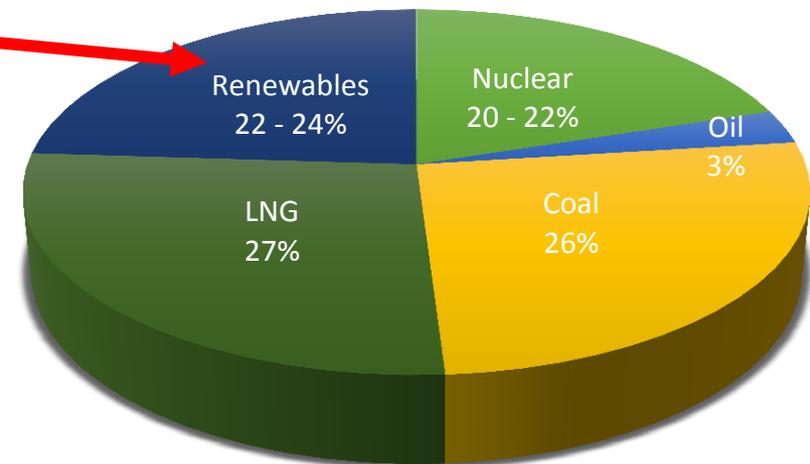
# A Changing Generation Mix

- Japan is looking to expand its renewable energy use to reduce its dependency on fossil fuels and secure energy supply.

Pre-Fukushima energy mix

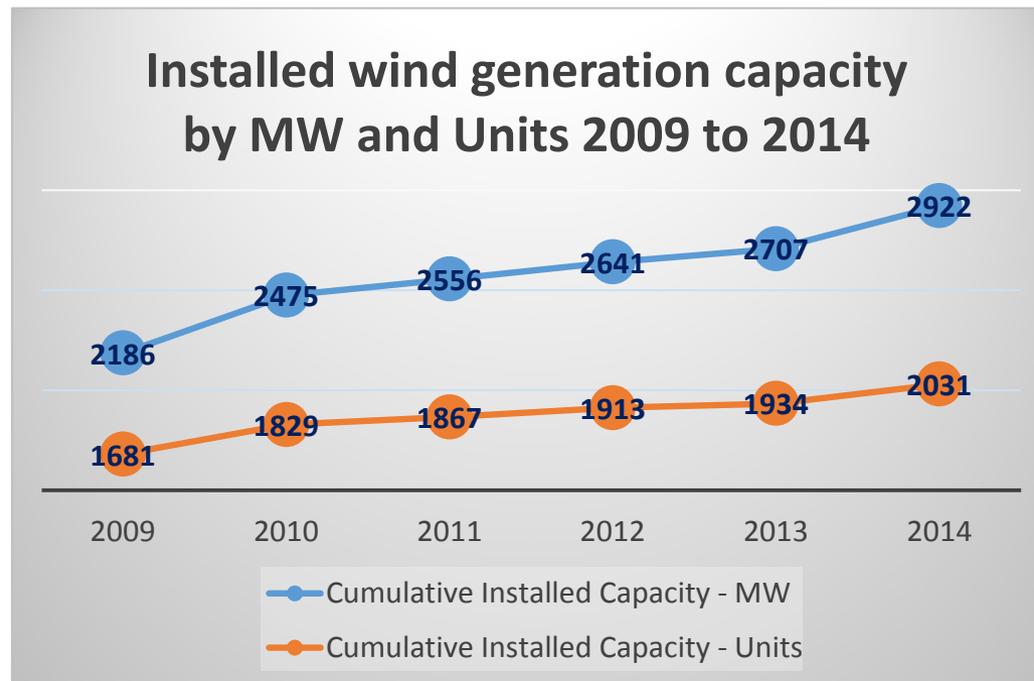


Govt. base case energy mix by 2030



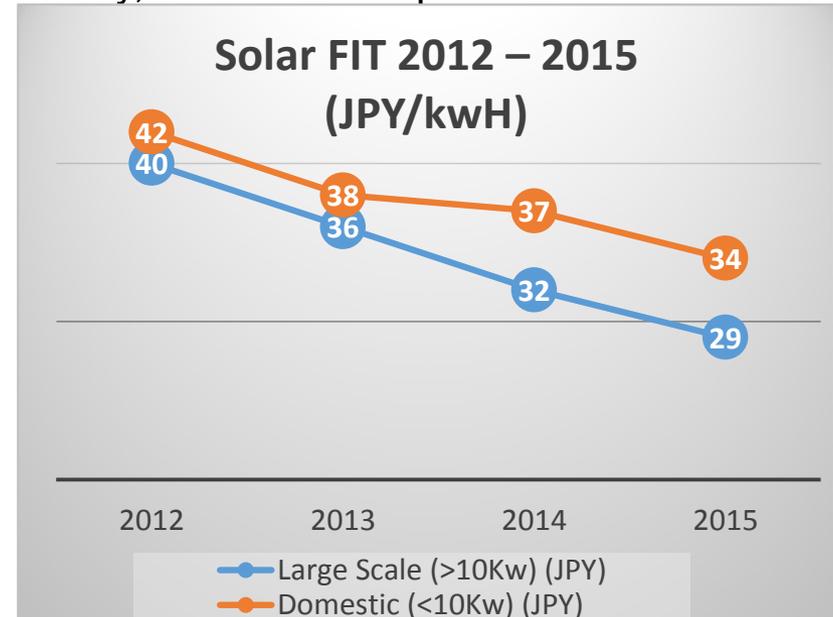
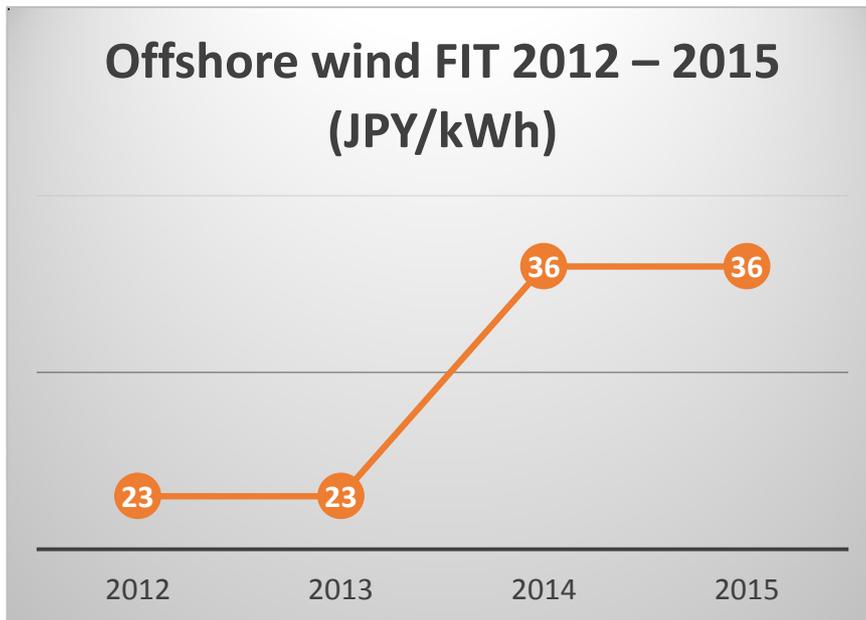
# The Role of Offshore Wind in the Generation Mix

- ❑ Although installed capacity is increasing steadily.....
- ❑ Further opportunities exist due to an estimated wind technical potential of 1.6 TW and government targets of making floating offshore wind technology in commercial use by 2018



# Offshore Wind Market Trends

- Increased government support for the offshore wind sector through feed in tariffs (FITs)
  - FITs have increased since introduction a positive signal when compared to other renewable energy technologies e.g. solar, and remain comparatively attractive compared to other countries e.g. Germany, France and Spain.



Source: Japan Ministry for Economy, Trade and Industry (METI)

([http://www.meti.go.jp/english/press/2015/0319\\_01.html](http://www.meti.go.jp/english/press/2015/0319_01.html)) and the International Energy Association

(<http://www.iea.org/policiesandmeasures/pams/japan/name-30660-en.php>)

# Offshore Wind Market Trends

- ❑ Government sees offshore wind generation as a key renewable energy source and has introduced a range of support measures to compliment it's wind power FIT regime
- ❑ Purchasing of wind turbines and parts, and maintenance services is forecast to grow from an estimated 300 billion yen a year currently to 500 billion yen in 2030
- ❑ International wind generation expertise could be of great value to Japan, including wind modelling, construction, transmission and operation and maintenance of wind farms
- ❑ Japan's substantial investment in making floating offshore wind a viable technology could also present an excellent learning opportunity for international players.

Source: Energy Opportunities in Japan, Worldview Report, May 2012

# Offshore Wind Market Trends

- ❑ Market liberalization - encouraging new entrants by opening up the power market to competition

**2016**

- Retail competition introduced to the residential sector in 2016
- consumers will likely drive demand for renewable energy

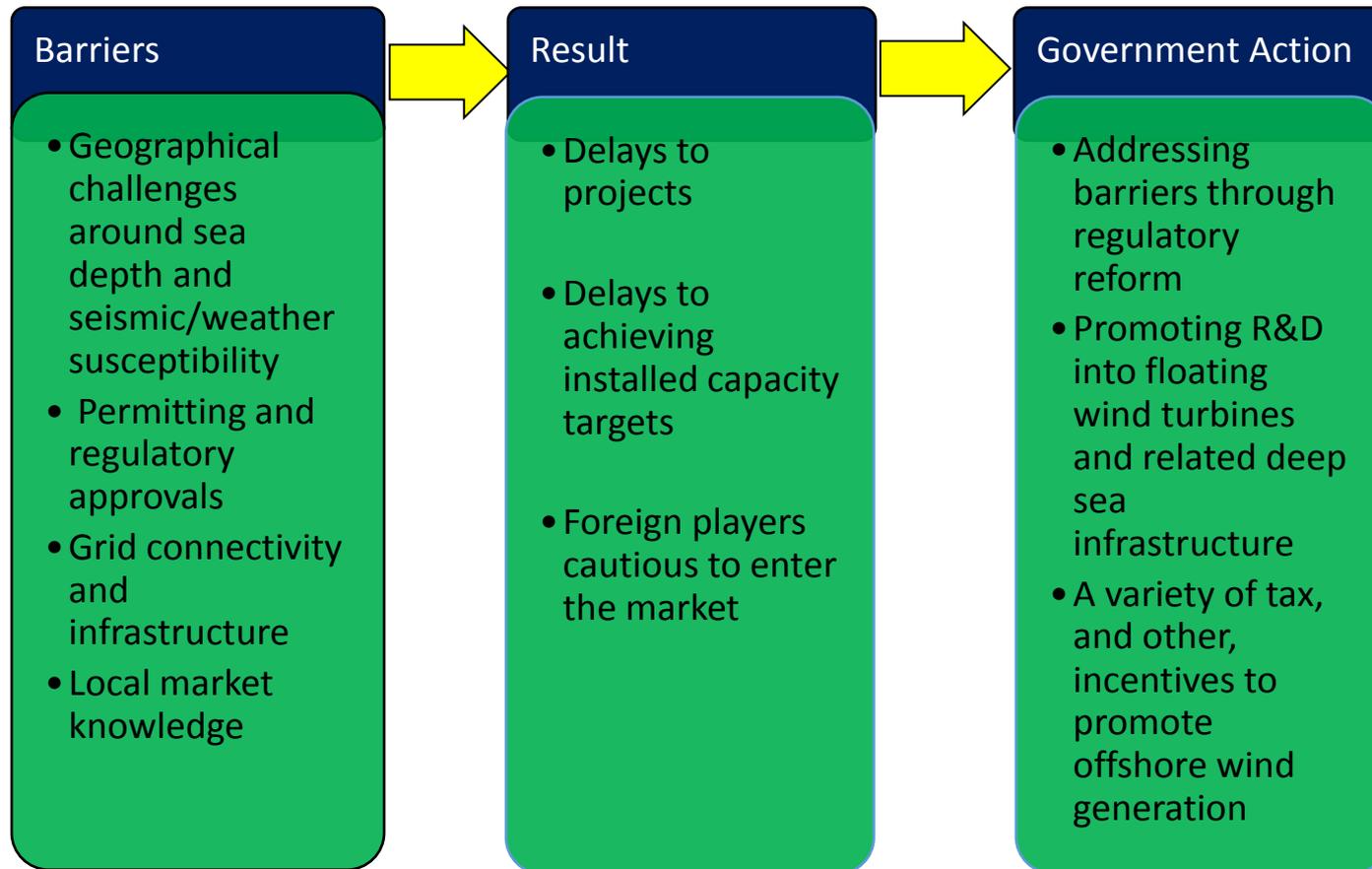
**2018**

- Abolishment of rate regulations
- Retail tariffs subject to market forces

**2020**

- Large power companies transmission and distribution operations unbundled
- Enhanced neutrality and transparency of transmission and distribution

# Offshore Wind Generation - Barriers to Entry



# Accessing the Market through Partnership

- ❑ Given the unique characteristics of the Japanese market, many of foreign companies overcome barriers to entry by partnering with domestic players.
- ❑ There are a number of potential partners for foreign companies looking to expand their business in Japan.
- ❑ Partnership can take a myriad number of forms e.g. technology alliances, joint ventures, value chain alliances.
- ❑ Success cases include:
  - Vestas – Set up a joint venture with Mitsubishi Heavy Industries specializing in offshore wind generation turbines and equipment. (Company headquarters; Denmark). Vestas has operated a sales branch in Japan since 2011.



# How Can JETRO Help?

- ❑ Japan's core organization for promoting foreign direct investment (FDI) into Japan,
- ❑ Identifies companies interested in investing into Japan and supports them from the stage of business development to that of corporate establishment.
- ❑ Range of services to facilitate establishing a corporate presence in Japan
- ❑ No charge for assisting our registered clients