

# Offshore wind as a driver of energy independence

REvision 2023 – Session 4

## Can offshore wind be a driver for decarbonization as well as well as an enabler of...



Mainstream power supply increasing energy security?

Attract more investment?

Supply chain growth?

# Orsted has a strong presence across Asia Pacific, notably in Taiwan where we recently delivered first power on 900MW project

## Status

- In operation
- Under construction
- Under development

Electricity consumption in 2020

**South Korea**  
560TWh

**Japan**  
972TWh

**Taiwan**  
271TWh

**Vietnam**  
226TWh

Formosa 1, 128MW in operation since 2019

Changhua 3

Wo Neng 1 & 2

Greater Changhua 2b & 4

Greater Changhua 1 & 2a

Xu Feng 1, 2 & 3



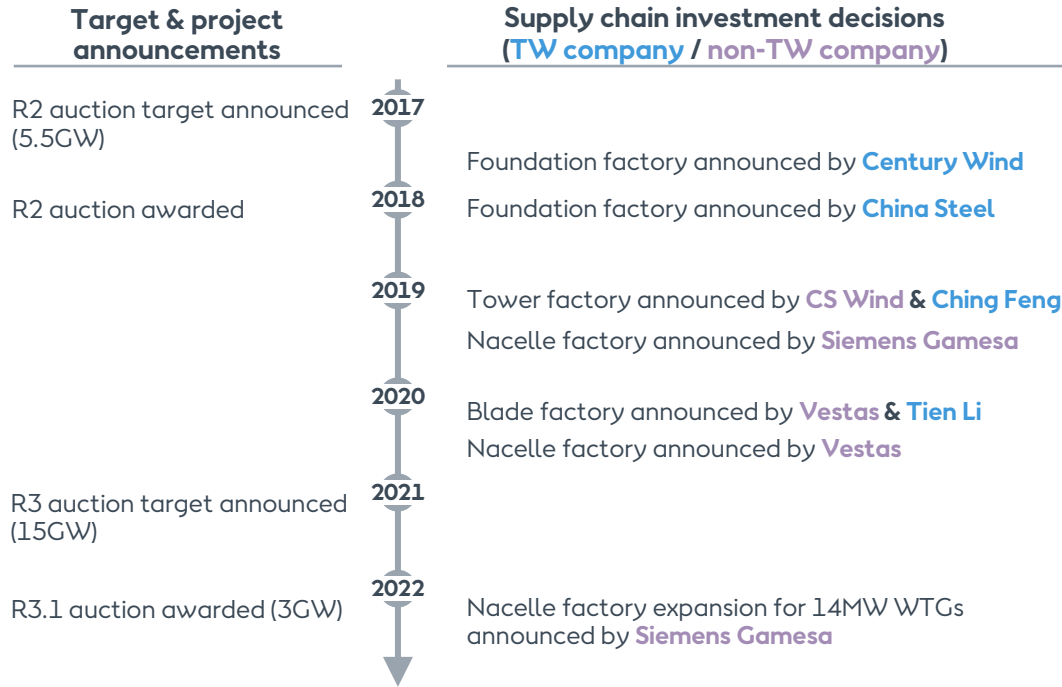
# In Taiwan, clear targets and roadmap for a +20GW project pipeline provide certainty for developers, customers and supply chain

## Taiwan Government roadmap of offshore +20GW wind auction



# And this certainty for projects at sufficient scale has attracted supply chain investments in Taiwan

## Supply chain investment decisions in Taiwan



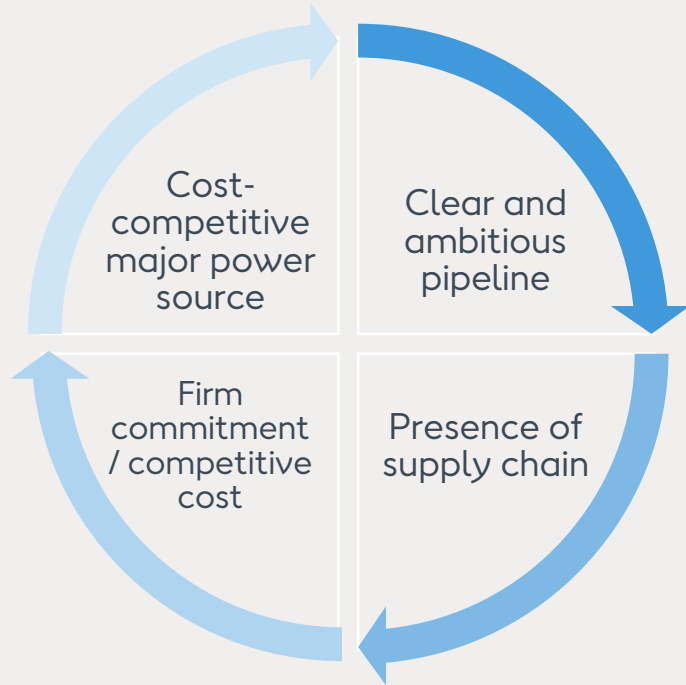
Foundation factory of Century Wind at Taipei Port

Nacelle factory of Siemens Gamesa at Taichung Port

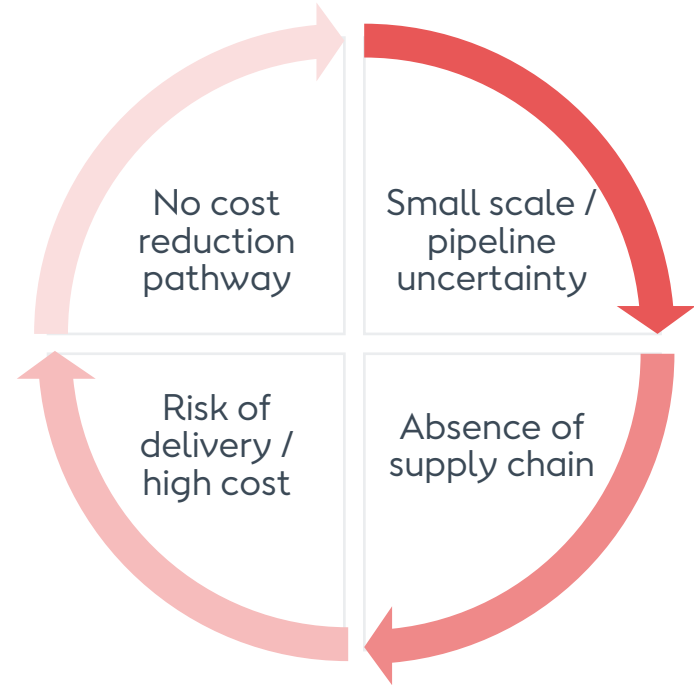
Source:  
<https://www.siemensgamesa.com/en-int/newsroom/2019/09/190616-siemens-gamesa-offshore-facility-taiwan>  
<https://www.vestas.com/en/media/mwow-press-releases/2020/construction-started-on-major-blade-facility-at-taichung-harbour>

# Japan has a fantastic large and long-term offshore wind opportunity if the virtuous cycle of scale is unlocked

## Virtuous cycle of scale



## Vicious cycle of lack of scale



# Much more difficult to get into virtuous cycle of scale in current global market conditions



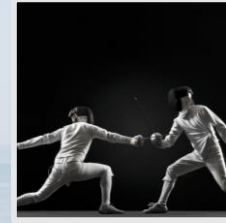
Growth in renewable energy demand



Supply chain bottlenecks / crunch



Inflation and massive cost increases



Strong competition across markets

# Offshore wind can become mainstream power in Japan if clear and ambitious framework are put forward to increase the attractiveness

## Framework challenges & opportunities

	Challenges in auction framework	Opportunities
Scale	<b>Small</b> due to distance to shore	<b>Large &amp; open</b> seabed can be unlocked
Certainty of pipeline	<b>Unpredictable</b> due to centralized but organic local processes	<b>Committing to steady pipeline</b> and reduction in complexity for suppliers
Development Risk	<b>Lead-time &amp; no exclusivity</b> hindering sharp & firm bids & optimization	<b>Exclusivity and attractive revenue stream</b> early seabed allocation and attractive FIT

## Future could look like...



OFW being a **mainstream power source** and deliver **energy independence**



Significant local and global **supply chain investments**



**Global investment** from industries / customers looking for renewable energy supply



Steady **flow of operational offshore wind projects** based on latest technology



Let's create a world  
that runs entirely on  
green energy

