

## Financing Climate in Floating Wind

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Organized by



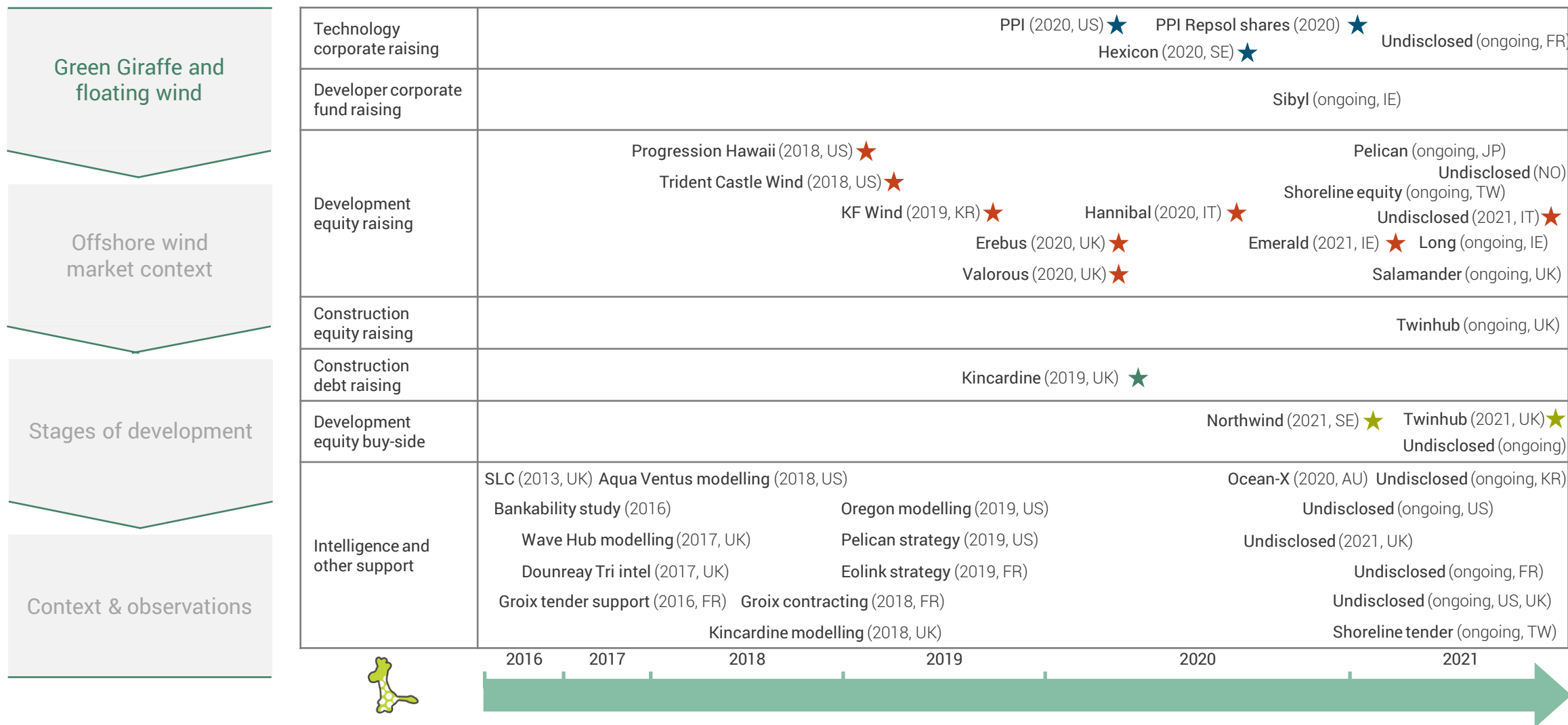
Quest Offshore



The Westin Houston, Memorial City 28-29 June 2021

# Green Giraffe – Floating experience

Our floating experience is built on more than 40 mandates and we closed 14 transactions



# Offshore wind market context

## Floating offshore wind – facts & figures

Green Giraffe and  
floating wind



**124 MW operating** FOW farms worldwide by mid-2021  
**11 GW target** capacity installed by 2030 and  
**70 GW target** capacity installed by 2040 is considered feasible<sup>1</sup>

Offshore wind  
market context

### Sector development at a turning point

- With the first pilot array now operating and more to come, investors are actively looking at the FOW market
- FOW activity has been gradually increasing over the past years. Strong technological improvements and demonstrators have enabled the maturing of the market
- Recent equity transactions show increased competition despite the lack of maturity in the market

**Offshore wind investors seem to be starting to look at FOW as a higher risk, higher return alternative**

### FOW still needs strong political support

- Outright funding on early projects (demonstrators/pilots) in addition to specific support on offtake power price
- EU programmes (e.g. EIB) can contribute

### **In parallel, a number of ancillary investments also require public support**

- To foster technology advancement
- To improve the coastal infrastructure capacity, and
- To support, where relevant, the necessary onshore grid upgrades and transmission extensions

Stages of development

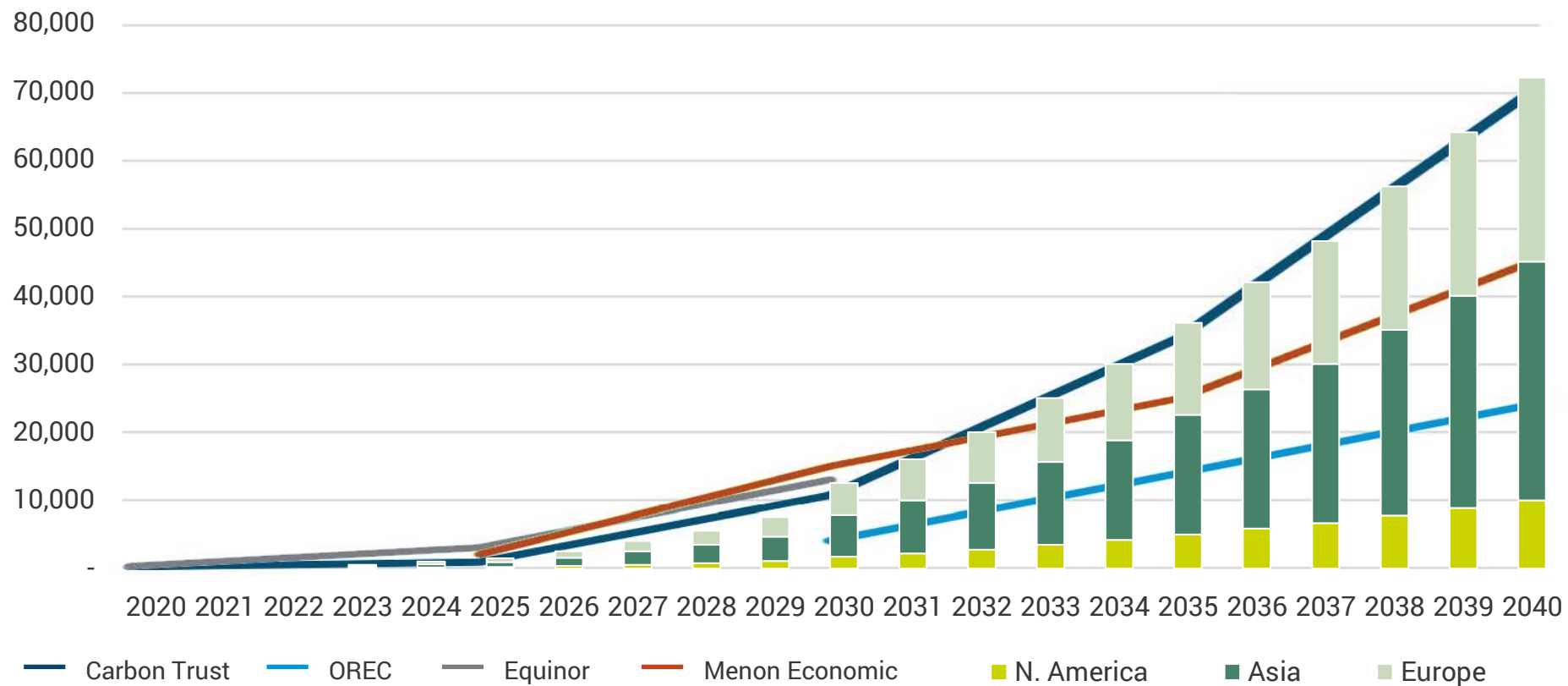
Context & observations

Sources: 1- Carbon Trust (2020) "Floating Wind Joint Industry Report – Phase II Summary Report"

# Offshore wind market context

## Floating offshore wind – forecasted growth

Cumulative installed capacity forecast (MW)



Source: Carbon Trust (2020) "Floating Wind Joint Industry Report – Phase 2"

Forecast growth of 70 GW by 2040, mostly in Europe and Asia, with total capex GBP 195 bn

# Offshore wind market context

## Floating offshore wind – tariffs are expected to follow a similar trajectory as FBOW

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Offshore wind market context

Stages of development

Context & observations

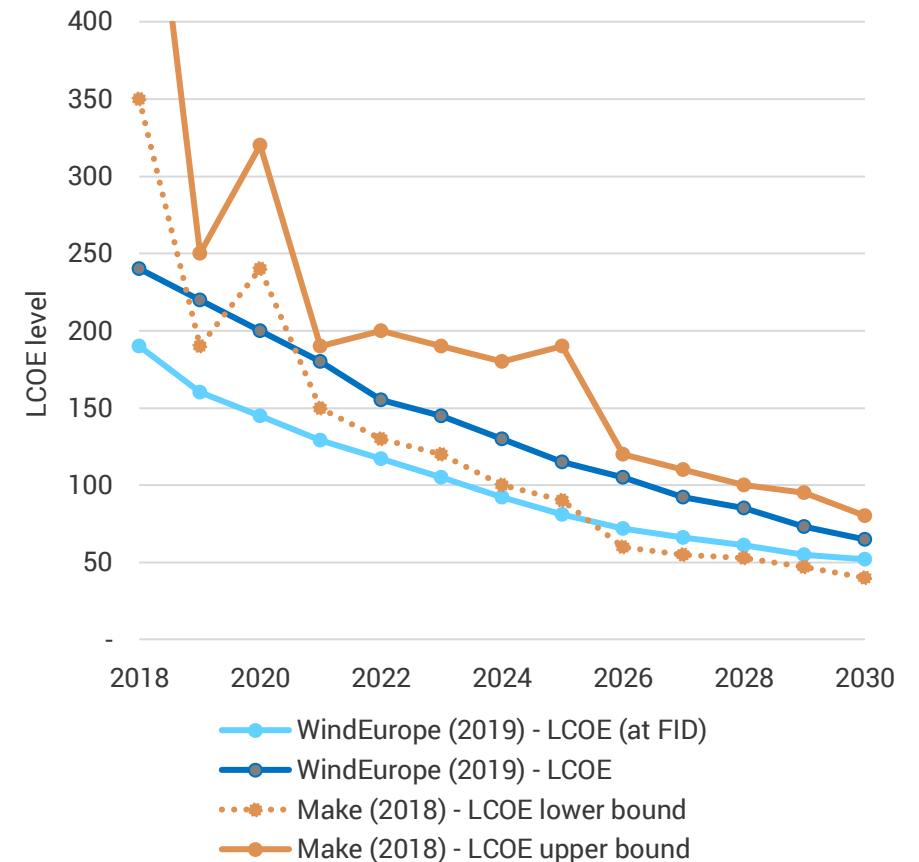
It is currently expected that FOW will follow a similar trajectory as FBOW

- According to MAKE<sup>1</sup>, LCOE levels below 40 EUR/MWh are achievable by 2030, Equinor targets 60 EUR/MWh
- This would bring down tariffs to around a quarter within 10 years (again)
- However, FBOW was able to outpace its forecasts, and FOW can build on these experiences

But challenges remain

- Key challenge is industrialisation, as shipyards are not yet designed for FOW mass production
- Solutions must be found to improve dynamic cables cost (and performance) and decrease WTG fatigue. Commercialisation of mooring systems, and foundation structures are also key challenges
- Long-term operational experience to understand extreme weather effects and improved interface between turbine suppliers & floater designers remain challenges

Floating offshore wind LCOE levels  
(in EUR/MWh)



<sup>1</sup>MAKE, Floating Offshore Wind: In Pursuit of Commercialisation 2018

# Stages of development

## A. Development – overview



### A1. Early development phase

- Site selection is done using desktop analysis and key local engagement
- Project is valued independently from local market specificities, using price / MW cash metrics or partnership options
- The early development phase often leads to site control or similar milestones allowing the start of the permitting phase

### A2. Mid development phase

- The project goes through the permitting phase, including environmental obligations, grid connection and offtake agreements
- The valuation of the projects can be closer to early development or late development depending on context
- This phase is considered over when the project is "shovel ready", post-tenders, with permits, tariff and grid connection

### A3. Late development and pre-construction phase

- Late procurement, contracting and financing are arranged
- Project is valued using cost + premium, or based on a fraction of the potential NPV of the project at FC / FID, with discount linked to likelihood of reaching that
- This phase only ends with final investment decision (FID), financial close (FC) and start of construction

# Recent equity transactions / valuations

## Two ways to structure a capital investment in early development phase

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market context

Stages of development

Context & observations

Depending on the skills and availability of respective development teams and funding ability of the initial developer, two main payment structures can be considered

### 1. Cash payment

- The new investor (co-developer) pays fixed amount in cash to the initial developer (developer)
- The payment can be up-front or at specific milestones later in the development process
- This structure is suited when developer has the ability to fund future devex alongside the co-developer or a 100% acquisition case where co-developer wants to take over the project and deploy their own project teams

### 2. Profit sharing scheme (“free carry”)

- Instead of payment in cash, developer keeps a certain percentage of the project share
- Co-developer will fund on its behalf until a certain milestone is reached (site control, full permitting, FC, or a certain amount of devex spent)
- Developer has the right to sell its share after a pre-agreed milestone
- This structure is suited when developer has development capability and limited funding ability while co-developer has funding capacity but needs a local development team (new to the market or resource constraint or finance player)

A combination of cash payment and profit sharing is often chosen

# Floating – At a turning point

## First non-recourse debt financings for FOW are being unveiled

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**No real non-recourse debt financing has been raised for FOW to date**

- All operational FOW demonstrator projects were financed on balance sheet
- Windfloat Atlantic (PPI technology) raised an EU-covered loan from EIB in 2018.

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market context

**Project financing for FOW is on the verge of taking place**

- Provence Grand Large and Leucate are understood to be in market to raise non-recourse debt financing
- These projects are expected to pioneer the use of non-recourse financing; with further commercial-scale FOW projects likely to opt for project finance in the near future

Stages of development

**Bankability will be key**

- Financing of a commercial FOW project, especially at the current stage of technology development, is marked by a uniquely complex combination of risks
- Interface risk is one specific main risk, by bringing together companies from very distinct industries (turbine manufacturers, naval shipyards and marine civil contractors). The necessity of advancing the technology development in a sector where many stakeholders are relatively new players increase the counterparty risk
- Specific due diligence and complete transparency will be fundamental on items which are new to lenders

Context & observations

# Floating wind context & observations

## Insurance issues

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### Foundations

- Lack of standardisation is a challenge
- Design failure is not insurable

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market context

### Cabling

- Greatest claim risk for fixed and likely to be for floating as well

Stages of development

### Vessels

- Need for dynamic positioning

### Insurance will be available and projects will be insured and financed

- Expect insurers with fixed bottom experience as well as oil and gas insurers to be active in floating
- The insurance market for floating will likely sort itself out more quickly than it did for fixed, though early projects will carry higher premiums than later projects

Context & observations

### Engage early with insurers

# Floating wind context & observations

## Floating wind – commercial projects arriving soon

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### Market commentary

- Floating wind is poised to move into reality in the coming years with several projects advancing through development in multiple markets around the world
- First commercial scale projects are expected to reach COD by 2030 with gigawatts of deployments to follow

Offshore wind  
market context

### Bankability of fixed suggests lessons for floating

- Non-recourse project financing took years to realize – now it is billions of dollars each month
- Floating will likely be faster – leveraging lender learnings from fixed

Stages of development

### Key requirements to achieve non-recourse financing

- Extensive technology due diligence – floaters will be the key difference
- Protective contract structures
- Strong insurance coverage and contingency planning
- Customized financing structures to address risks and multiple funding parties
- Ability to play nicely with tax equity – assuming it is still in play when floating comes to market

Context & observations

# Floating wind context & observations

## Floating wind – commercial projects arriving soon

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market context

Stages of development

Context & observations

### What to look for in the first floating wind financings

- Make it easiest for the lender's credit committee to say YES
- Strong, experienced sponsors, contractors and suppliers
- No sovereign risk, low (better yet, no) revenue risk
- Select proven, leading technology – deployed, with transparency on prototype and demonstrator performance data
- Solid contracts with limited parties – likely high liquidated damages
- Conservative financing structures (low leverage)
- Involve insurance partners early to give them ample time to gain comfort on the technology and project risks

### Floating wind will be financed

- Premiums likely on first projects
- Expect initial projects to be sponsored by players experienced in fixed bottom projects
- Open question is how quickly financing terms for floating projects align with terms for fixed bottom projects



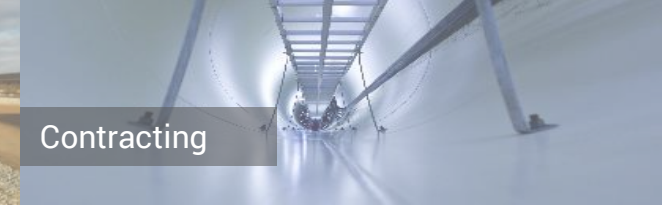
Debt



M&A



Strategic



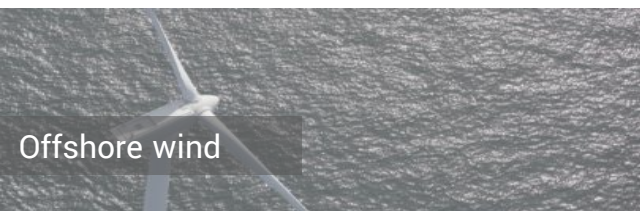
Contracting



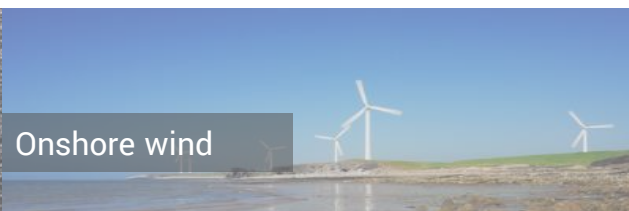
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Solar power



Other renewables