Irish Wind Energy Association

Wind in Ireland – From Today to Tomorrow

Noel Cunniffe, Head of Policy

16 October 2019
Wind Integration Workshop

IWEA represents 90% of Wind in Ireland

- Members across existing assets, development & supply chain for onshore & offshore:
  - Wind farm developers
  - Asset owners
  - Supply Chain:
    - Turbine manufacturers
    - Construction companies
    - Supply companies
    - Accountants
    - Insurance
    - Consultancy
    - Legal firms
    - Banks

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We've come a long way…

Ireland – Early 2000s

- 150 MW of wind generation
- Wind Moratorium – no new wind generation allowed to connect to the system
- 400 MW the maximum possible on the grid

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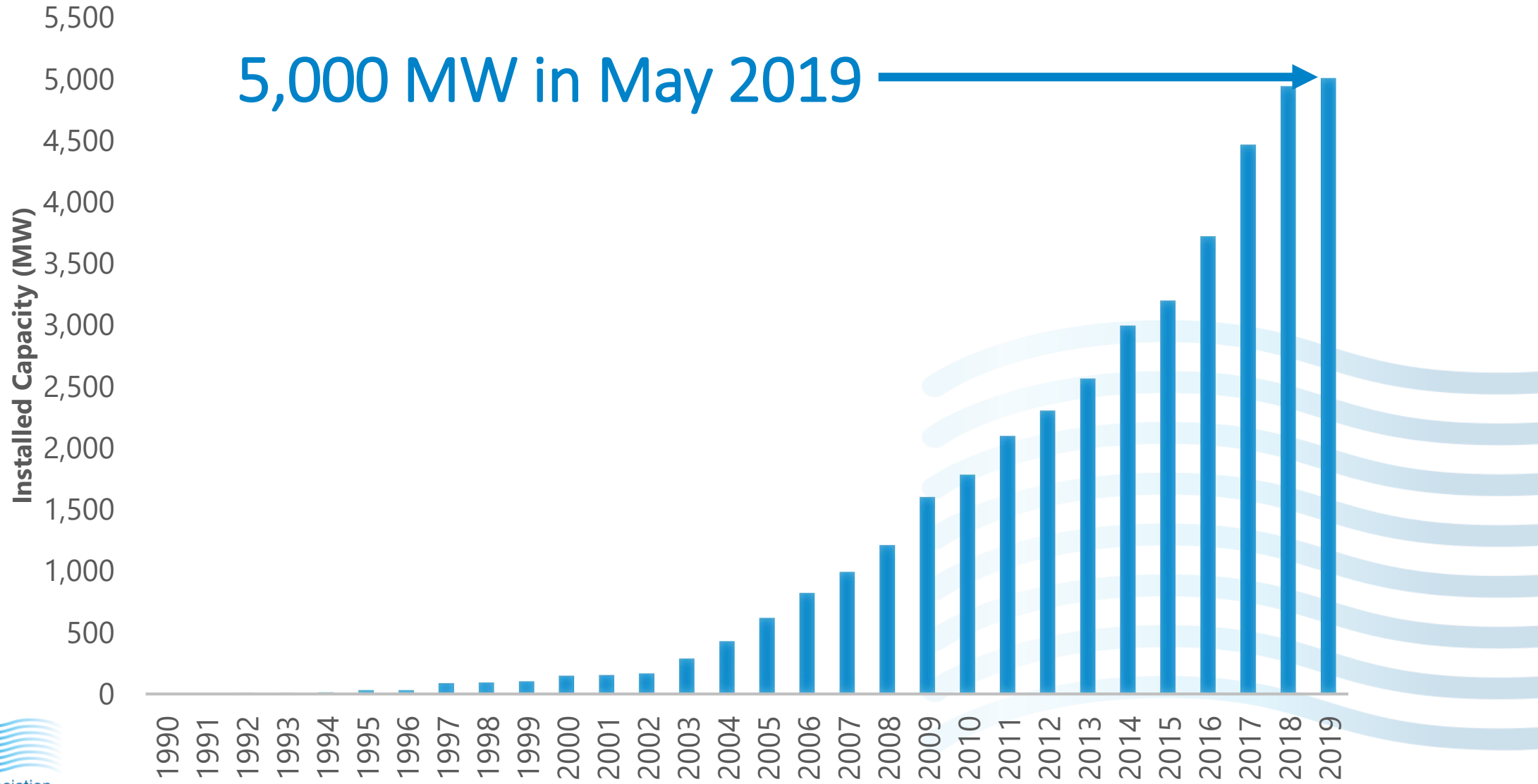
…to where we are today



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WIND ENERGY IN IRELAND ANNUAL REPORT 2018 - OUR BEST YEAR YET

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29%

In 2018 wind energy met a record 29 per cent of our electricity demand – the second highest in Europe.

330 MW

of new wind capacity installed in the Republic of Ireland in 2018.

19

New wind farms built in 2018.

Now

3,566 MW

of installed wind capacity.

In January 2018 wind energy out performed gas **over a full month** for the first time.

Record for the most wind on the all-island system **broken three times** in 2018.

Some figures are still provisional and the majority have been compiled by IWEA databases and EirGrid data.

For Onshore in 2018

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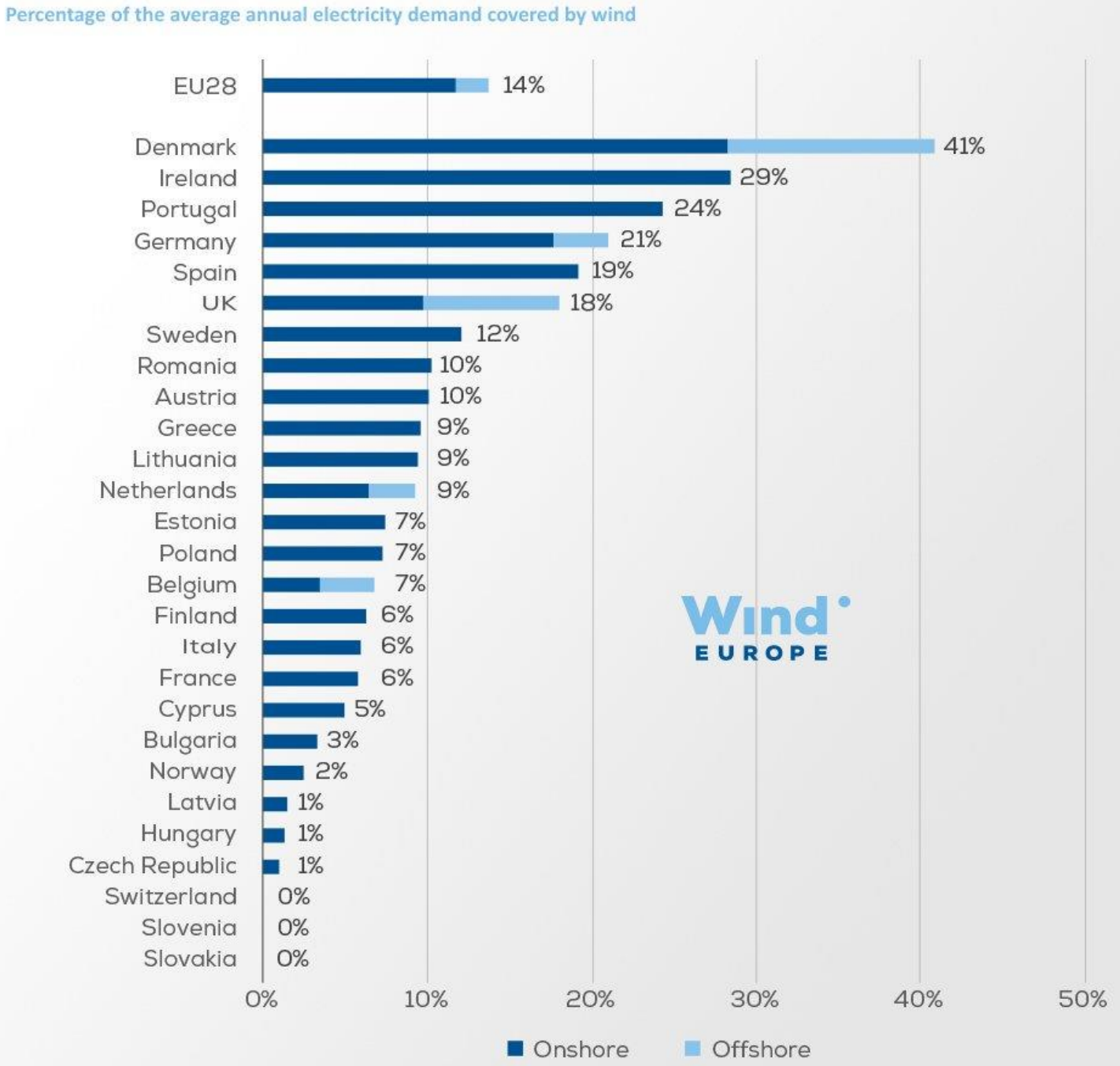
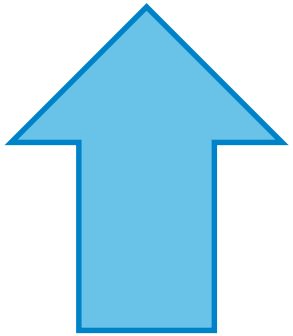
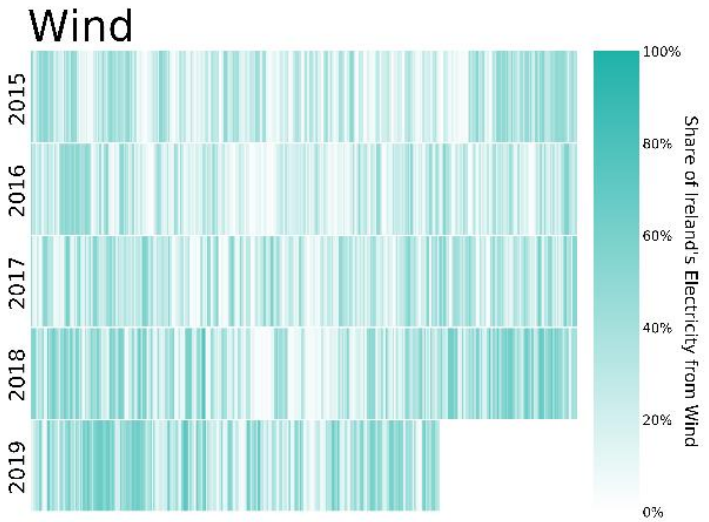
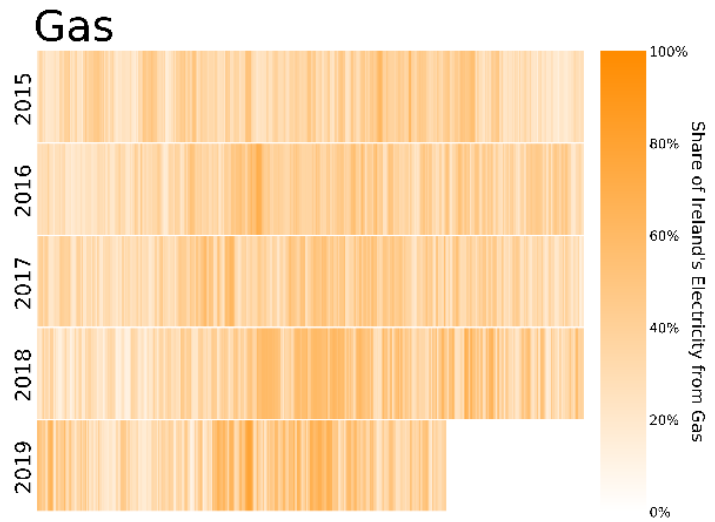


Wind Generation is making a difference…

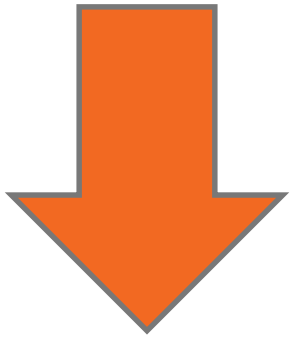
Wind &
Flexible Gas

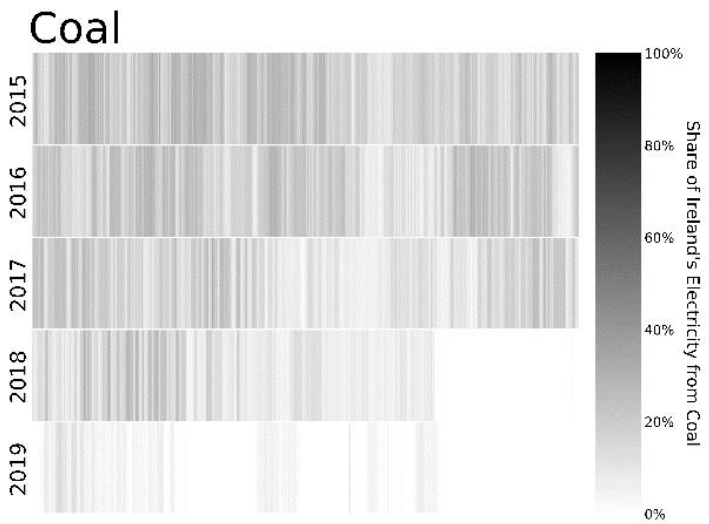


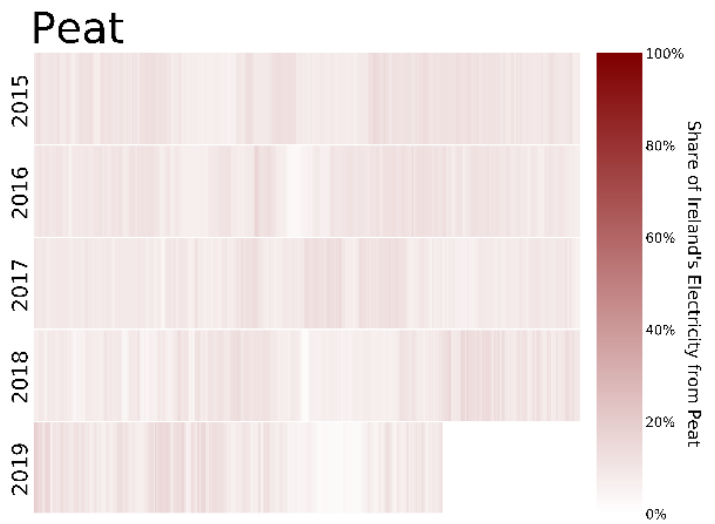




Conventional
Fossil Fuels







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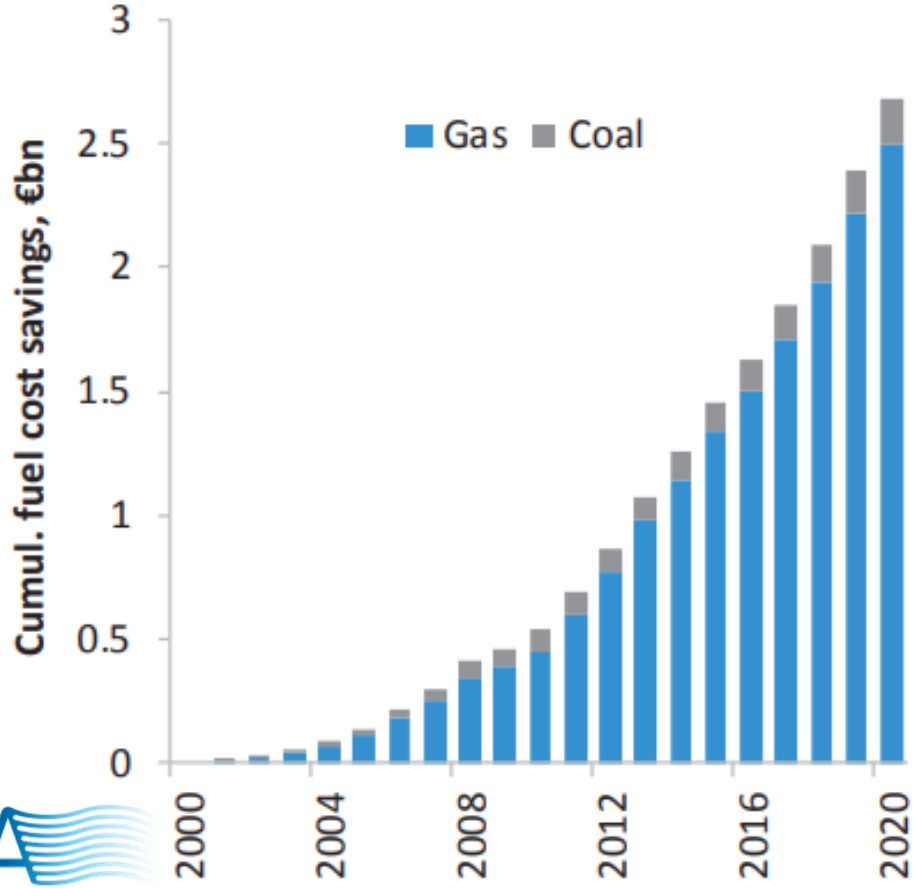
…decreasing emissions and imports of Fossil Fuels

€2.7 billion of fossil fuels avoided

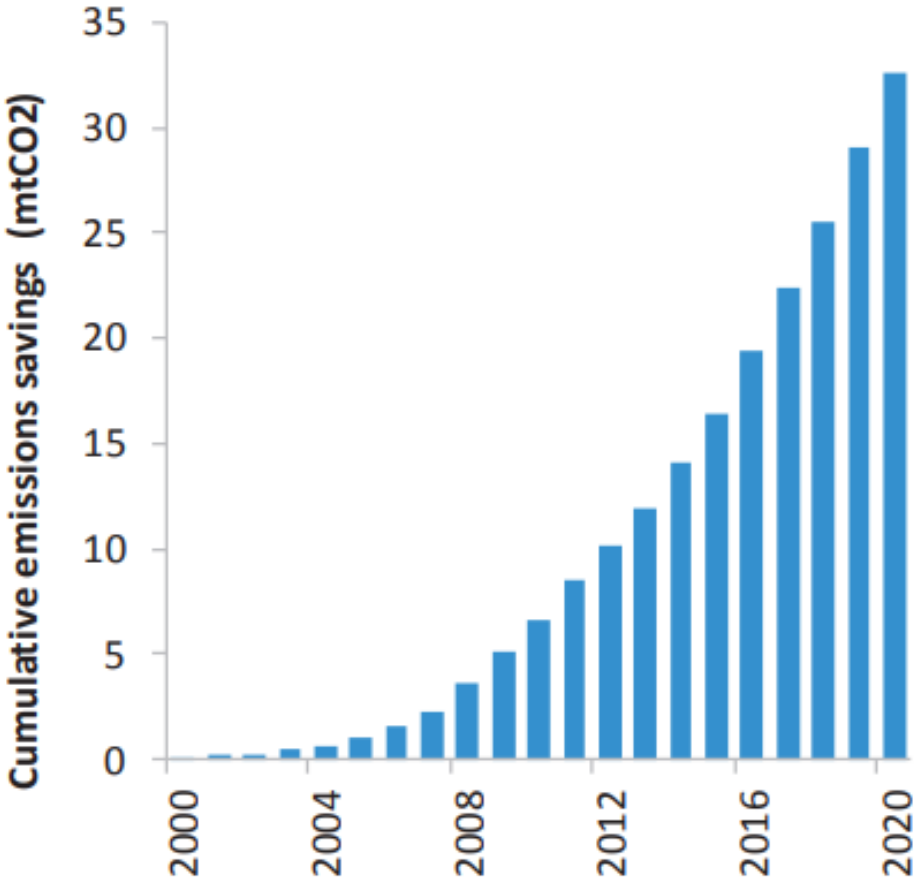
(137 TWh = 3 years of fossil fuel from electricity)

Mainly Gas (€2.5bn) and Coal (€0.2bn)



33 million tonnes of CO2 saved

(equivalent to 3 years of CO2 from electricity)



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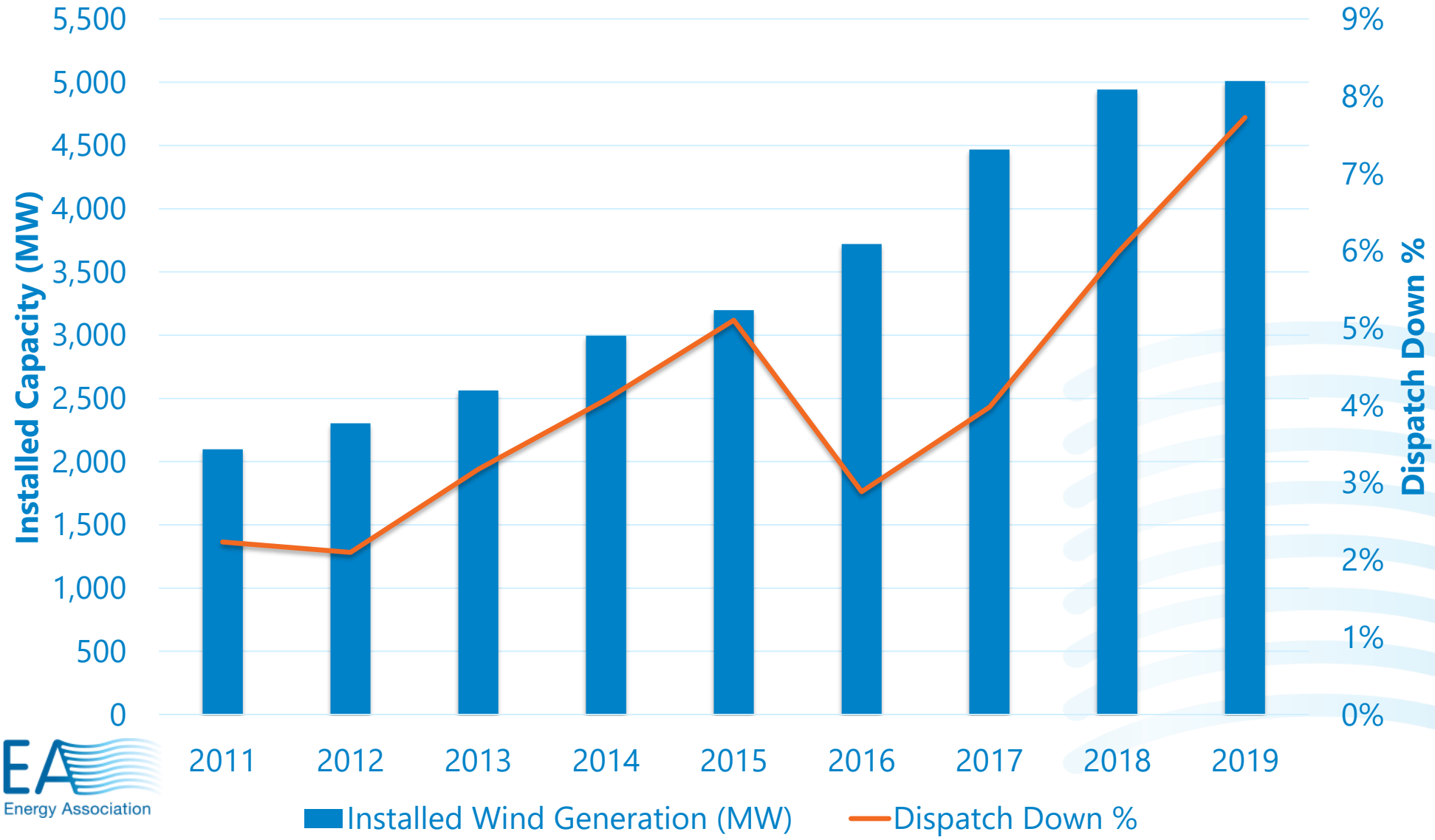
Source: Baringa Partners – Wind for a Euro Report

Maintained Levels of Dispatch Down



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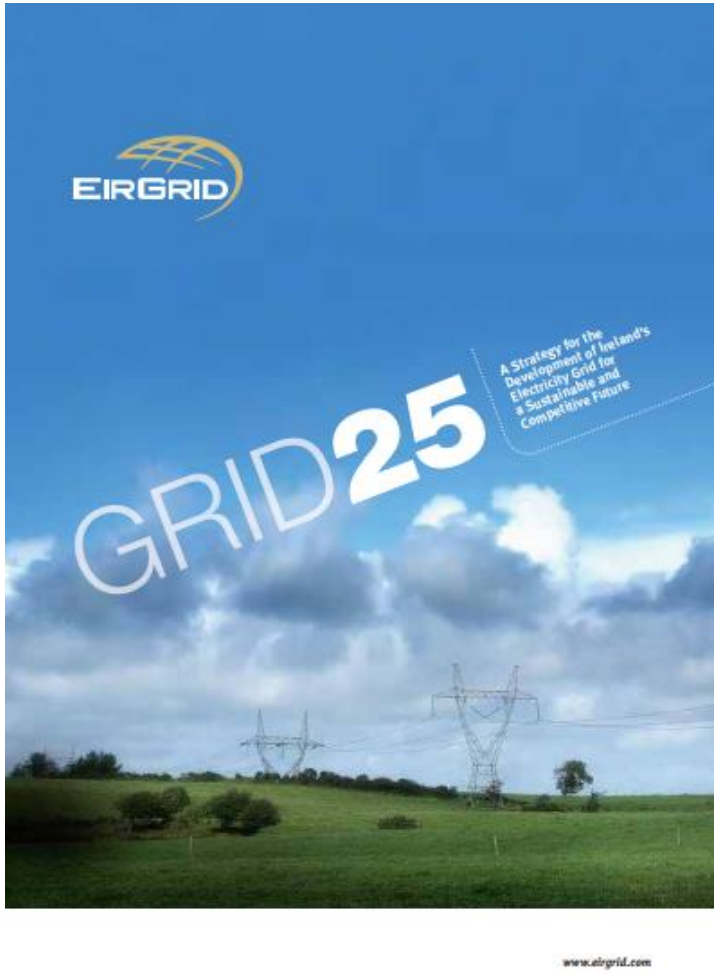
Maintained Levels of Dispatch Down…how??

A plan to manage **Constraint**



A plan to manage **Curtailment**

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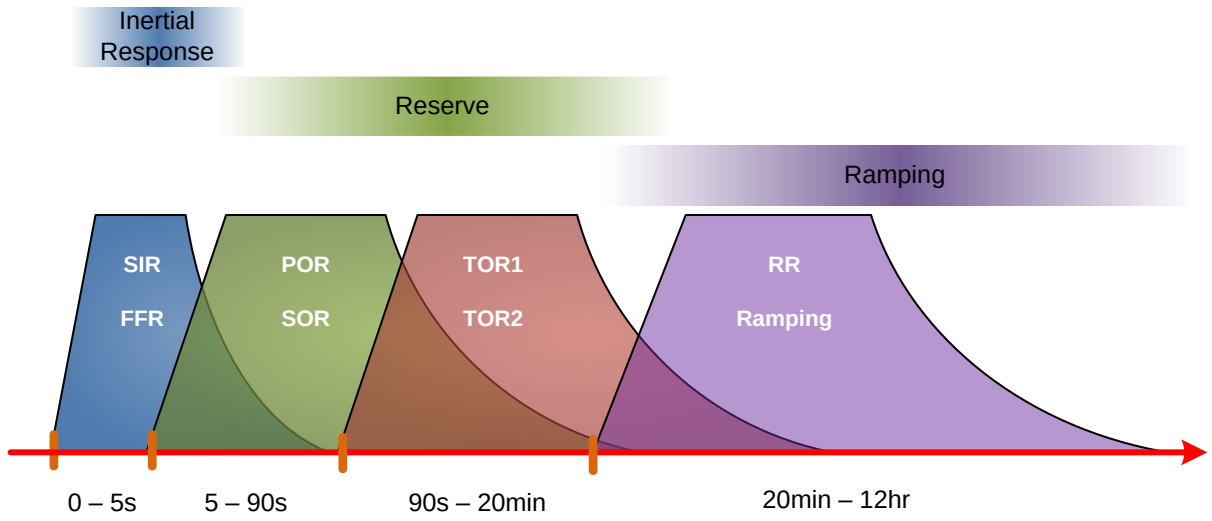
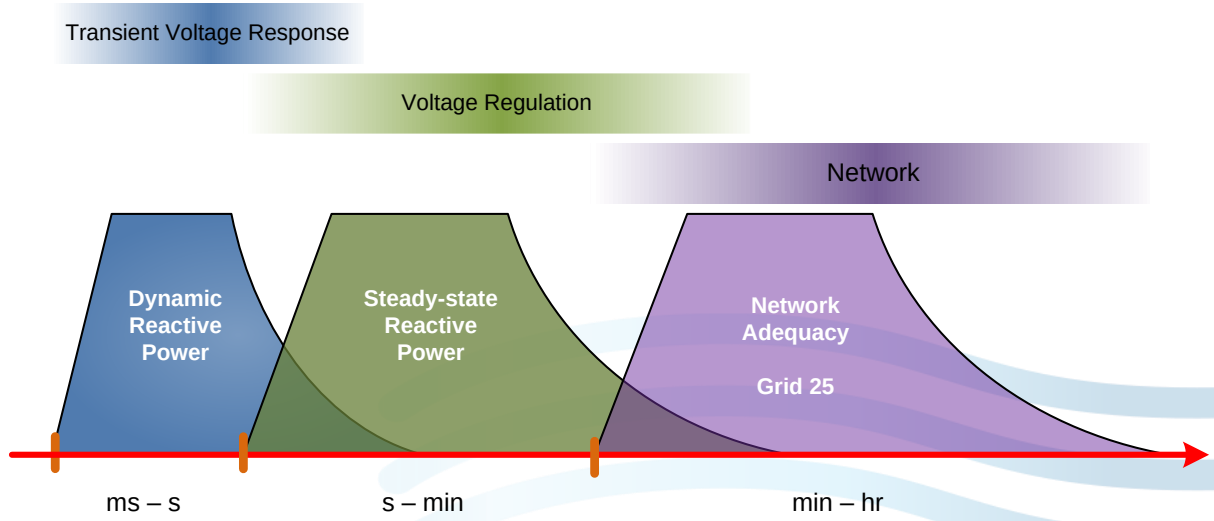
Wind entering the world of DS3 System Services

Managing Frequency



Managing Voltage



FFR	POR	SOR	TOR1	SSRP
39 MW	51 MW	43MW	33MW	1,024 MVar

Wind Generation contributing to System Services
& other System Stability needs

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It’s opening the door for other technologies

How batteries can help Northern Ireland meet renewable electricity goal

Ireland allocates 110 MW in large scale storage auction

ESB Lodges Plans For “Synchronous Condenser” At Moneypoint

12th October 2019

Construction begins on battery storage plant in Offaly

Ireland to process 373MW of energy storage under new connections procedure

ISIF invests €10m in two big energy storage projects

450 MW of Battery Energy Storage in active development

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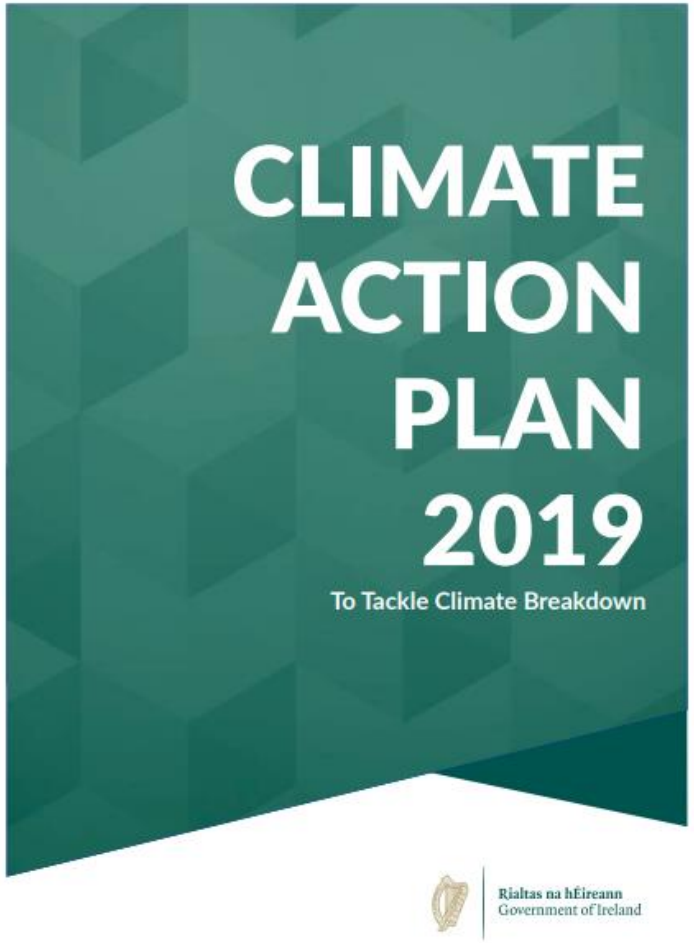
Next stop….2030 and 70% RES-E



2030 Electricity Key Statistics

- 70% RES-E
- 3.5 GW Offshore
- 8.2 GW Onshore
- 0.4 – 1.5 GW Solar
- 600,000 Heat Pumps
- 1 million Electric Vehicles

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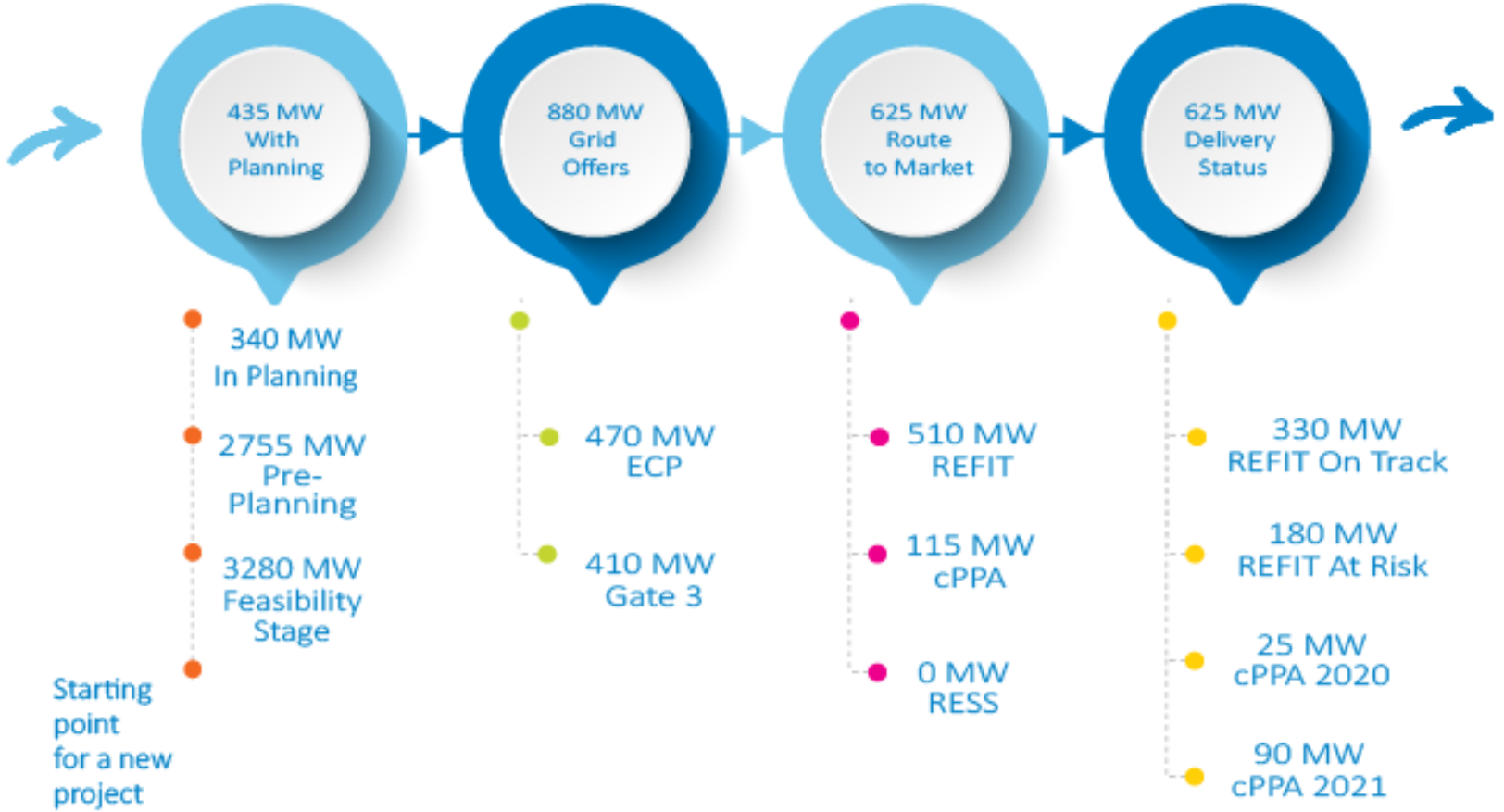
Our Development Pipeline

WHERE WE ARE

PROJECTS DELIVERED 2019 INSTALLED:

3800 MW



WHERE WE WANT TO GET TO

2030 TARGET:

8200 MW

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Over 8 GW of Onshore Wind in active development in Ireland

Offshore Wind Market Overview

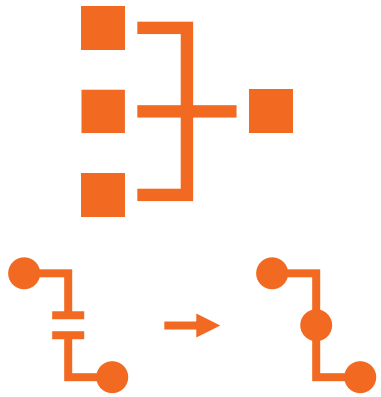
Offshore Wind Pipeline				
Offshore Wind Farm	Capacity (MW)	Developer	Foundation	Stage
Arklow Bank 2	520	SSE Renewables	Fixed	Consented
Codling Wind Park	1,100	Fred Olsen, Hazel Shore	Fixed	Consented
Oriel	330	Oriel, Parkwind, ESB	Fixed	In planning system
Codling Wind Park Extension	1,000	Fred Olsen, Hazel Shore	Fixed	In planning system
Dublin Array	600	Innogy, Saorgus	Fixed	In planning system
Skred Rocks	400	Fuinneamh Sceirde Teoranta	Fixed	In planning system
Braymore Point	800	SSE Renewables	Fixed	In development
Celtic Sea Array	800	SSE Renewables	Fixed/ Floating	In development
Clogherhead	500	ESB, Parkwind	Fixed	In development
Cooley Point	500	ESB	Fixed	In development
Helvick Head	1,000	Energia	Fixed	In development
Kilmichael Point	500	ESB	Fixed	In development
NISA	750	Statkraft	Fixed	In development
Clare Offshore Wind Farm	700	DP Energy	Floating	In development
Sligo Offshore Wind Farm	500	DP Energy	Floating	In development
Inis Ealga	700	DP Energy	Floating	In development
South Irish Sea project	1,000	Energia	Fixed	In development
Block 30 (Off Shore Wind)	600	Lightfield Limited	Floating	In development
Total	12,300			

Over 12 GW of Offshore Wind in active development in Ireland

70% RES-E will require integration on another level…

90%
SNSP +

New Operational Solutions



Network Development, Interconnection & Congestion Response

TSO-DSO Cooperation & Coordination

Short-Term Smart Solutions

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…and it is very achievable!

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