Irish Wind Energy Association

Delivering 70by30
IWEA Autumn Conference

Dr. David Connolly, CEO, IWEA

24 October 2019

WIND ENERGY IN IRELAND REPORT
FIRST SIX MONTHS OF 2019

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32%

In the first half of 2019 wind energy provided 32% of our electricity.

3,748 MW

The Republic of Ireland now has 3,748 MW of installed wind capacity.

8

New wind farms built in the first six months.

An extra

81 MW

of new wind capacity installed.

Planning permission for **3 new wind farms** in the first half of 2019.

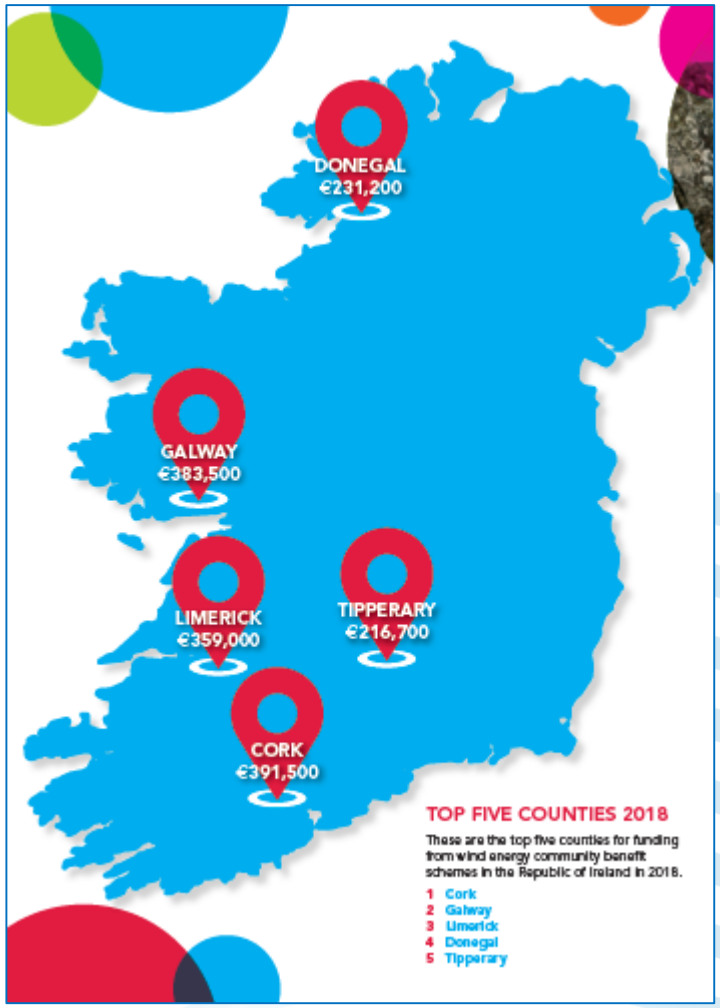
In **February 2019** wind provided more power than any other source.

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

Wind continues to deliver:

- Ireland is currently at 36% RES-E in Ireland using 12-month rolling average
- Northern Ireland recently hit 44% RES-E – 2020 target accomplished!

Launching our first Annual Benefit Report



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Welcome!

- Today's conference is about one thing:

70%

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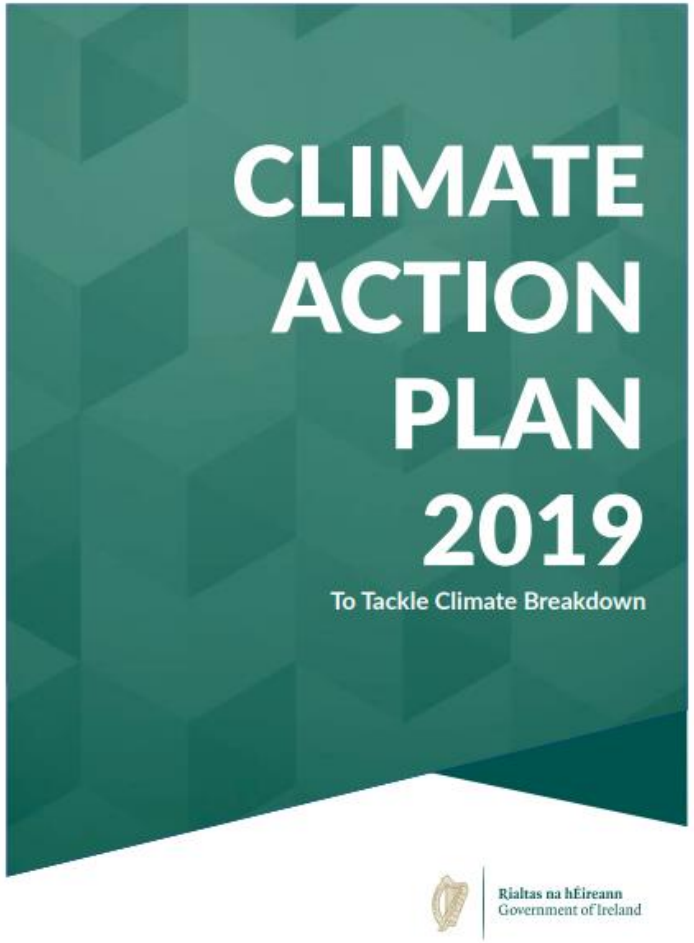
Next stop….2030 and 70% RES-E



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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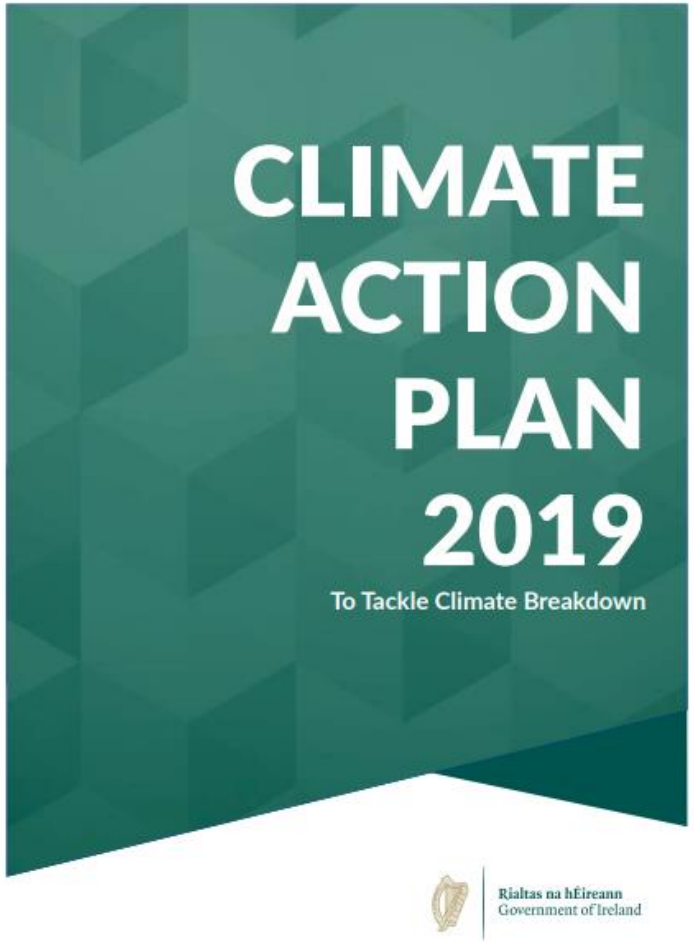
Next stop….2030 and 70% RES-E



News > Ireland | World Business Sport Nuacht Programmes RTÉ Investigates

Government pledges to generate 70% of electricity from renewable sources by 2030

Updated / Monday, 25 Mar 2019 **14:17**

SESSION 1 – MARINA 1 & 2

TIME	KEY NOTE SESSION - DELIVERING 70BY30	CHAIR: Peter Harte, Chairman, IWEA
9.00	Key Opening Address 70by30	Dr. David Connolly, CEO, IWEA
9.20	Keynote Speaker	Paul Blount, Portfolio Director, Coillte
9.40	Siemens Gamesa Renewable Energy - Believing in Ireland	Steven Pryor - Onshore CEO for North Europe & Middle East, Siemens Gamesa Renewable Energy
10.00	Panel Session 70by30	Peter O'Shea, Head of Corporate and Regulatory Affairs ESB Peter Lefroy, Project Director, innogy Renewables Ireland Marie C. Donnelly, Chairperson, Renewable Energy Ireland Dr. John Reilly, Head of Development, Bord na Móna Powergen
10.45	Questions & Answers	
11.00	Tea, Coffee & Exhibition Viewing	

2030 Electricity Key Statistics

- 70% RES-E
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Find out more in this morning's session on Delivering 70by30

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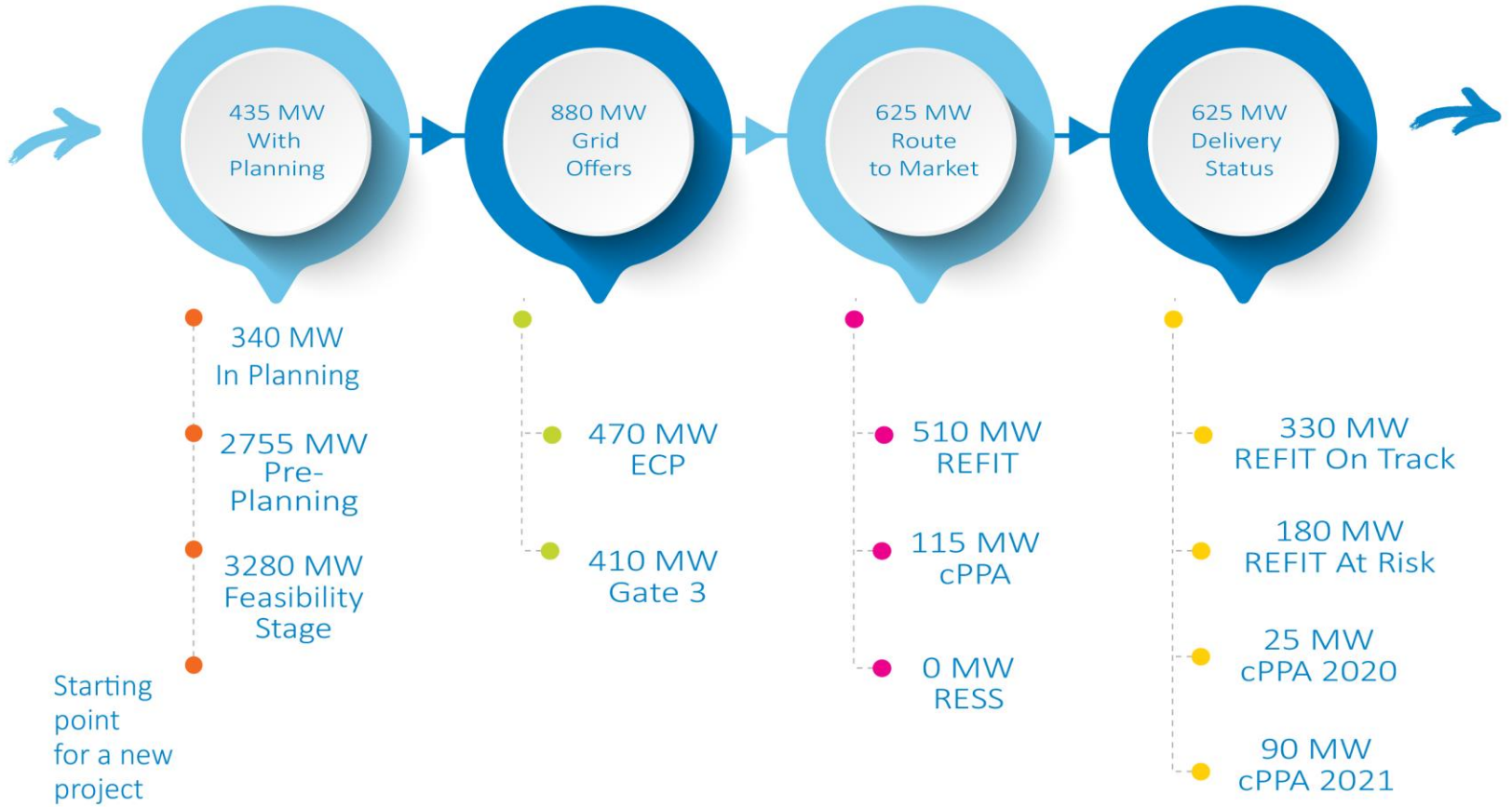
Onshore Development Pipeline



WHERE WE ARE

PROJECTS DELIVERED 2019 INSTALLED:

3800 MW

WHERE WE WANT TO GET TO

2030 TARGET:

8200 MW

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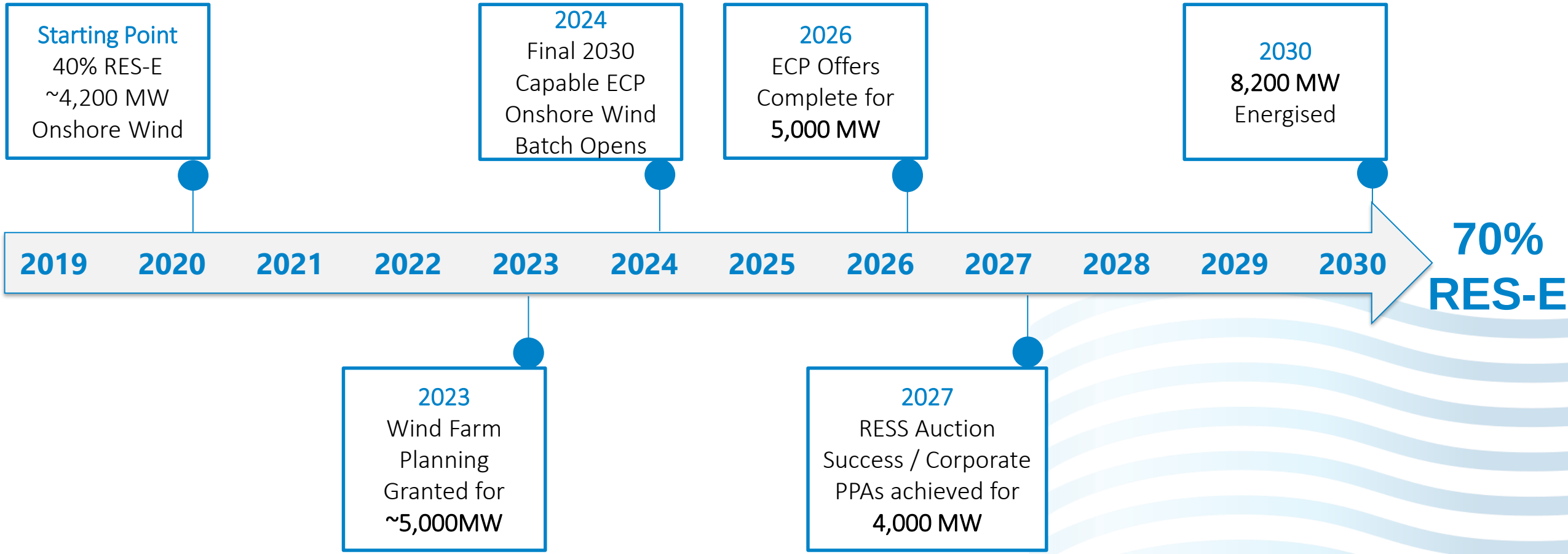
Over 8 GW of Onshore Wind in active development in Ireland

Example Onshore Wind Pathway to 2030 (Existing Processes)

This must change to hit targets e.g. 8200 MW by 2030!



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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

‘Legacy’ and ‘Enduring’ Offshore directions to 2030 are set out…
…but still a lot of work to do to realise them!

Legacy Projects – Vital for 2025

Transition Protocol for Consenting by Q4 2019

Grid Offer by Q2 2020
Must accept by Q4 2021
Developer Led

RESS by Q2 2021

Enduring Projects – Vital for 2030

Consenting Regime by Q4 2020
(Final step is NMPF)

RESS in Q3 2022 & Q3 2024

Grid Offer +8 Months
EirGrid Led

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Session 2: Offshore Supply Chain

- Carbon Trust carrying out Supply Chain Analysis
- Key Headlines – 3.5 GW Offshore Wind:
  - **>€8 Billion** Investment
  - **~15 million person-days** during construction
    - (Equates to ~6000 People over 7 years)
  - **405 Jobs** over 25 year operational life

CARBON TRUST

Supply Chain Study for Offshore Wind in Ireland

SSE Renewables
PARK WIND
innogy
Enerco Energy
eDF renewables
energia GROUP
ESB
Energy for generations
Statkraft

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CARBON TRUST

Supply Chain Study for Offshore Wind in Ireland

BREAKOUT SESSION – NORTHGATE SUITE

TIME	A SUPPLY CHAIN FOR OFFSHORE WIND IN IRELAND	CHAIR: Paul Doherty, Managing Director, Gavin & Doherty Geosolutions
11.30	IWEA Offshore Wind Supply Chain Study	Liam Leahy, Offshore Wind Manager – Programmes & Innovation, Carbon Trust
11.40	Port Requirements	Ray Thompson, Head of Business Development, Siemens Gamesa Renewable Energy
11.50	Helping Irish Companies Build Offshore Wind Supply Chain Capability	Liam Curran, Senior Technologist, Enterprise Ireland
12.00	Case study	Kate Wallace Lockhart, Group Sustainability Economist, SSE plc
12.10	Question and Answers	
12.30	Lunch	

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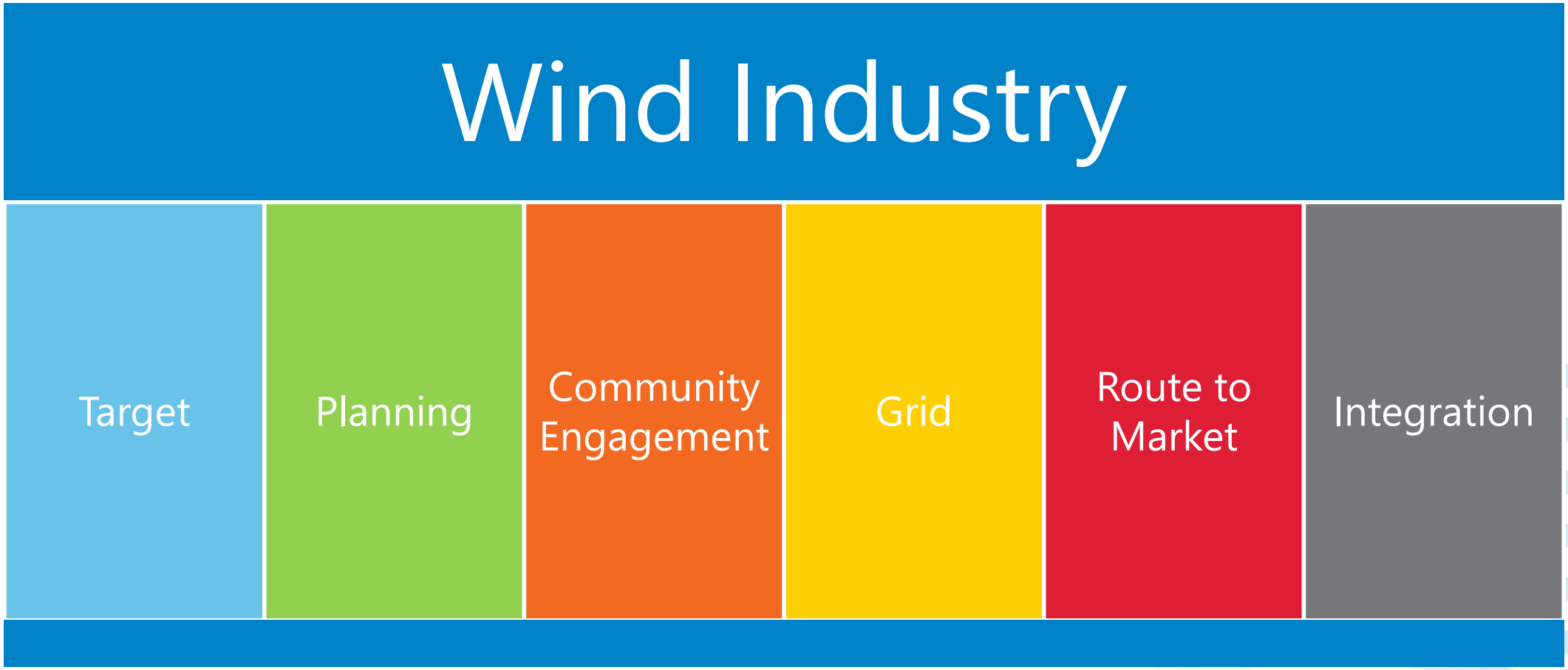
Breakout Session – Offshore Wind Supply Chain in Ireland

Pillars of the Wind Industry – All are required to succeed



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Session 2: Planning for 2030

- Key items for 2030:
  - Wind Energy Guidelines
  - Spatial Planning for Wind Energy Development
  - SID process & Success Rates
  - ABP Decision Timelines
  - Grid Consenting
- Community Engagement
- Commercial Rates

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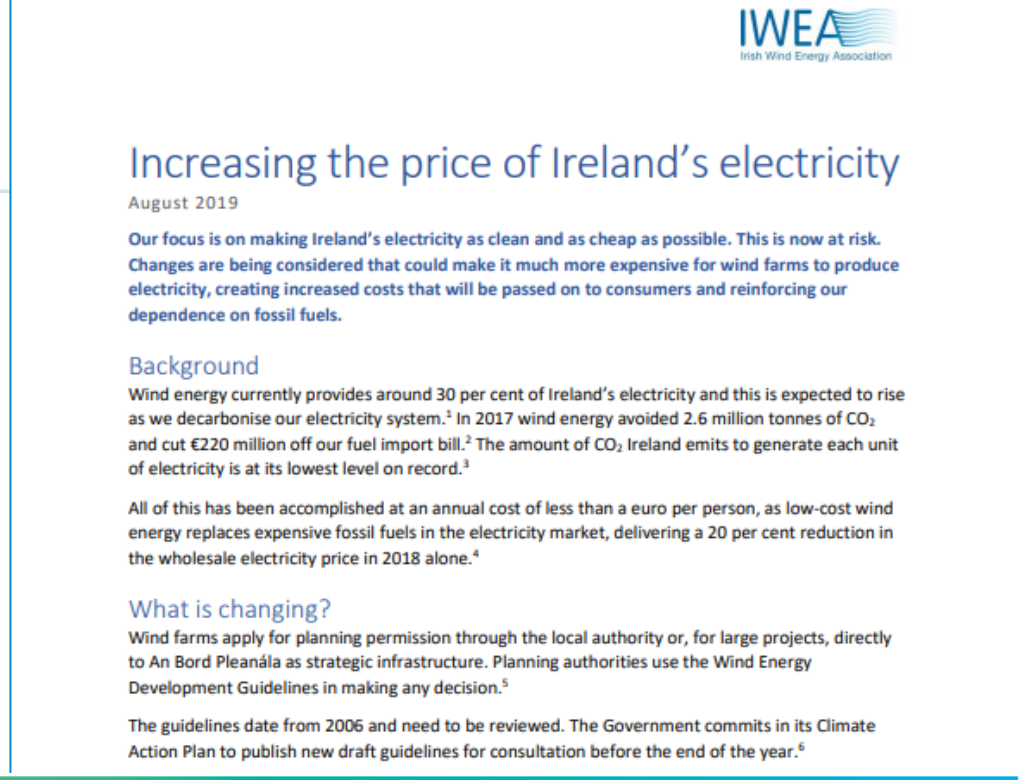

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Increasing the price of Ireland's electricity

August 2019

Our focus is on making Ireland's electricity as clean and as cheap as possible. This is now at risk. Changes are being considered that could make it much more expensive for wind farms to produce electricity, creating increased costs that will be passed on to consumers and reinforcing our dependence on fossil fuels.

Background

Wind energy currently provides around 30 per cent of Ireland's electricity and this is expected to rise as we decarbonise our electricity system.[1] In 2017 wind energy avoided 2.6 million tonnes of CO_2 and cut €220 million off our fuel import bill.[2] The amount of CO_2 Ireland emits to generate each unit of electricity is at its lowest level on record.[3]

All of this has been accomplished at an annual cost of less than a euro per person, as low-cost wind energy replaces expensive fossil fuels in the electricity market, delivering a 20 per cent reduction in the wholesale electricity price in 2018 alone.[4]

What is changing?

Wind farms apply for planning permission through the local authority or, for large projects, directly to An Bord Pleanála as strategic infrastructure. Planning authorities use the Wind Energy Development Guidelines in making any decision.[5]

The guidelines date from 2006 and need to be reviewed. The Government commits in its Climate Action Plan to publish new draft guidelines for consultation before the end of the year.[6]

SESSION 2 – MARINA 1 & 2

TIME	PLANNING FOR 2030	CHAIR: Aoife O'Keeffe, Project Planner, ABO Wind Ireland
11.30	Consenting Irish Wind Energy Projects in 2020 and Beyond	Brian Keville, Environmental Director, MKO
11.45	Community Engagement on Wind Energy Developments	Pat O'Sullivan, Head of Communications and Stakeholder Engagement, Statkraft Ireland
12.00	Rates Update	David Halpin, Eamonn Halpin & Co
12.15	Question & Answers	
12.30	Lunch	

Find out more in Session 2 – Planning for 2030

Session 3: Route to Market

New Poyry analysis outlines value of 70% for Consumers & Corporates

40by20
All Costs
€1/person/year

70by30
All Costs
€60/MWh = Breakeven

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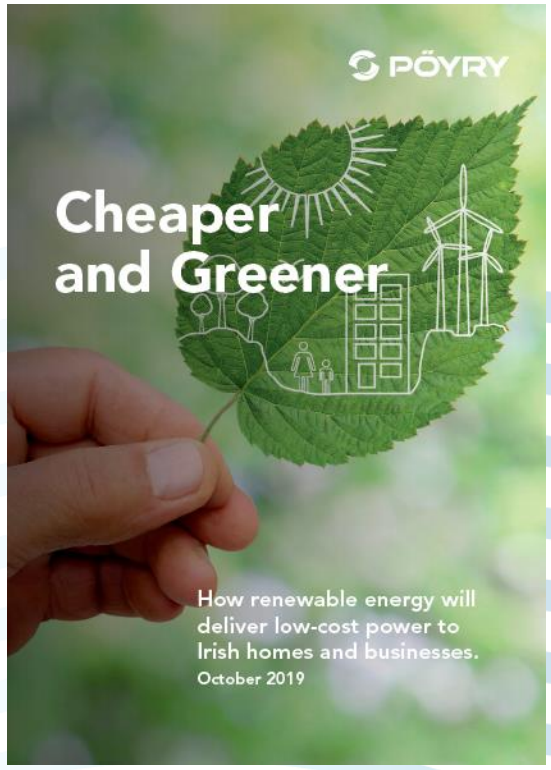
RESS/cPPA Costs Only (CfDs)
Lower Cost, but Must Share Saving



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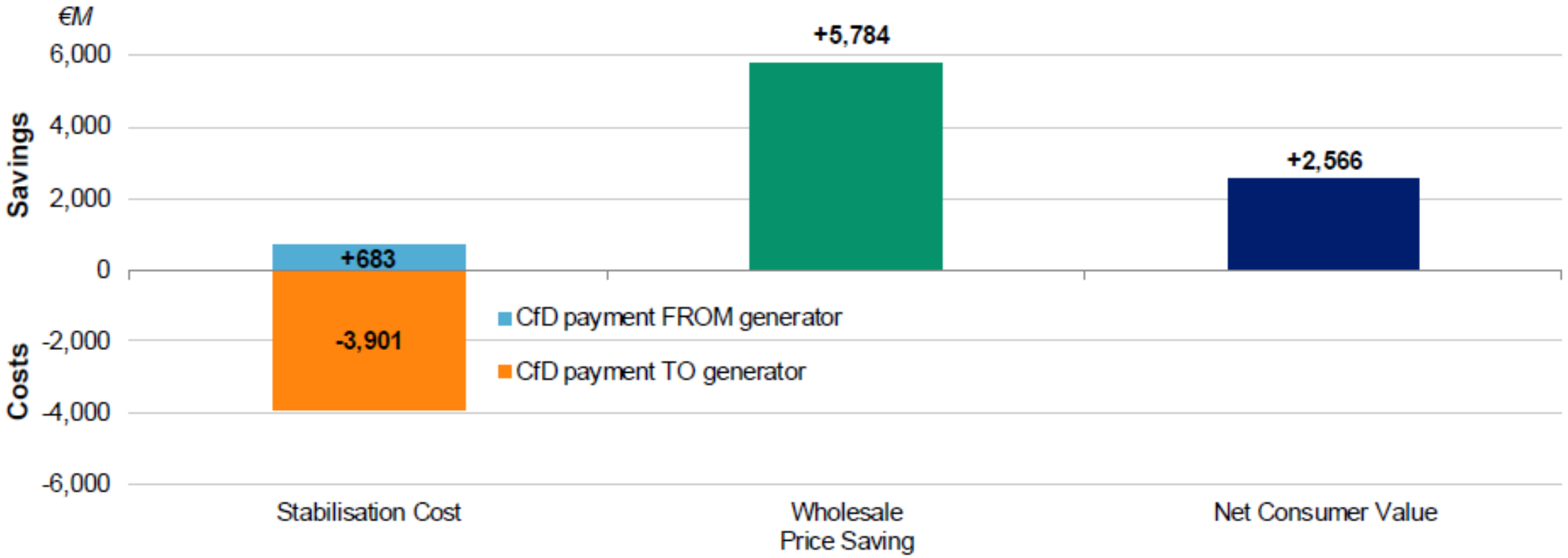
Renewables can deliver €2.5 billion in value to the consumer

Assessment of cumulative net Consumer Value assuming CfD strike prices are €60/MWh (€M, real 2017 money)



NB: Present value calculations assume a 6% discount rate.

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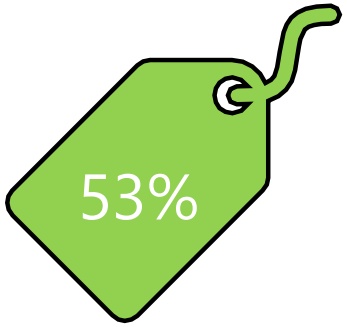
Session 3: Route to Market
Delivering the lowest prices possible for RESS & Corporates

Have identified quantified the impact of industry practices, technology developments, policies and regulations on the price of wind

Additional Costs

vs



Potential Savings

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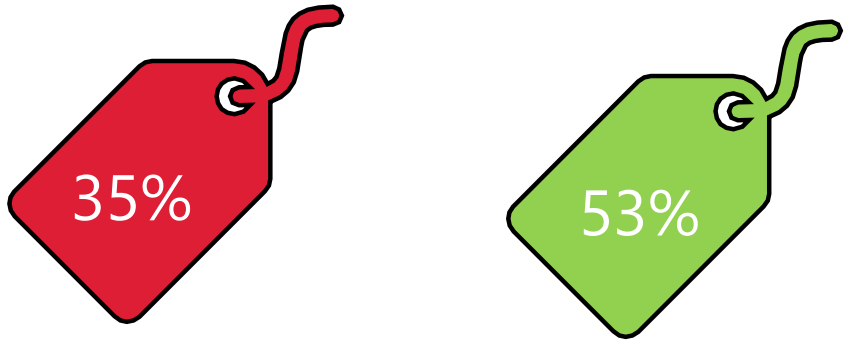
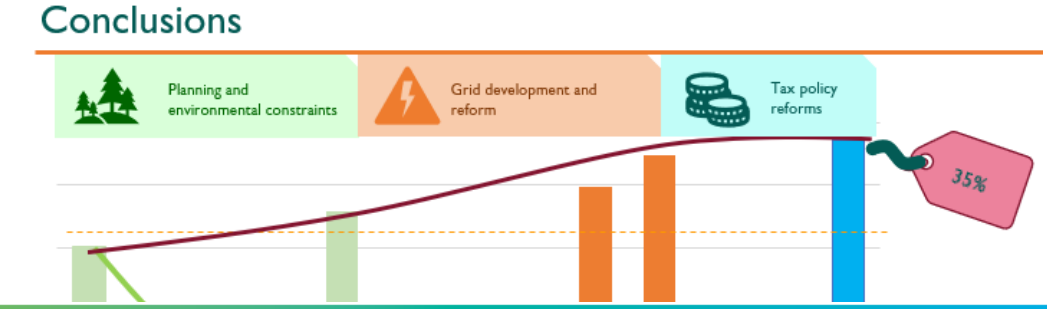
Session 3: Route to Market
Delivering the lowest prices possible for RESS & Corporates

everoze

Have identified quantified the impact of industry practices, technology developments, policies and regulations on the price of wind



Additional Costs vs Potential Savings



SESSION 3 – MARINA 1 & 2

TIME	ROUTE TO MARKET	CHAIR: William Carmody, Head of Financial Services, Mason Hayes & Curran
14.00	RESS Design	Eamonn Confrey, Principal Officer, Bio-Electricity Division, DCCAE
14.15	The Value Proposition of Renewables	Alex Blanckley, CFA, Senior Consultant, Pöyry Management Consulting
14.30	Corporate PPAs	Cathrine Torvestad, Originator, Axpo Nordic AS
14.45	70by30 – Putting a Price Tag on Policy	Simon Bryars, Partner, Everoze
15.00	Question & Answers	
15.15	Tea, Coffee & Exhibition Viewing	

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Find out more in Session 3 – Route to Market

Session 4: Grid & Integration

Building More **Transmission Capacity** is the biggest concern to meet 70%

Fundamental changes required to reduce Dispatch Down

90% SNSP +

SNSP Increase - Interconnection - Storage/DSM

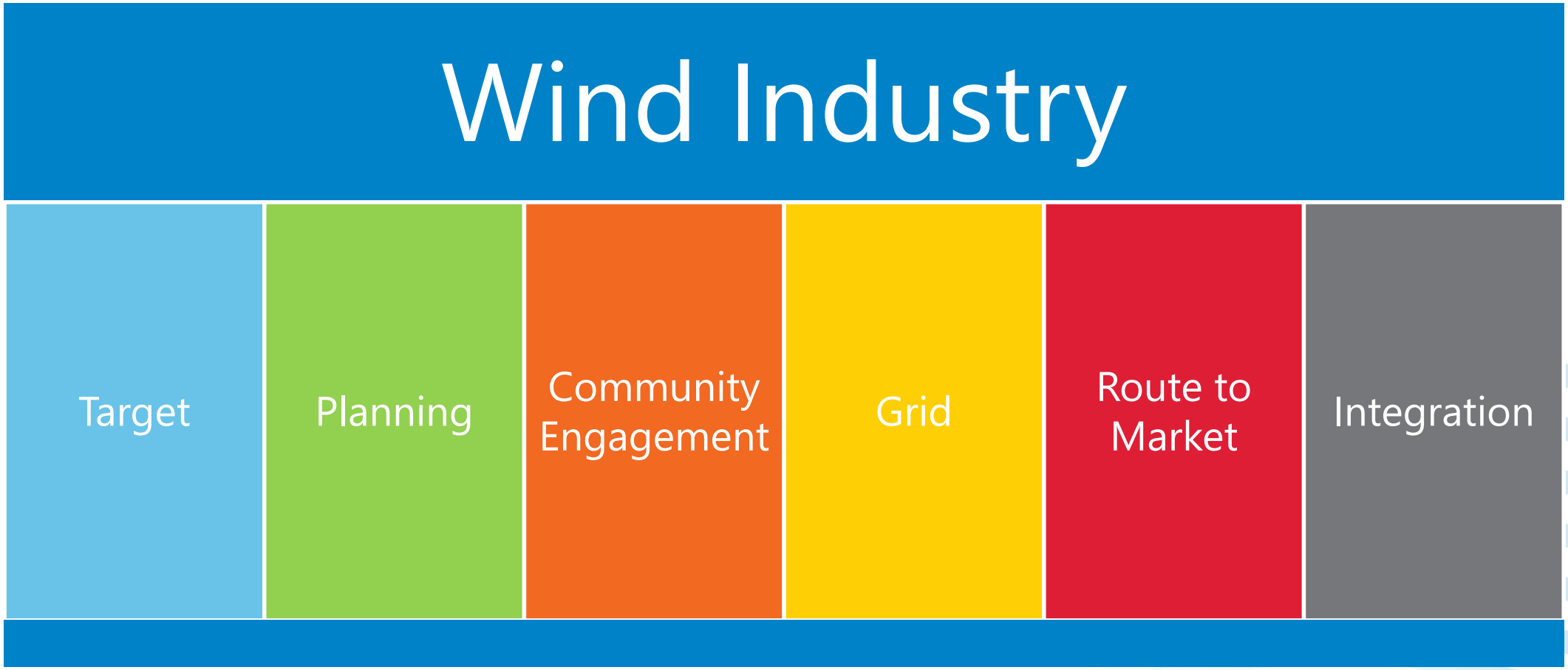
Baringa outlining Zero-Carbon System Services

SESSION 4 – MARINA 1 & 2		
TIME	THE POWER SYSTEM OF TODAY AND TOMORROW	CHAIR: Margaret Nee, Grid Manager, Brookfield Renewable
15.45	ECP/Connection Policy for Onshore & Offshore	John Melvin, Director of Energy Markets and Smart Metering, CRU
16.00	Grid Delivery for Onshore & Offshore	Michael Mahon - Director, Grid Development & Interconnection
16.15	Grid Delivery Study/Dispatch Down	Rory Mullan, Senior Consultant & Director, MullanGrid Consulting
16.30	Zero Carbon Service Providers	Dr. Mark Turner, Director, Baringa Partners
16.45	Questions & Answers	
17.00	Conference Close	

Find out more in Session 4 –

The Power System of Today and Tomorrow

70% RES-E requires a step increase in collaboration and partnership…



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…and it is very achievable!

Finally… Congratulations to our new Council Members!

- Ainsley Heffernan, Beauchamps
- Donal Smith, Galetech Energy
- Ken Boyne, Ionic Consulting
- Karen Doyle, Ulster Bank
- David Kiely, Jennings O'Donovan & Partners
- Andrew Burke, Enerco
- Marc Lamphiere, Mace

- Board election process begins today!

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Thank You!

SIEMENS Gamesa RENEWABLE ENERGY

Main Sponsor:

SIEMENS Gamesa RENEWABLE ENERGY

Supporting Sponsors:

Brookfield

Statkraft

MASON HAYES & CURRAN

SUIR ENGINEERING

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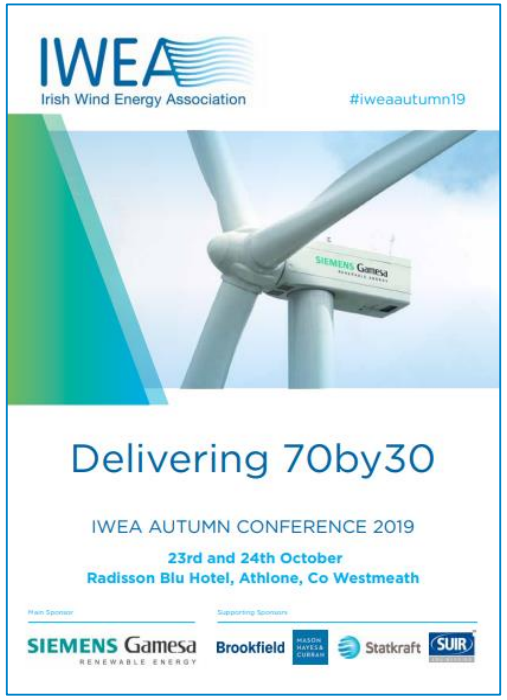

- Speakers
- Sponsors
- Exhibitors
- Delegates
- IWEA Council & Directors
- IWEA Chairs
- IWEA Members
- IWEA Staff

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