

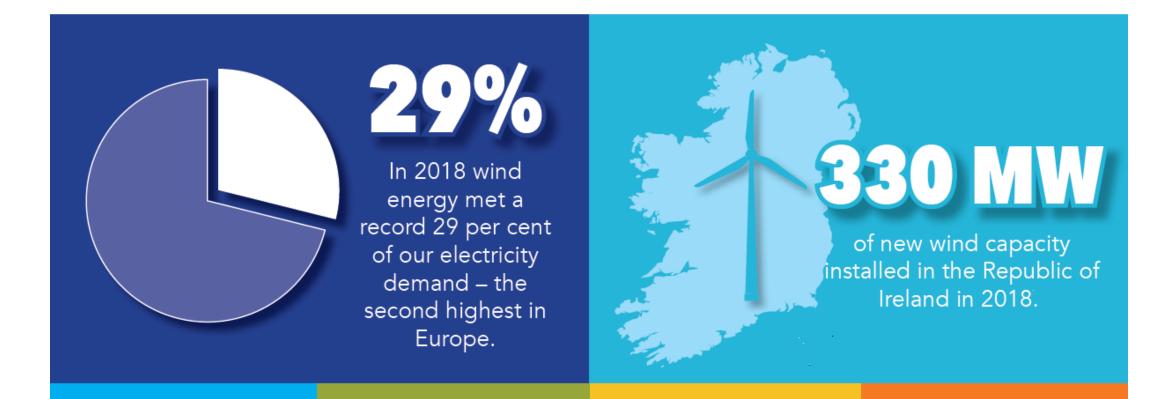


Status & Outlook for the Wind Industry

DAVID CONNOLLY, CEO, IWEA

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





New wind farms built in 2018.

Now

3,566 MW

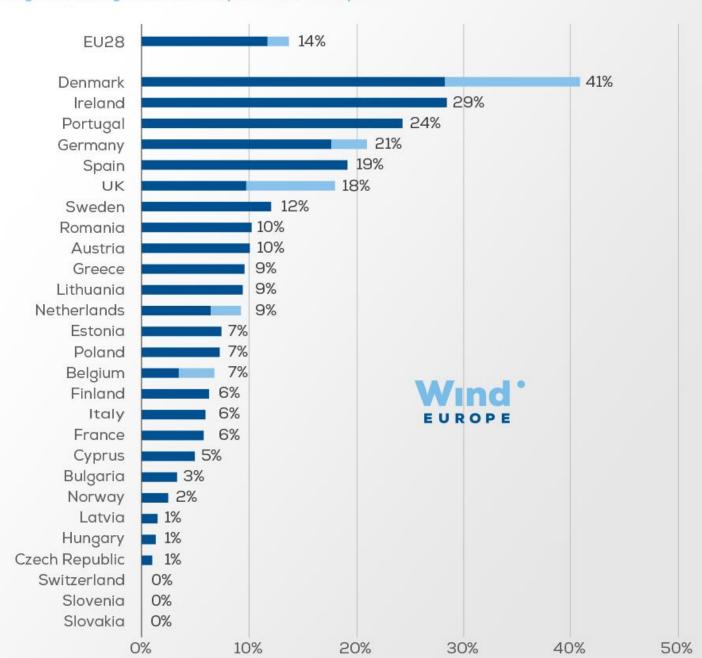
of installed
wind capacity.

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

Ireland is now #1 for Onshore Wind



Total REFIT Pipeline ~4400 MW

	Total Installed			Investment	Non- Compliance Costs	Jobs	CO2	% RES-E	% RES
	MW	MW		Million Euro	Million Euro		tCO2/year		
End 2017	3225								
Low Risk Projects 2018	3725	500	>20	1000	95	750	659,236	4.2%	1.0%
Low Risk Projects 2019	4000	275	6	550	52	413	362,580	2.3%	0.5%
Medium Risk Projects	4100	100	4	200	19	150	131,847	0.8%	0.2%
High Risk Projects	4400	300	13	600	57	450	395,542	2.5%	0.6%
Total for All Projects		1175	>43	2350	224	1763	1,549,204	10%	2%

But At least 200 MW of this is now very unlikely by 2020 So max for 2020 is ~4200 MW

REFIT Grace Period Request Declined IWEA



Request:

Extend the 'energisation date' for REFIT2 projects from 31st March 2020 to the end of 2020

Justification:

- All projects connected in 2020 count towards the targets
- Would result in Ireland meeting its 2020 renewable electricity target (SEAI latest forecast indicate a shortfall)

Declined due to:

- Previous extension provided
- Not all delays deemed grid related
- Better value with RESS and Corporate PPAs
- Lower value of 2020 vs. 2019 contribution to target



Millennium Park Osberstown, Naas Co. Kildare

Minister Denis Naughten TD Department of Communications, Climate Action and Environment, 29-31 Adelaide Road, St Kevin's

Dear Minister Naughten TD

I am writing to you regarding a proposal from the Irish Wind Energy Association to help ensure that 40 per cent of electricity generated in Ireland comes from renewables by 2020. IWEA is not looking for a change to the current REFIT milestone dates (that are within the control of the industry), but we are asking for a limited 'Grace Period for Grid Delivery' for wind farms under the REFIT scheme as delivering a grid connection is not within the industry's control.

As you will be aware, to qualify under REFIT a wind farm must be connected to the grid by 31 March 2020. Unfortunately, capacity issues within ESB Networks mean that there are delays of four to six months in the delivery of these connections. These delays are putting the financial future of these wind farms - which have all obtained planning permission and grid connections - in doubt

As explained in the enclosed position paper, which includes correspondence from banks financing some of these projects, this puts the development of these wind farms at risk, undermining ou attempts to achieve the 40 per cent renewable electricity target for 2020.

We are writing to ask you to use your authority under the REFIT2 Terms & Conditions to provide a strictly defined and limited 'Grace Period for Grid Delivery' to enable us to reach this critical target, something which has already been implemented in other jurisdictions including Northern Ireland

The enclosed paper also includes a legal opinion from Ms Catherine Donnelly, a barrister specialising in European law, confirming that providing a Grace Period for REFIT2 would not conflict with the existing State Aid Decision

We would be happy to discuss this with you in more detail at your convenience.

In closing, I would like to congratulate you on the successful publication of the new Renewable Energy Support Scheme. I would like to assure you that I and our members look forward to working with you and the department on this in the coming months.

Irish Wind Energy Association

Directors: P. Baillie, P. Brett, E. Egan, P. Harte, B. Henechan, C. Hynes, S. Layden, R. Mullan

We are now ~1 year away from the end of Ireland's most successful renewable policy framework to date



Wind Industry 2020

Target: 40% RES-E

Financing: REFIT Grid: Gate 3

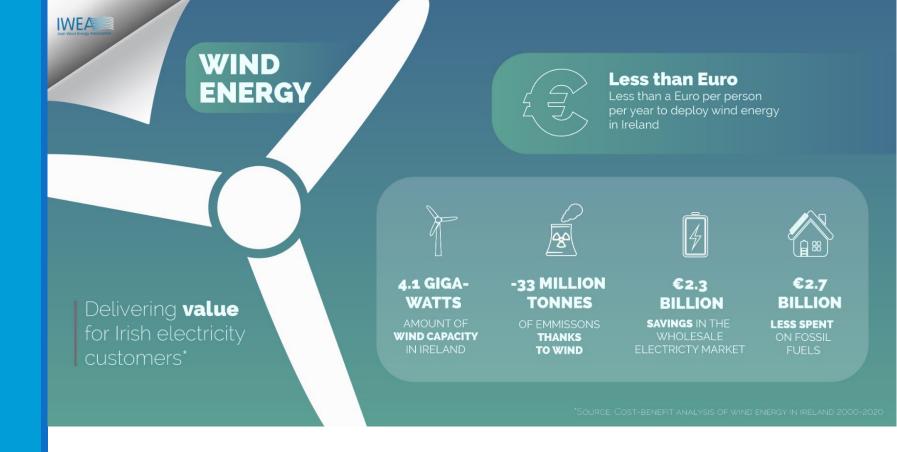
Planning: WEGs 2006

17 April 2018 6

2020 Framework was Good Value:

€1/person/year OR €2/ton carbon





Yates Country

Wind energy can provide a silver-bullet solution to €600m EU climate fines

Blow me down! Wind energy has cost only €1 a year per person

All Efforts Now on 2030 Policy Framework

ANOTHER DECADE OF GROWTH IS AHEAD OF US

Pillars of Wind Industry: 2030



Policy to Support Wind Energy to 2030

Target: 32% RES/70% RES-E

Financing:
RESS /
Corporate
PPAs

Grid: ECP

Planning: WEGs 2018/MAFA







?

Target = Volume

- THE IRISH TIMES
 - Climate action committee makes progress
 - Substantial progress has been made by an Oireachtas all-party
 - eing major steps to decarbonise Ireland and to implement the

- First Draft of NECP released in Dec with 55% RES-E target but good news on volumes:
 - Proposes 6500-7000 MW onshore and 1800 MW offshore by 2030
 - IWEA key response was request for 70by30 target supported by all renewable associations

 Reports suggest that 70by30 will be one of the recommendations from the Climate Action Committee (a question for Session 2 tomorrow!)

CLIMATE ACTION AND RENEWABLE ENERGY -PANEL SESSION

Deputy Hildegarde Naughton, TD - Chair of the Oireachtas Special Committee on Climate Action

Deputy Eamon Ryan, TD, Leader, Green Party

Marie Donnelly, Renewables Ireland

Jim Gannon, Chief Executive, SEAI

Peter Harte, Director, Statkraft Ireland

Questions & Answers

Plans Plans Plans

IWEA

- Climate Action Committee
 - Due mid March (70by30?)

'All of Government' Plan

Due end of March

Paddy Hayes, Managing Director, ESB Networks

Aoife MacEvilly, Commissioner for Regulation of Utilities, CRU

Peter Lynch, Head of Renewable Energy, Coillte

Paul O'Donnell, Partner, Greencoat Renewables

Peter Baillie, Managing Director, Energia Renewables

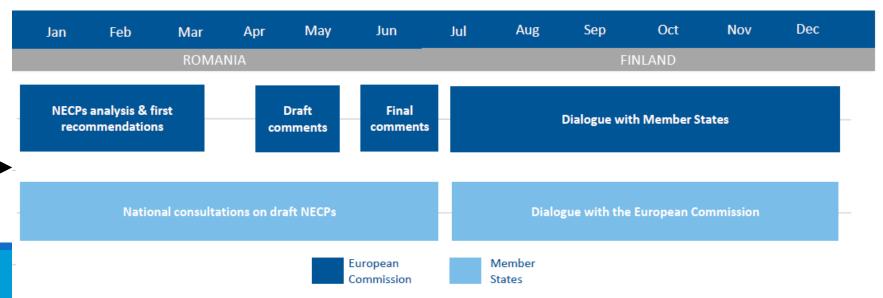
Questions & Answers

Lunch

TOP THREE OPPORTUNITIES FOR 2030 - PANEL SESSION

• NECP:

• See timeline ———



Renewable Electricity Support Scheme (RESS)



IWEA

- •We have formalised positions on RESS1 fundamental principles, led by Markets Committee:
 - Price certainty; duration; risks; revenue stacking; delivery dates
- •Now formalising more complex IWEA positions for auction design: qualification criteria; intervention levers; volumes/timings
- •COMMUNITY: IWEA is working on proposals for engagement, benefit, and shared investment

TIMING

- •No clear timelines from DCCAE for publication of Detailed Design expected after the All of Government Plan, which would suggest at least April
- •DCCAE still aiming for RESS 1 to take place before the end of the year (State Aid?)

Session 3:

MARKETS FOR OUR RENEWABLE ENERGY FUTURE

David O'Sullivan, Regulation Manager, Brookfield Renewable Ireland

DCCAE

Evie Doherty, Senior Consultant, Cornwall Insight Ireland

John Melvin, Director, Energy Markets, CRU

Grid Connections: ECP (January Policy Forum)



FCP1 – ONLY 580 MW WIND

	DSO	TSO	Total Applications	Total MEC (MW) ²
DS3				
Battery	10	7	17	351
Hybrid		1	1	20
Non-DS3				
Biomass	1		1	2
CCGT		2	2	33
CHP	2		2	9
Gas	1		1	2
Solar	40		40	252
Wind	18	3	21	294
Total new applications				963MW
Non-GPA fold in				
Solar	9	11	20	842
Wind	1		1	1
				843MW
Relocations				
Solar	25		25	156
Wind	6	3	9	280
				436MW
	113	27	140	

FCP2 – WORK UNDFRWAY IN CRU

- •CRU starting work on ECP-2
- •IWEA has created a paper with our short and medium term priorities (Grid Committee)
- •Stresses the need for a batch in 2020 to avoid lengthy consultation proposed to use ECP-1 "batch 2"
- •Short term priorities: prioritisation of renewables, prioritisation criteria for onshore to be date of planning grant, capacity handback, facilitating offshore, suggested batch size, community renewables

OVERCOMING CHALLENGES IN DEVELOPING NEW PROJECTS

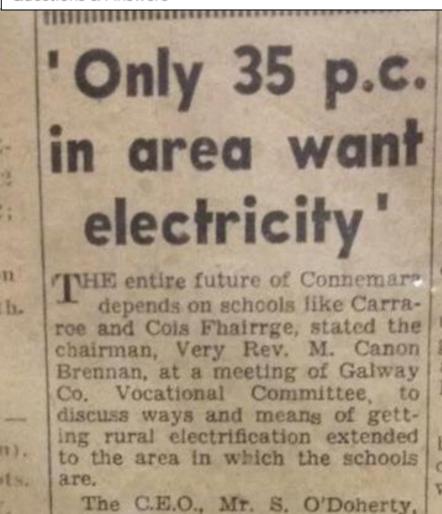
Brian Keville, Environmental Director, MKO

Shane Carr, Director, Irwin Carr

Donal O'Sullivan, Head of Development, Statkraft Ireland

Ken Boyne, Director, Ionic Consulting

Questions & Answers



Wind Energy Guidelines (Will be in Session 4)

- Expected out very soon for consultation (within weeks)
- Most likely in line with 'Preferred Draft Approach' from June 2017
- Delayed by World Health Organisation (WHO) noise guidelines released in October 2018 – recommends <45bDL_{den}
- IWEA Planning Committee is trying to assess the impact on:
 - Curtailment
 - Cost to the consumer
 - Potential for future onshore wind
- Essential to account for balance between comfort of near neighbours and national decarbonisation objectives
 - 75% of people living <4 km wind farms supportive (NUIG research)

New Report Available Today (Session 4)

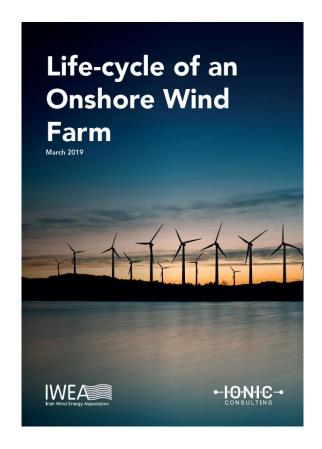


I.2 Wind Farm life-cycle stages

The life-cycle of a wind farm project is described in the following stages with each corresponding to a chapter in this report:

- Feasibility
- Planning and Permitting
- Pre-Construction
- Construction
- Commissioning
- Operation
- Decommissioning





Planning for Offshore – MAFA/Grid (and more in Session 1 tomorrow)



SESSION 1				
TIME	OUR OFFSHORE WIND ENERGY FUTURE			
9.45	Stephen Wheeler, Managing Director, SSE Ireland			
9.55	Robbie Aherne, Head of New Connections, EirGrid Group			
10.05	Philip Nugent, Principal Officer, Marine Spatial Planning Section, DHPLG			
10.15	Drew Milne, Senior Policy Officer - Marine Planning (Offshore Renewable Energy) Marine Scotland			
10.25	Jim Dollard, Executive Director, Generation Trading ESB			
10.35	Questions & Answers			
11.00	Tea, Coffee & Exhibition Viewing			

Key Benefits in Ireland

Large Sea Area/Potential

High Wind Speeds

High Capacity Factors

Sites Located Close to Shore

EU Benefits from Irish Location

Rates



IWEA recently met with Valuation Office

 Commissioner will consider an IWEA proposal for a methodology that could be applied for wind farm rates

- Currently being prepared by Rates Working Group in the Asset Management Committee:
 - Will be arranging a Rates workshop for all members who want to attend – contact ross@iwea.com to attend



Pillars of Wind Industry: 2030



Policy to Support Wind Energy to 2030

Target: 32% RES/70% RES-E

Financing:
RESS /
Corporate
PPAs

Grid: ECP

Planning: WEGs 2018/MAFA













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Thank You

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- IWEA Members
- IWEA Staff