# RESS

## IWEA Webinar

Tuesday 30th of June
4.00 pm – 5.00 pm

**This webinar will begin shortly**

Please submit questions via Slido using the code #RESS


Presented by

Karen Doyle,
Relationship Director, Ulster Bank

Presented by

Kevin Moloney,
Head of Sales, Siemens Gamesa Renewable Energy

Presented by

Eoin Cassidy,
Partner, Mason Hayes Curran

Presented by


Noel Cunniffe
Head of Policy, IWEA

Moderated by

David O'Sullivan,
Commercial Manager, Brookfield Renewable

# RESS Financing Considerations: A Funders View

| | |
|---|---|
| Financial Model Assumptions | •Contracts – Pricing and delivery, FX risk?<br>•Cost of Finance – Term Sheets, Credit Approved facilities? |
| Bid Bonds | •Timing of delivery<br>•Facilities in place? |
| Covid Impacts | •Supply chain – where are turbines and components coming from<br>•Financial Markets Liquidity |
| Negative Pricing | •Management within PPA? |
| Priority Dispatch | •Model Assumptions |
| Inflation | •Impact of no Indexation |
| Capacity | •Resource to close transactions – availability<br>•Start talking to service providers and funders early |
| COD Cliff | •Mitigation Measures |

Ulster Bank

**Karen Doyle: Relationship Director Ulster Bank**
**Email: Karen.Doyle@ulsterbank.com**

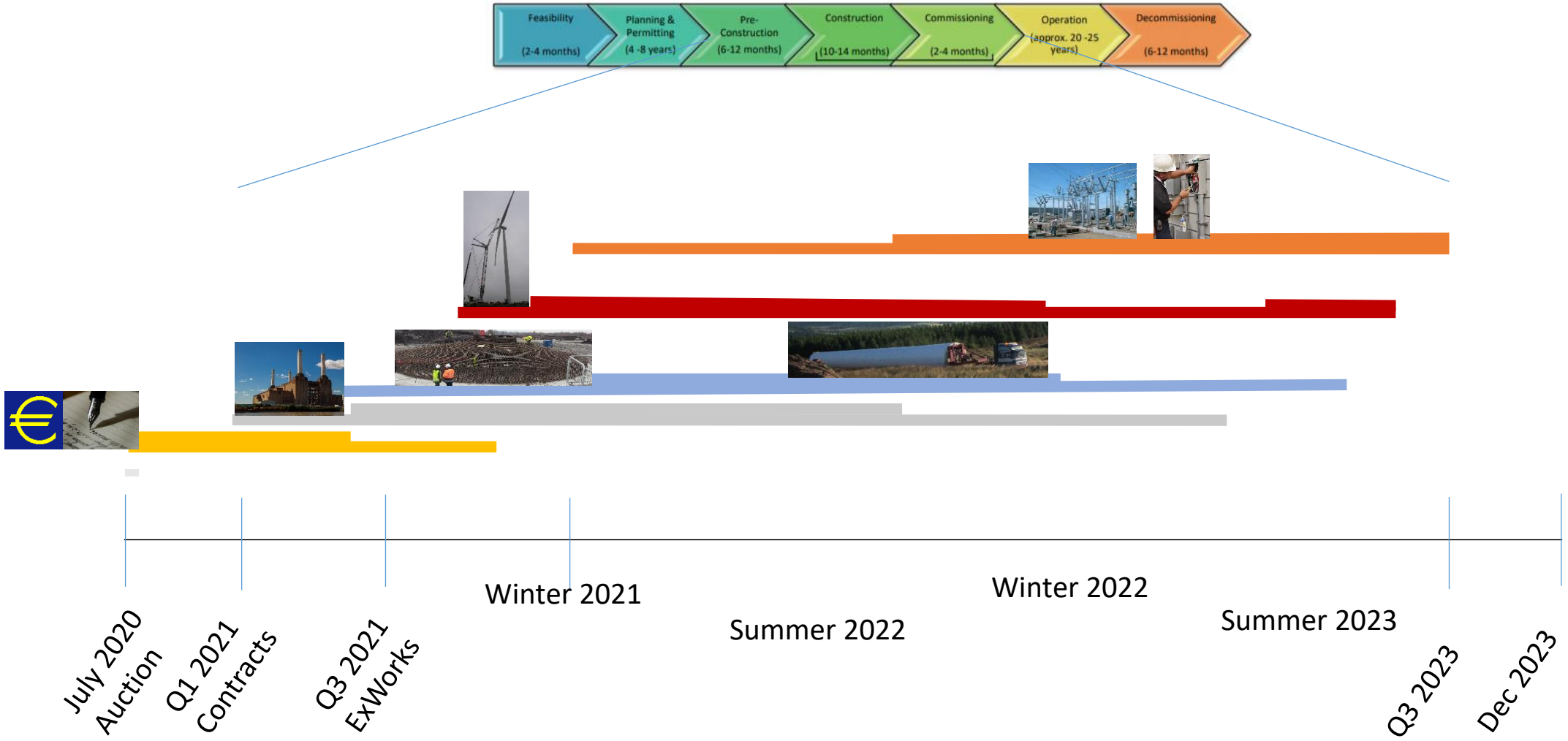
# IWEA RESS 1 Webinar

30 June 2020

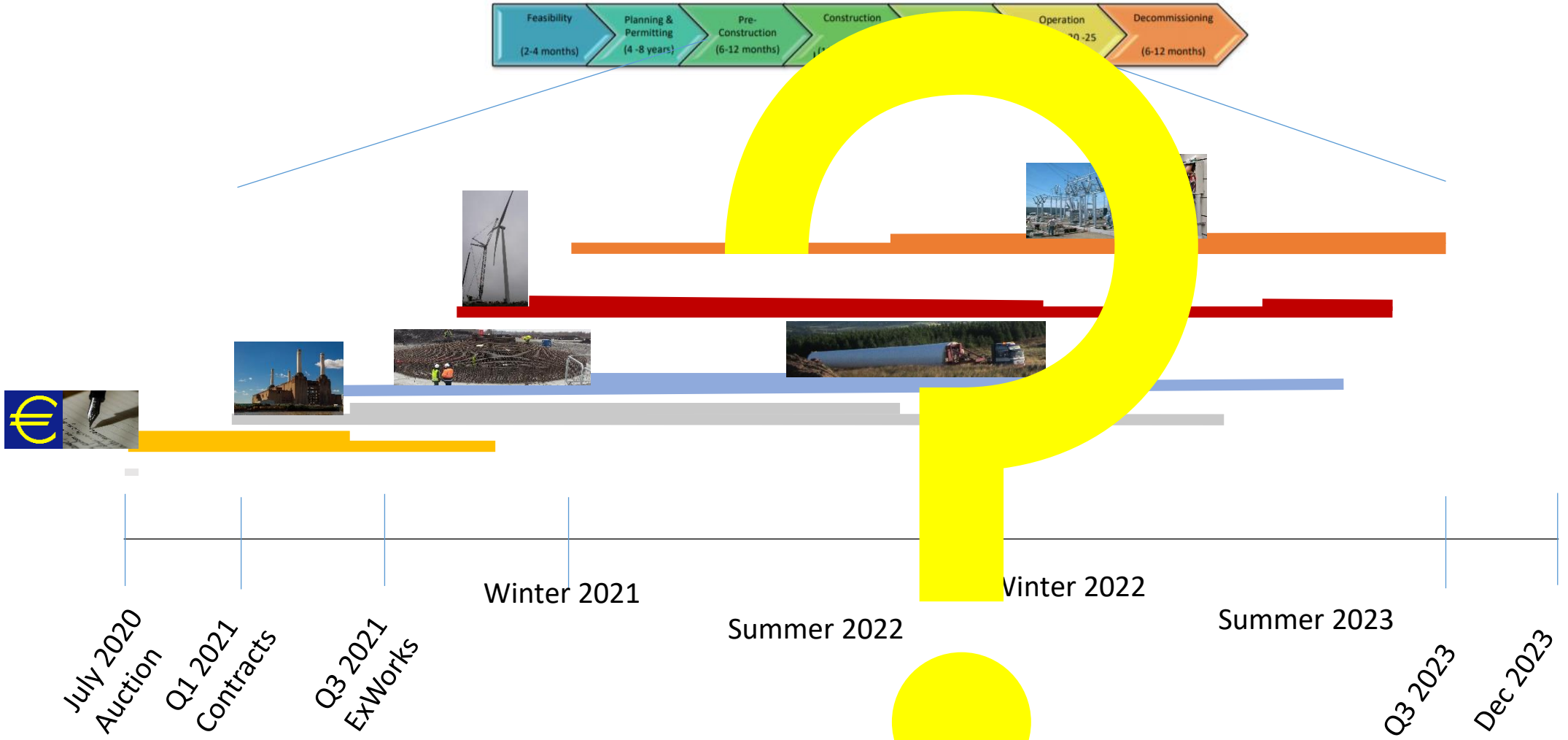
Kevin Moloney, Head of Sales - Ireland

SIEMENS Gamesa
RENEWABLE ENERGY

# RESS and Project Delivery Timelines



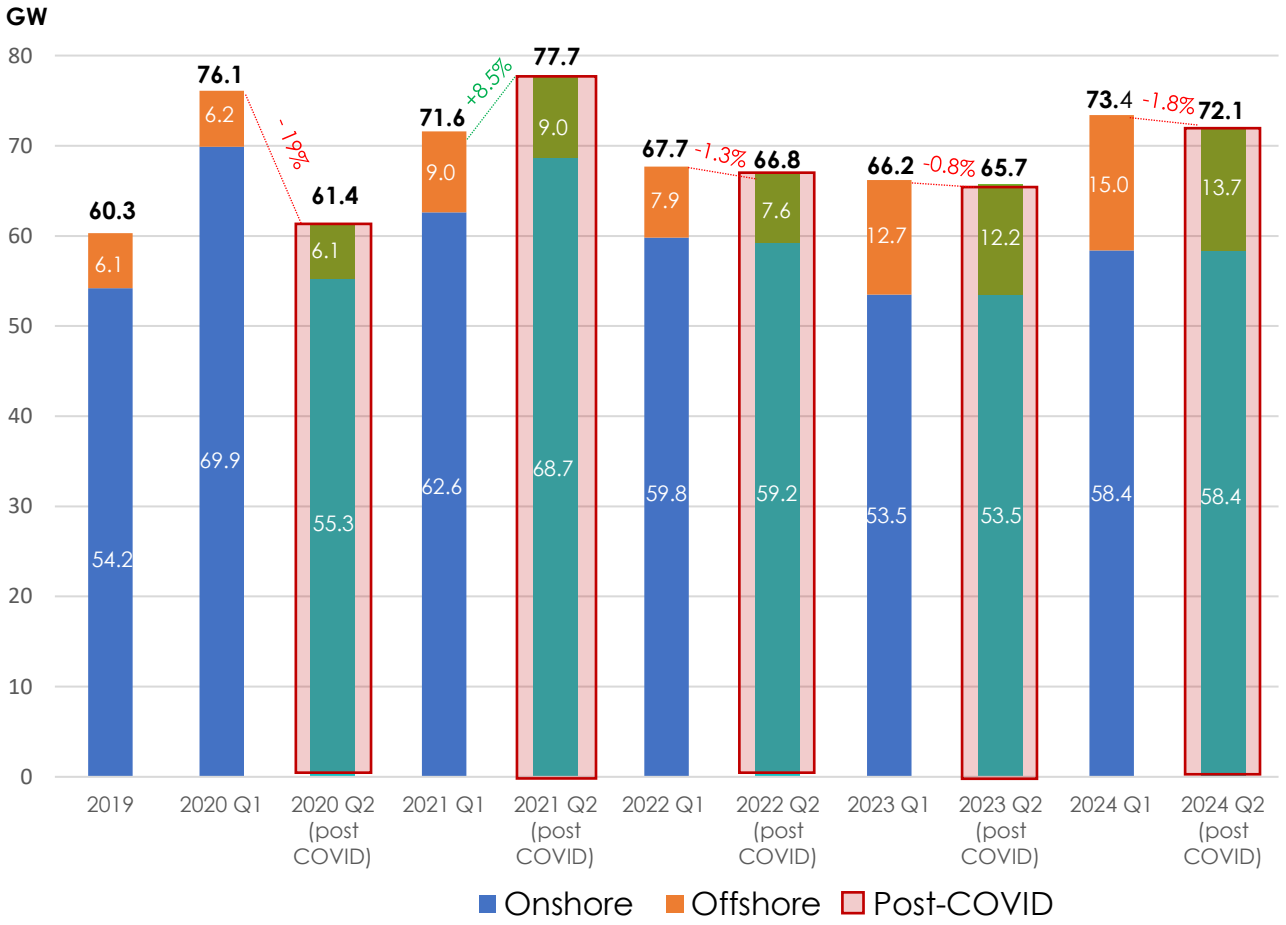
# RESS and Project Delivery Timelines




- ~700MW @ 3MW - 4.5MW / WT 230 WTGs
- ~ 450 – 700 Abnormal Load Convoys
- @500M$^3$/foundation = 8,000 – 11,500 cement loads

# COVID-19 is expected to bring down global new wind installation by 19% in 2020, but the market is likely to bounce back in 2021

**Global Wind Market Outlook, pre COVID (Q1 2020) vs. post COVID (Q2 2020)**




GWEC's Market Outlook represents the industry perspective for the expected installations of new capacity for the next five years. The outlook is based on input from regional wind associations, governmental targets, available project information and input from industry experts and GWEC members.

Source: GWEC Market Intelligence, June 2020

2020 was on-track to be a record year in global wind history with more than **76 GW** to be installed. However, the **COVID-19 crisis**, which disrupted global wind supply chains and project construction execution, is expected to **bring down** global new installation to **61.4 GW** this year, **19%** lower than our pre-COVID forecast made in Q1 2020. However, new installations are likely to bounce back next year and make **2021 a record year** with annual installation reaching **77.7 GW.**

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# Covid-19 Safety Mitigation Measures

| | |
|---|---|
| **Safety in the Logistics:** | **Shipping (quarantine periods / separation).**<br>**Crossing borders (quarantine periods).**<br>**Road (availability of resources).** |
| **Safety in Construction:** | **Factoring in close-proximity working environments.**<br>**Physical and Mental impact of "family" units for long periods.**<br>**Deep cleaning.** |
| **Safety in Operation:** | **Adhering to best practice as it emerges.** |

- http://gwec.net/wind-industry-covid-19-response-hub/

Kevin Moloney

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Head of Sales - Ireland

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RENEWABLE ENERGY

# Covid-19 Supply Chain Impacts

**France**
Blade: LM Wind Power, owned by GE Renewable Energy, closed down its blade factory in Cherbourg for three days to strengthen sanitary measures within the facility and guarantee compliance with government recommendations, but it was reopened on 23 March.

**Italy**
In March, disruption was reported in the Italian wind supply chain by blade supplier eTa's Blades, transformer supplier Celme S.r.l. and pitch & yaw gearbox supplier Bonfiglioli. However, the production was resumed after Easter and from the beginning of May supplier like Bonfiglioli has resumed the 100% capacity in production in Italy.

**Spain**
Nacelle assemblies: SGRE facility in Agreda and Nordex Acciona two facilities in Barasoain and Vall d'Uixo, were closed on 30 March following the Royal- Law stopping non-essential activity, but re-opened all production on 14 April 2020.
Blade: SGRE two facilities (Aoiz and Somozas), Nordex Acciona one facility in Lumbier, LM Windpower two facilities (Castellon and Leon) and Vestas blade facility in Daimiel were impacted by the COVID-19, but all facilities have resumed normal activity as of 14 April 2020.
Gearbox: SGRE three facilities (Asteasu, Burgos and Lerma) were temporary suspended on 30 March, but re-opened on 14 April 2020.
Electronics system: SGR facility in Madrid and Vestas generator facility in Viveiro were impacted by COVID19, but re-opened as of 14 April 2020.

**Turkey**
Blade: 03 April, TPI Composites, the US blade supplier, stated that it will operate its Izmir facility in Turkey at approximately 50% capacity during the first of half of April primarily due to certain applicable government-mandated stay at home orders in response to the COVID-19 pandemic. At present, the factory is back to full operation, but two weeks of production lost was estimated for Q2 2020 by TPI.

**Denmark**
To ensure strong focus on execution in 2020 and sustain long-term competitiveness under the extraordinary situation from the COVID-19 pandemic, Vestas announced the intention to lay off approximately 400 employees, which will primarily affect in Denmark ( Aarhus, Lem, Viborg). A limited number of layoff is also expected in other locations in Europe. In addition, Vestas' registered directors in Executive Management will take a 10 percent pay-cut until end of 2020.

**United Kingdom**
Blade: SGRE offshore blade facility in Hull has resumed production on 01 April after pausing operations on 24 March 2020.

**Mexico**
TPI Composites ( Blade): the US independent blade supplier announced that it reduced its production capacity at Matamoros, Mexico facility due to COVID-19 impact, but increased it to 50% from May 2020. However, its four factories located in Cludad Juarez will remains closed until 30 May.

Source: GWEC Market Intelligence, June 2020

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# Covid-19 Supply Chain Impacts

**India**
Nacelle assembly: SGRE (Chennai); Vestas (Chennai)
Blade: SGRE two blade facilities (Nellore, Andra Pradesh and Halol, Gujarat); Vestas one blade facility (Ahmedabad); LM Windpower two blade facilities (Dabaspet and Vadodara)
Gearbox: ZF gearbox production facility (Coimbatore), Winergy gearbox production facility (Chennai), NGC ( facility under construction in Sri City)
Tower: Windar Renewable Energy two facilities (Gujarat, Andhra Pradesh)
Following nationwide lockdown, local turbine OEMs incl. Suzlon, Inox, SCM also suspended the production, only O&M service workforce is allowed to work on specific permission from Regional State Police. The nationwide lockdown has been extended to 03 May ( now to end of June), however, on 15 April, the government announced that select additional activities will be allowed starting on 20 April. As of now, local and western wind turbine OEMs and component suppliers have resumed operations at all their facilities across the country in compliance with all safety guidelines and directives issued by the Central and State Government to safeguard the employees and all other stakeholders to prevent the spread of COVID-19, but the full production capacity has been reached yet at present mainly due to challenges such as transportation and staff movement.

**United States**
SGRE: Driven by parts and material delays directly caused by COVID-19 impacts to their international suppliers, Siemens Gamesa has made difficult decision on 06 April to furlough 100 employees at the Fort Madison, IOWA, facility and about 200 employees at the Hutchinson, Kansas facilities. On 05 May, SGRE reported that all 200 furloughed employees have returned to work at their Hutchinson, Kansas facility, and SGRE expects the 100 furloughed workers in Fort Madison to return in mid-May.
LM Wind Power: As of 20 April, North Dakota Sate Department of Public Health reported a total of 128 positive cases associated ( employee or close contact) with LM's blade factory in Grand Forks. For the health and safety of employees, GE Renewable Energy, the owner of LM Wind Power, decided to close the factory for at least two weeks to conduct an extensive disinfection process while also continuing to pay employees as usual during the shutdown.
TPI Composites: The US blade manufacturer helt its production at its Newton, IA facility on 23 April due to the confirmed positive cases increased in this factory. However, its facticity in Warren, RI remains in full production.

**China**
China is the first country hit by the COVID-19 virus. Disruption has been reported on the flow of supply chain and workforce in February and early March. Although China managed to get the virus under control within two months, only 70% of production are back online by the end of March. In addition, the COVID-19 crisis outside China has brought challenges on the import of key components and materials such as bearings, balsa wood and PVC.

Source: GWEC Market Intelligence, June 2020

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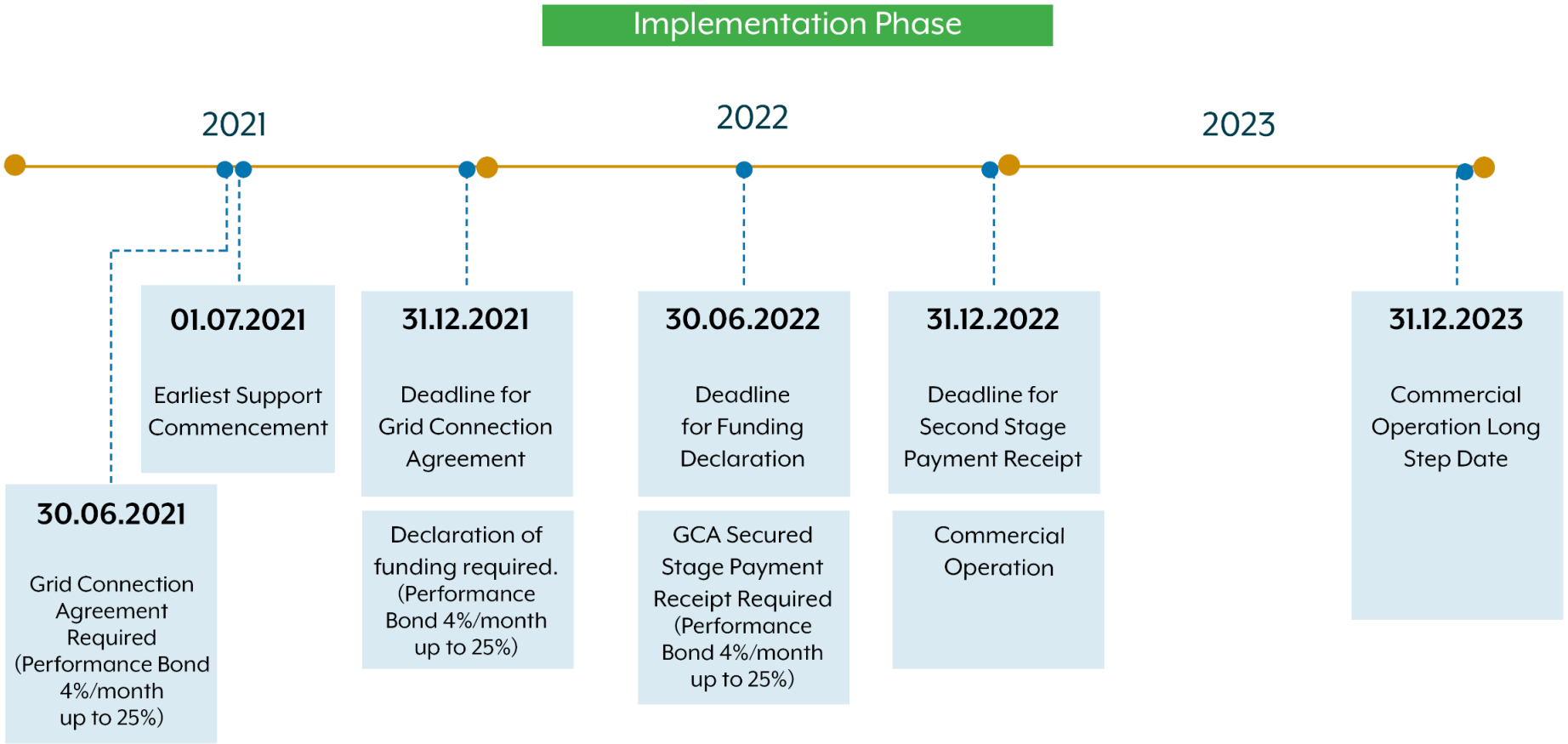
MASON HAYES & CURRAN

# Renewable Electricity Support Scheme (RESS) Briefing

Eoin Cassidy, Partner, Mason Hayes & Curran LLP

# Implementation phase



# Contact me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# RESS 1 Webinar

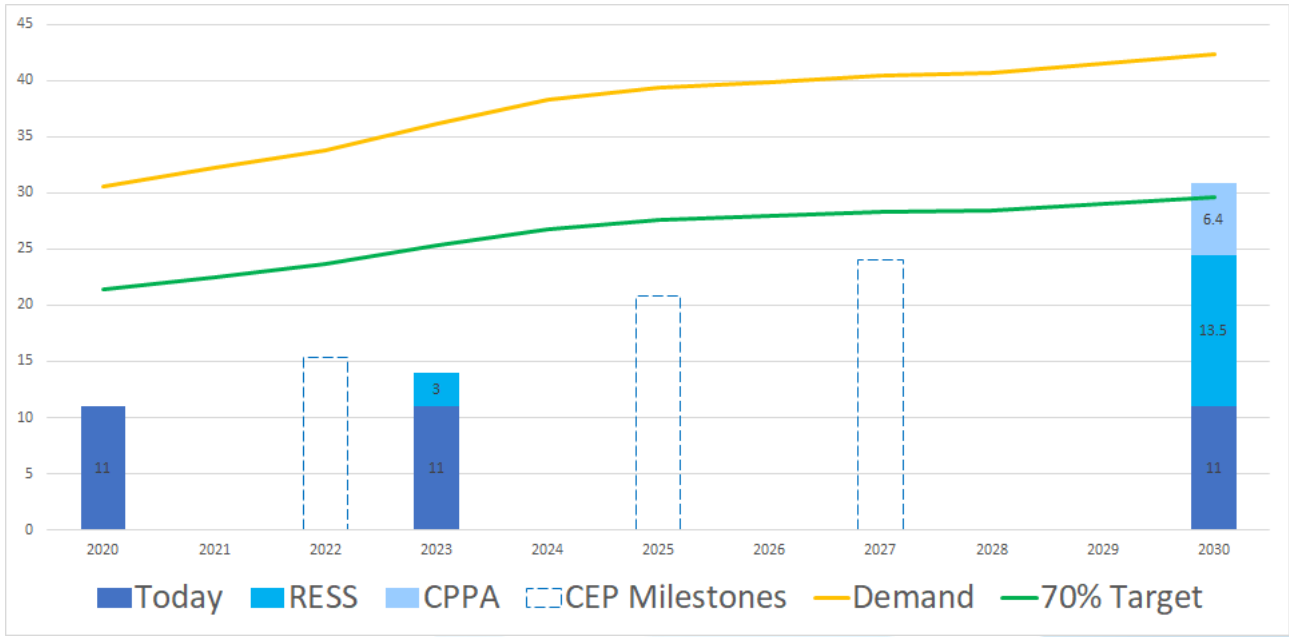
Noel Cunniffe, Head of Policy

# Volumes & Competition Ratio

- RESS 1 Terms & Conditions put pressure on volumes which could enter through two items:
  - Cliff-edge of support in 2023
  - Grid connections not included in force majeure
- Very likely to result in lower volumes qualified than the "Projected to Participate" volume by CRU
- IWEA analysis shows that to meet the 2023 interim Clean Energy Package renewable targets trajectory - Ireland would need 3.3 TWh of new renewables
- A competition ratio of 2 would leave a gap of 1.2 TWh at the "Projected to Participate" volumes
- Much larger gap if ratio remains at 2 for the actual volumes qualified - a lower ratio may be appropriate

| Category | All | Solar | Community |
|---|---|---|---|
| Projected to Participate (GWh) | 4,224 | 1,074 | 18 |
| Representative Competition Ratio | 2 | 2 | 1.25 |
| Available Volume (GWh) | 2112 | 537 | 14.4 |

CRU letter to DCCAE set out the Indicative Competition Ratio




How RESS & CPPA targets align with CEP interim targets

IWEA
Irish Wind Energy Association

# The known unknowns - Negative Pricing & Energy Balancing

- Two big unknowns for developers going into RESS 1 will be the volume of Negative Price Hours and volume of dispatch down - especially due to "Energy Balancing"
- Negative Pricing analysis webinar next week:

IWEA Irish Wind Energy Association | Green Tech Skillnet | Baringa

- A key issue will be how the SEM Committee rule in the recent Clean Energy Package consultation - Will "new renewables" be able to bid into the market?
- Dispatch down for RESS projects also a large unknown:
  - Will constraint and curtailment be compensated for?
  - How much dispatch down due to Energy Balancing will there be?
  - What *is* Energy Balancing!?

IWEA Irish Wind Energy Association

- RESS T&Cs - Section 5.2.5:
  - For hours in which:

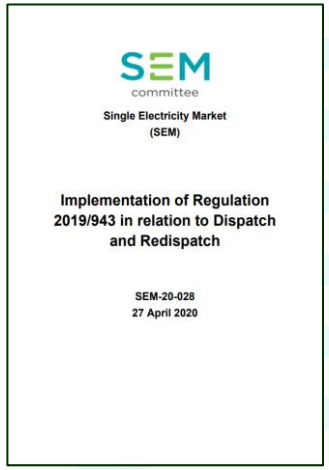
(a) the Strike Price multiplied by Loss-Adjusted Metered Quantity,

exceeds

(b) the Market Reference Price multiplied by Loss-Adjusted Metered Quantity,

then if the DAM Price equals or exceeds zero euro per MWh, the Supplier will be entitled to receive a payment equal to (a) minus (b), otherwise it will be entitled to a payment of zero (the "**Support Payment**"); and

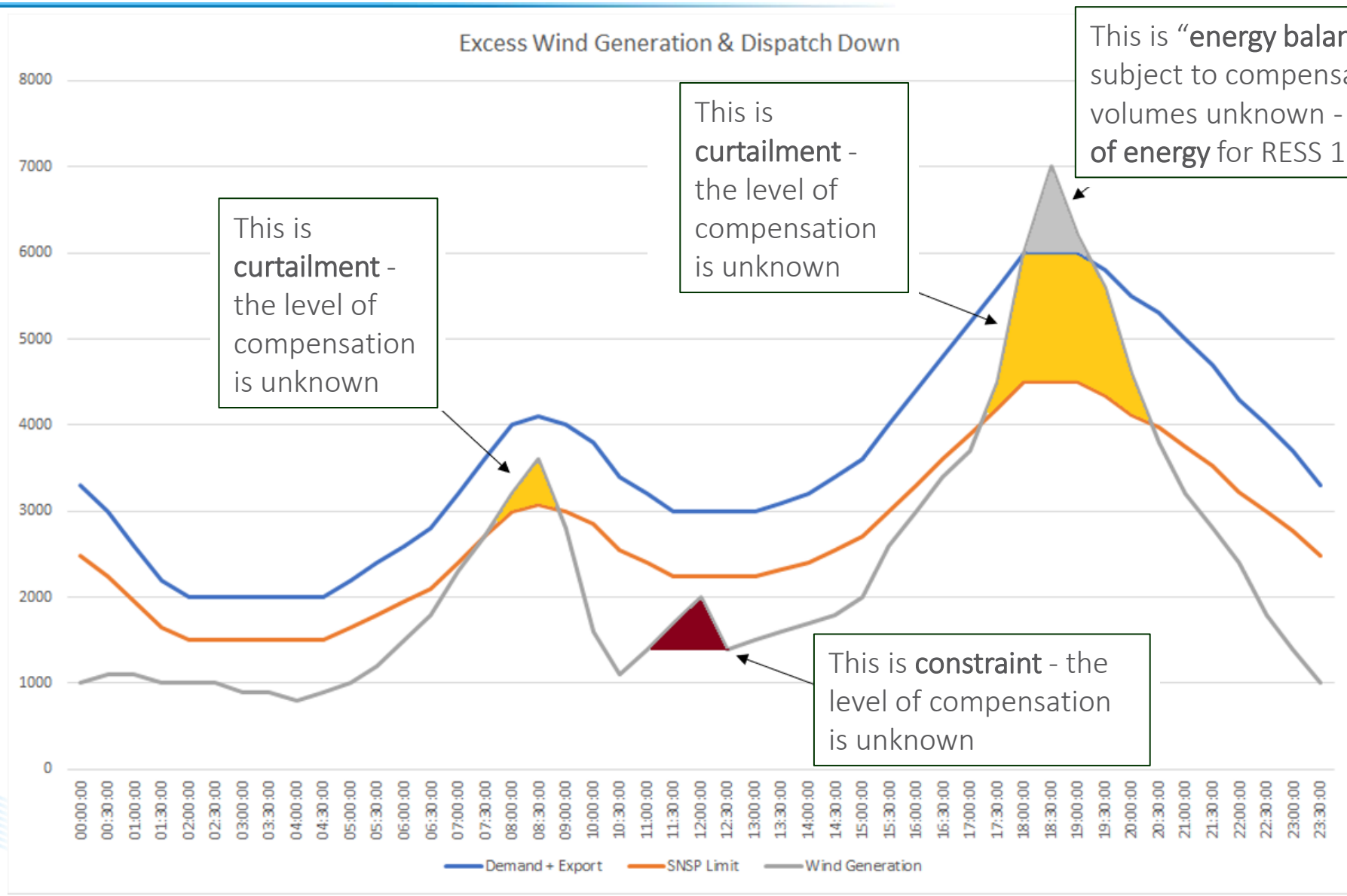
RESS T&Cs offers no protection for Negative Price hours


SEM committee
Single Electricity Market (SEM)
Implementation of Regulation 2019/943 in relation to Dispatch and Redispatch
SEM-20-028
27 April 2020


IWEA and NIRIG Response to the SEM Committee's Consultation Paper on the Implementation of Regulation 2019/943 in relation to Dispatch and Redispatch (SEM-20-028)
June 2020

SEM Committee consultation on dispatch down critical next step for RESS projects

# CEP Article 12 – Energy Balancing vs. Re-dispatch




This is "**energy balancing**" - not subject to compensation and volumes unknown - possibly **7-10% of energy** for RESS 1 projects by 2030

This is **curtailment** - the level of compensation is unknown

This is **curtailment** - the level of compensation is unknown

This is **constraint** - the level of compensation is unknown

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