

Falck Renewables @ *Eolica Y mercado*

MARCH 2022

Falck experience on renewable support mechanisms across Europe

United Kingdom (UK)

- Since 2015: auctions for 15-y CfD contracts*:
 - 1° round 2015: Pot1+ Pot2
 - 2° round 2017: Pot2
 - 3° round 2019: Pot2
 - 4° round 2022: Pot1+ Pot2 + Pot3
- 2002-2017: **Renewable Obligation scheme (ROC)**, for 20 years.

France (FR)





- Since 2016: auctions for 20-y CfD contracts ("**Complement de remuneration**"). More auction rounds to come in the next years.
- 2001-2016: **20-y FiT contracts**

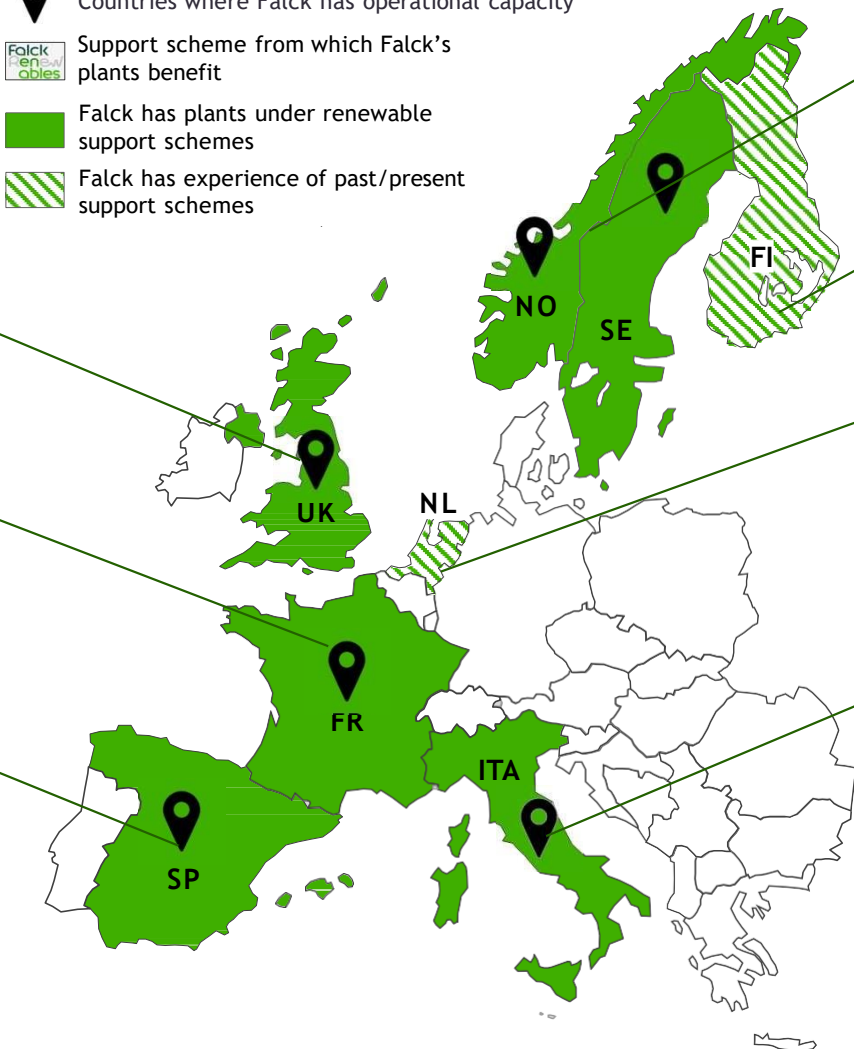
Spain (SP)

- 2021-2025: **Auctions for 12-year CfD contracts** with partial exposure to market prices.
- 2013-2017: **Régimen Retributivo Específico** (Ro + Rinv).
- 2007-2012: **Régimen Especial**, in the form of a FiT.

*Note For UK

- Pot 1= Established technologies, such as onshore wind and solar.
- Pot 2 = Less established technologies, such as floating offshore wind and biomass CHP.
- Pot 3 = Offshore wind.

-  Countries where Falck has operational capacity
-  Support scheme from which Falck's plants benefit
-  Falck has plants under renewable support schemes
-  Falck has experience of past/present support schemes



Norway-Sweden (NO-SE)

- El-cert scheme closed to new applicants starting from Jan 2022.
- Until end of 2021: **15-y El-Certificate scheme**.

Finland (FI)

- Currently no plan for further auctions.
- In 2018: technology-neutral auction for 12-y FiP contracts. Only wind awarded.
- Before 2018: FiT for wind plants.

Netherlands (NL)

- Since 2020: SDE++ auctions open to renewable technologies and other tech that reduce CO₂ emissions. 15-y FiP contracts awarded.
- 2012-2020: SDE+ auctions both for solar and wind for 15-y FiP contracts.

Italy (IT)

- PV:
- **Conto energia** (20-y FiP contracts)
 - Auctions for 20-y CfD (new plants)

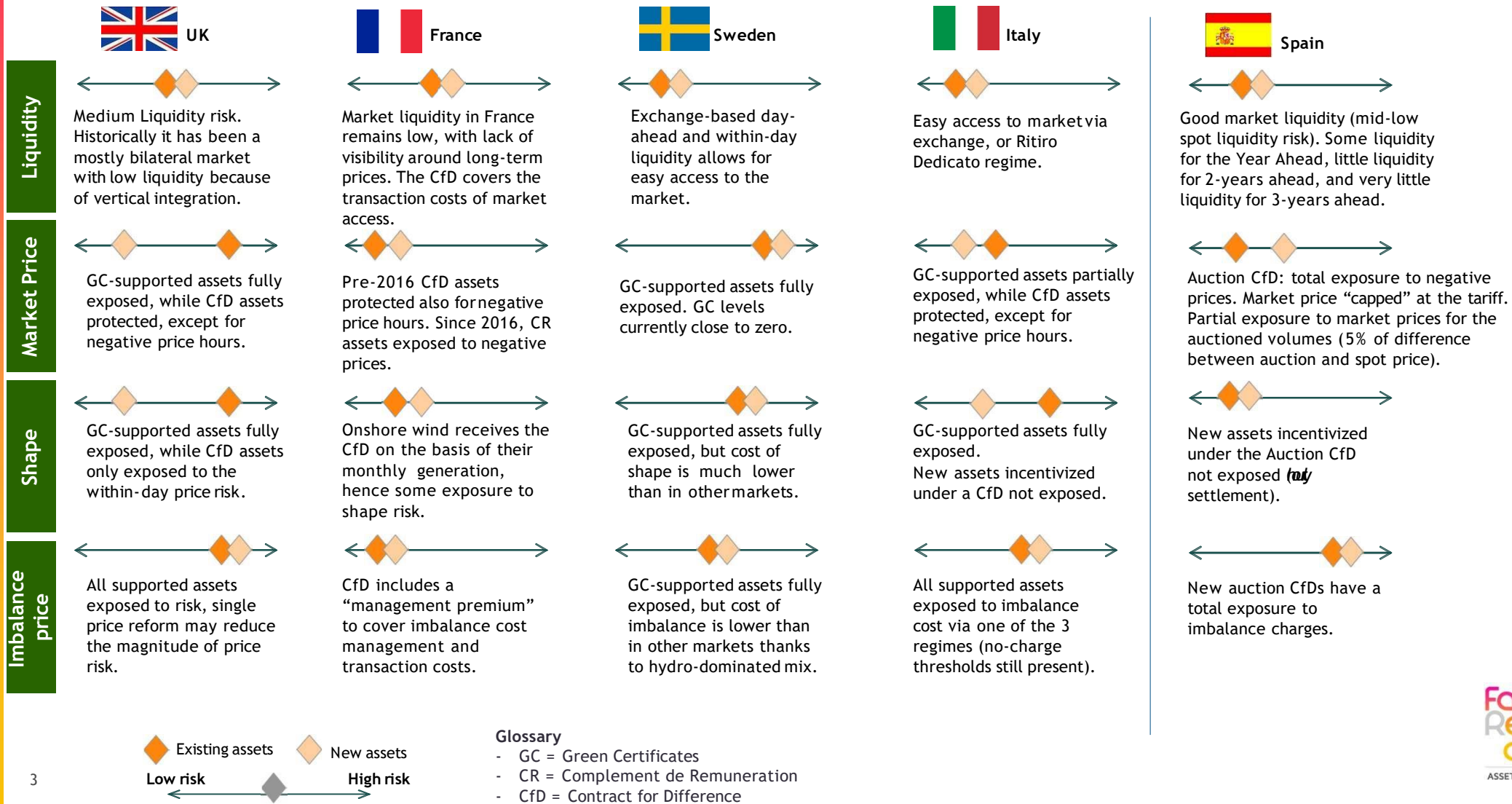
Wind:

- **Top-up tariff** for existing plants (before 2016 known as **Green Certificates**) for 15 years.
- Auctions for 20-y CfD (new plants)

Glossary

- FiP = Feed-in-Premium
- FiT = Feed-in-Tariff
- CfD = Contract for Difference

How are RES price-related risks covered by support schemes or market design?

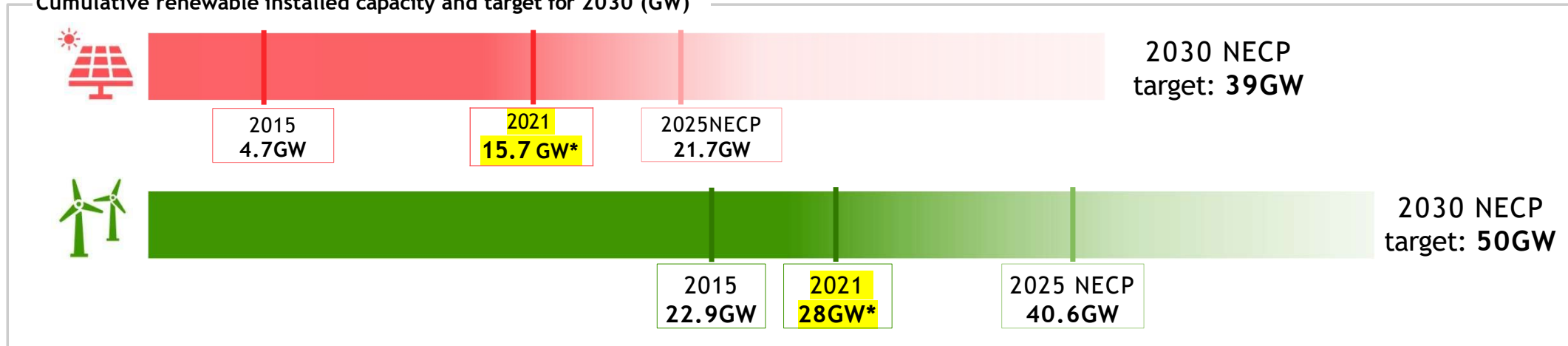


Spanish NECP target of 89 GW (39 GW Solar and 50 GW Wind)

At end of 2021 Wind+Solar reached ~ 44 GW (15.7GW Solar) and Wind (28GW Wind). 45GW are missing to reach the target but support has been set for only 18.5GW.

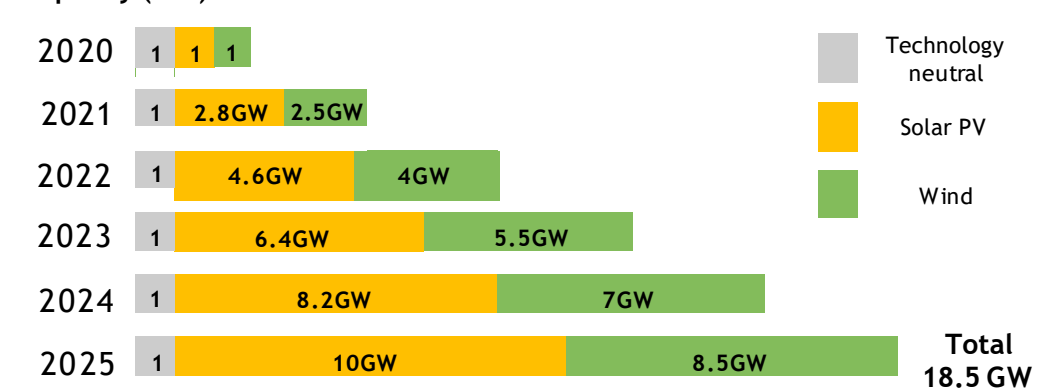


Cumulative renewable installed capacity and target for 2030 (GW)



- Based on the current auction calendar, a total of **10GW of Solar PV** and **8.5GW** of wind capacity will be awarded support.
- Of the additional 23 GW of Solar PV and 22GW wind capacity needed to reach the 2030 NEPC target, **more than 26GW would be left completely exposed to market volatility** and would therefore go merchant or negotiate PPAs.

Renewable auction calendar: tech neutral, solar and wind cumulative capacity (GW)



4 Source: Spanish «National Energy and Climate plan», Jan 2020; IEA Renewables 2021 data explorer: *Data for capacity installed in 2021 are estimates from IEA, based on the available data on 1 Dec 21.

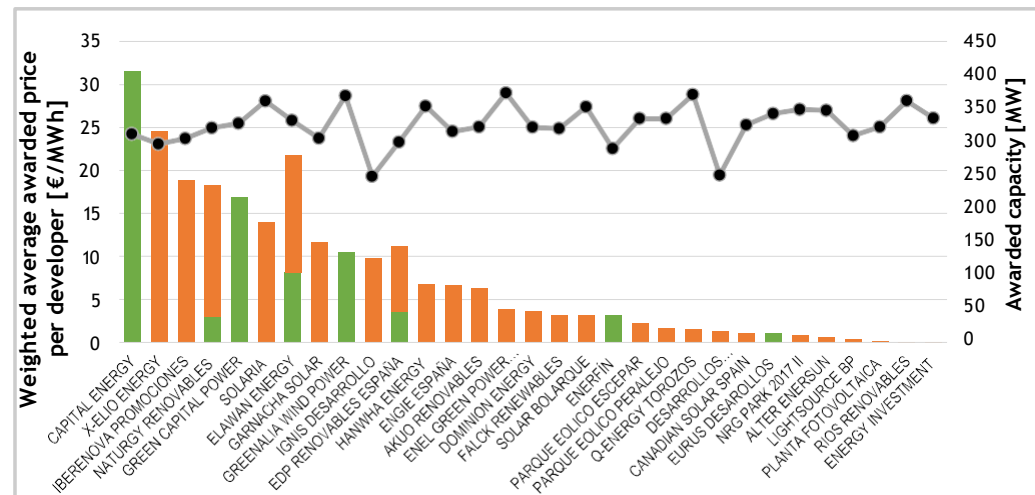
Spanish renewable auctions: Oversubscription and low prices show high interest, but permitting queue and market uncertainty to be addressed.



- ❖ Both the 2020 and 2021 auctions were **oversubscribed**. However, the 2021 auction saw the “accelerated quota” not met (22MW bid compared to the 600MW auctioned capacity) possibly due to **delivery deadlines** and large **queue of projects** waiting for permits.
- ❖ **Very low prices** awarded in the **first** auction both to wind and solar, signaling interest from RES developers.
- ❖ **Far less participation** registered in the **second** auction, after low awarded price of the 2020 one and publication of Royal Decree 17/2021.
- ❖ Despite participation open to **co-located storage**, no interest registered. This is possibly due to quite **strict constraints** and **limited support levels**.
- ❖ **Some players** have declared that the **uncertainty** rising in the Spanish market, is causing them to re-evaluate their investment strategy, especially for PV that is seeing high capacity granted access permits and also rising material cost.

2020 Auction: Held on 26/01/21 - 3GW capacity awarded

- **Solar PV: 2GW** - weighted average tariff **€24.5/MWh**
- **Wind: 1GW** - weighted average tariff **€25.3/MWh**
- **Oversubscribed**, with almost **10GW** of bids received



5 Source: BOE Spain

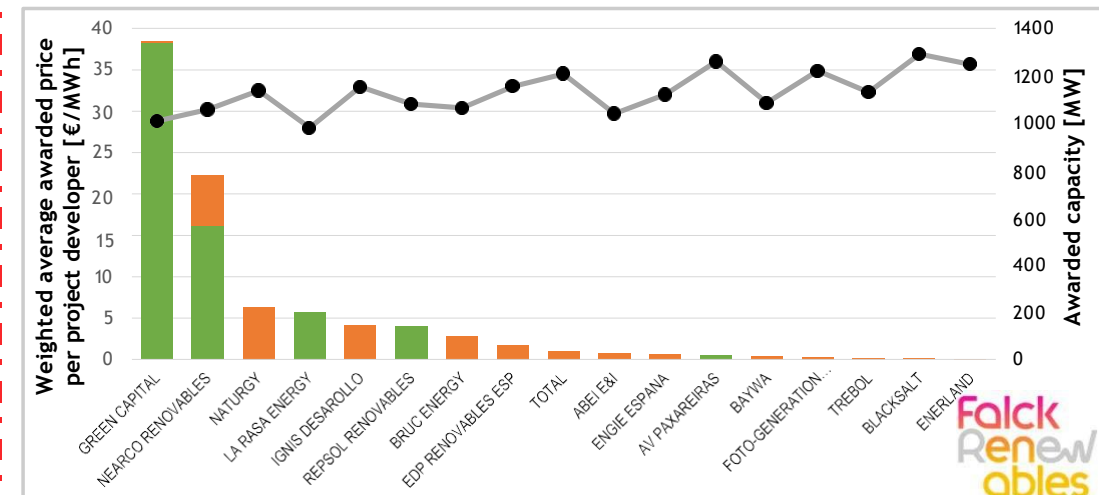
Onshore Wind Capacity MW

PV Solar Capacity MW

Weighted average price €/MWh

2021 Auction: Held on 19/10/21 - 3.1GW capacity awarded

- **Solar PV: 0.86GW** - weighted average tariff **€31.7/MWh**
- **Wind: 2.26GW** - weighted average tariff **€30.2/MWh**
- **Oversubscribed**, with almost **5.1GW** of bids received.



Falck
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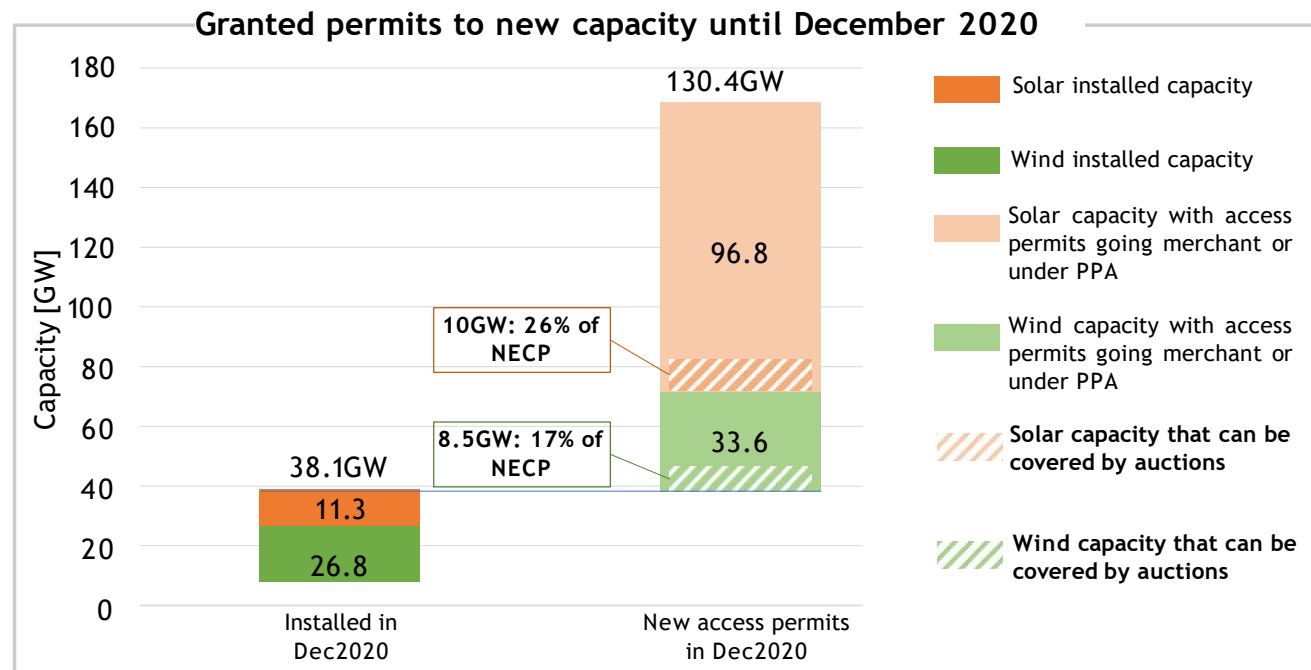
ASSET DEVELOPMENT

What is creating uncertainty in the Spanish renewables market? (1/2)

Significant in development capacity (3 times the capacity in operation), slowing down access permits process.



- ❖ How can the permitting queue be speeded up, reducing speculative practices?
- ❖ Will the auction capacity be enough to support adequate RES growth to reach NECP target?




- By the end of 2020:
 - **38.1GW** of wind and solar **capacity installed**;
 - Additional **130.4GW** **granted** some form of **permits**.
 - **118.3GW** with **denied permits**: in part likely to try again to obtain access permits by changing location, slowing down furtherly the permitting queue.
- “Permitting queue” **clogged up**.
- Resulting **partially permitted capacity** of **130GW** is much **higher than the NECP* target** of 89GW installed capacity for 2030.
- Out of this partially permitted capacity of 130 GW, only **18.5GW** (10GW Solar and 8.5GW Onshore wind) would be **awarded contracts** in the **auctions planned until 2025**. The remaining **112GW** would have to become operational by going **merchant** or by signing a **PPA agreement**.

What is creating uncertainty in the Spanish renewables market? (2/2)

Regulatory uncertainty: Royal Decree RDL 23/2021 reducing revenues of RES plants.



- ❖ What signal does this Royal Decree give to renewable generators?
- ❖ How has affected the participation in the second RES auction and the overall sentiment towards Spanish market?

Spanish monthly average spot price			Over 2021, electricity prices in the various European markets have seen an unprecedented rally due to record high gas and EUA prices.
Jan 2021 60.2€ /MWh	Dec 2021 239.2€ /MWh		Spanish Government issues different measures through the royal decree RDL 17/2021 to dampen the steep rise in electricity prices.

The Royal Decree RD-Law 23/2021 has integrated and partially modified RD-Law 17/2021, and has been published at the end of October, effective from September 16th 2021.

Measure affecting non-emitting power generators:



- **Reduction in revenues proportional to the rise in gas prices**, corrected by the hours in which combined cycles mark the price or offer $\pm 10\%$ of the marginal price set by another technology.
- Period of application: **16/09/2021 to 31/03/2022**.
- Non-emitting facility **exempted** from the revenue reduction under certain conditions when hedging contracts are in place.

Thank you
