

Spanish wholesale price, PV and wind capture price projections (2021 – 2050)

**COVID-19 has had a profound impact on the Spanish electricity market. Electricity demand, along with gas, CO2 and baseload pool prices dropped sharply, but there are signs of a recovery.**

**Is demand expected to return to pre-COVID-19 levels?**

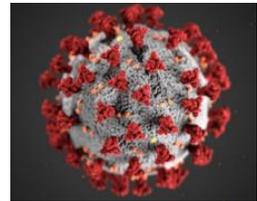
**What measures can be taken to protect against cannibalisation risk?**

**What will be the impact of the January 2021 auctions on the market?**

**Will Spain need to re-evaluate its NECP targets for PV and wind by 2030?**

**Will the market achieve the decarbonisation targets without additional support?**

**Will the drop in demand rekindle the Tariff Deficit and risk of regulatory intervention?**



In this 170-page report, EKON provides a one-stop shop for investors looking to understand the risks and opportunities of investing, operating or developing wind and PV assets in Spain.

The report contains our independent price forecasts (wholesale price and wind / PV captured price forecasts under 3 scenarios), as well as our expert opinion on the Spanish energy market (regulatory and market risk analysis) and its likely future development post COVID-19.

**Our bankable reports and price projections have been used by leading utilities, infrastructure funds, lenders and independent promoters in investment decision processes, negotiating debt or re-financing as well as in commercial and investor/state arbitrations.**

### Key Report take-aways

- Spanish pool price projections / wind and PV captured prices
- Analysis of key drivers (Market /Regulatory)
- Regulatory and Market risk analysis (economic & energy sector indicators)
- Risk & Revenue analysis by asset type: operational or developing.

### NECP targets post-COVID-19

Lock-down in Spain led to an unprecedented drop in demand which coupled with low fuel prices caused the baseload pool price to drop significantly to prices that are below the LCOE of both wind and PV, with prices recovering shortly after.

This coming at a time when the Government, via the NECP (National Energy and Climate Plan), is targeting 32 GW of new capacity of PV and wind by 2030.

The impact of COVID-19 and the recovery of the Spanish electricity market are analyzed in this report.

Our view is that prices will recover, and renewable deployment will continue, albeit at a slightly slower pace.

### The Capture Price Spread

We identify the difference between the baseload pool price and the dispatch weighted (or realized) spot market price for wind and PV.

The report sheds light on the cannibalization effect (an increase in negative capture price spread), but this will be contained by the LCOE of PV and wind.

### Government backed auctions

The government organized the first of many auctions in January 2021 with 1 GW being awarded to wind and 2 GW to Solar PV. Within the report we present our analysis of the results of the 2021 auction on the outlook for renewables in Spain.

### Regulatory uncertainties

RDL 17/2019 / Order TED 171/2020 (RR for 2nd regulatory period) and expected regulatory developments (new access and connection rules, NECP, etc.) are analyzed in the report. Also, we will look at the risk of a recurring Tariff Deficit given the link between the deficit and an increase in regulatory risk in Spain.

### Bespoke services

As regulation and market experts, we have a broad understanding of business requirements to deliver bankable reports and models, with the option of providing the following bespoke services:

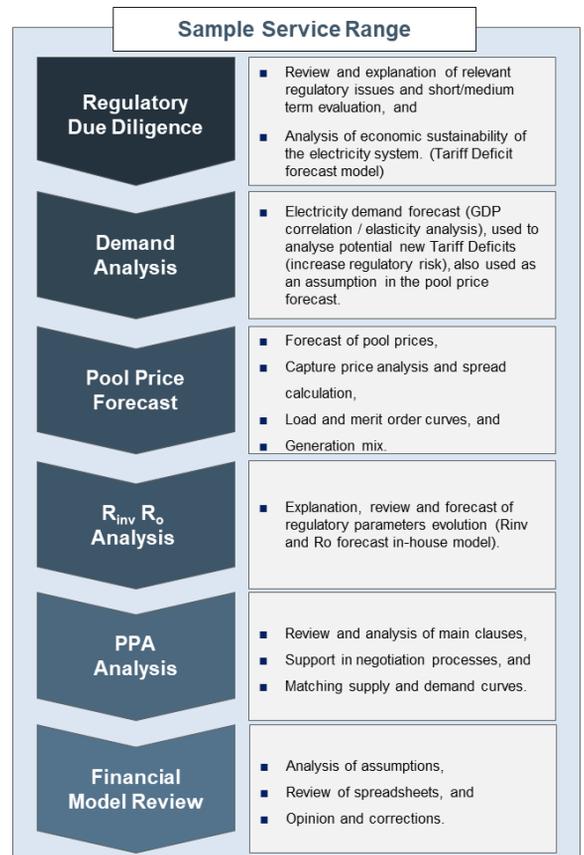
- Tailored price sensitivities using Client's assumptions
- Portfolio and plant specific assessments to determine capture price
- "Lenders case" analysis based on Low Risk market case

**PMM Power Market Model:** Our pool price / capture price model is based on a deterministic dynamic linear programming approach with the objective of minimizing the present value of fuel, maintenance, and capital investment costs across the whole forecast horizon. Resulting prices, dispatch, fuel use, and capacity expansion are optimal for each set of input parameters.



# Our Philosophy

- Work on complex and large transactions, offering a full range of services from a high-level red-flag report, all the way through to complete advisory services to buyers and sellers of assets or energy related businesses.
- Leverage on our experience in both conventional (coal, CCGT, cogeneration and nuclear) and RES (hydro, wind, solar) generation, electricity and gas infrastructure (electricity distribution, gas pipelines and regasification terminals), PPAs (power purchase agreements) and GSAs (gas supply agreements).
- Offer in-house models, internally developed, for long term (>25 years) pool price projections in order to be able to provide a full scope of services on an asset by asset or a portfolio basis, or an entire business.
- Provide robust and traceable financial models that can be easily audited but also allow for complex valuations.
- Work closely with the client and their financial, legal and technical advisors in preparing the deal or assisting in the negotiation phase.



## Our Services

EKON carries out market assessment and screening as well as economic due diligence involving market price forecasts, review of fuel supply, O&M and other contracts, operating margins and financial loans contracts review.

EKON is specialized in arbitration at an international level. EKON, as an independent adviser and expert witness, has participated in some of the renewable arbitration claims from financial investors against the Spanish State.



EKON offers analysis, risk assessment and contract structuring advice to buyers or sellers of energy under Power Purchase Agreement ("PPA"). Our in-house electricity price forecasts from the Power Market Model are central to our recommendation on pricing PPAs.

EKON works on complex and large transactions, offering a full array of services that can range from a high level red-flag report, to complete advisory services to buyers and sellers of assets or energy related businesses.

EKON Strategy Consulting is based in Madrid and provides key services in the energy sector that cover a broad range of strategic and operational services for our clients (banks, utilities, IPPs and governmental agencies and authorities).

EKON's regulatory and market due diligence reports (including our price projections) have been relied upon by leading banks, utilities and infrastructure funds when investing and/or seeking finance for large energy investments. Our experts have also participated in international arbitration and investor/state disputes.

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