



# EY GB Power Market Model

# EY GB Power Market Model

The outlook for the electricity sector is increasingly uncertain, with the energy transition towards a net-zero future underway. The pace and means of change are unknown and new technologies and business models are evolving quickly. Thus, it has never been more important to be able to forecast the future of the sector and to understand the implications of different scenarios.

With the goal to improve forecasting accuracy, EY is pleased to be launching its proprietary power market model.

## About the model

The model uses PLEXOS® software to simulate the dispatch decisions and market prices out to 2050. It takes a number of inputs drawn from a range of data sources (including DUKES, FES, TEC and the ITEM Club) to define the market context. It then applies linear optimisation techniques to forecast dispatch decisions and market prices over either the short term or the long term.

The model features several scenarios, including different assumptions around commodity prices, decarbonisation trajectories and the regulatory framework, to provide a central, low and high view of market power prices.

## Why use the model?

- ▶ Model accuracy
- ▶ Not a 'black box'
- ▶ Team experience
- ▶ Supports project finance
- ▶ Better user experience
- ▶ Competitive fees
- ▶ An integrated one-stop shop experience

The ability to forecast and analyse how power markets may evolve is crucial to understanding risks and opportunities relating to generation assets, network investments and power use.



## Factors the model considers

### Macroeconomic drivers

Oil, gas, coal prices, GDP growth

### Environmental drivers

Emissions (CO<sub>2</sub>, SO<sub>x</sub>, NO<sub>x</sub>)

### Energy transition

Net zero targets, wind and solar data

### Demand forecasts

Energy efficiency, EVs, heating

### Regulatory drivers

CM and CfD, Brexit, network charges

### Commercial drivers

Hurdle rates, technology costs

### Power prices

Time and volume-weighted prices

### Dispatch decisions

Load factors and dispatch optimisation

### Changing energy mix

Plant retirements and new build

### Stochastic analysis

Sensitivities to climate risk

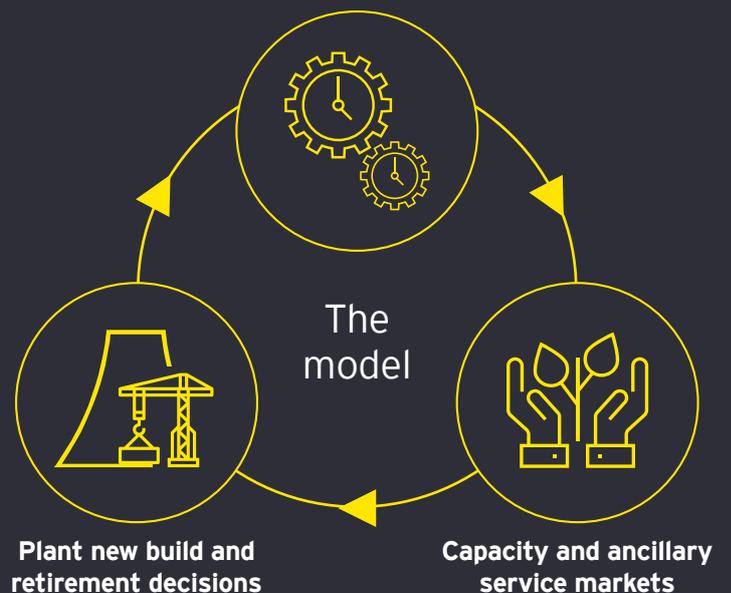
### Financial analysis

Impacts on plant valuations

### Policy impact assessment

Societal NPV of policy changes

## Short-term plant dispatch optimisation



# What can the EY GB Power Market Model be used for?

The energy sector is changing rapidly as technology improves, customer preferences change and the drive for decarbonisation accelerates. The ability to forecast and analyse how power markets may evolve is crucial to understanding risks and opportunities relating to generation assets, network investments and power use.

It is also crucial to understanding the implications of changes in government policy or economic regulation, such as changes to carbon prices, renewable subsidies, capacity markets or network charges. Power market forecasting is critical and seamlessly integrated with the services EY teams provide.

---

## Transaction due diligence

Forecasting power and ancillary service prices, generation asset utilisation rates, revenues and profitability for conventional generators and renewables as an input to investment decisions relating to both greenfield and brownfield assets

---

## Energy trading

Supporting decisions around hedging power price risk, such as by informing decisions on a reasonable long-term corporate PPA price for subsidy-free renewables

---

## Government policy and economic regulation

Supporting policy development by assessing the impacts of regulatory changes on societal outcomes (e.g. consumer bills, carbon emissions)

---

## Valuations and audit support

Supporting clients to value a portfolio of power generation assets and supporting EY audits in checking the robustness of client power market forecasts

---

## Energy transition and strategy

Helping quantify the impact of the energy transition under a wide range of scenarios on the generation mix, price of electricity and on the economy generally



# What is unique about the EY GB Power Market Model?

**The model provides a market-leading capability to better support EY clients:**

## Model accuracy

The EY GB Power Market Model takes a robust and quality-assured approach to power price forecasting, using market-leading PLEXOS® software. The model leverages the wide breadth of knowledge and access to information from across EY to inform the model assumptions and inputs. The model also draws on macroeconomic forecasts from ITEM Club, the only macroeconomic forecasting tool that uses the same model as HM Treasury.

## Not a 'black box'

EY modellers will be available to meet you and take you through the assumptions, inputs and results in detail to ensure the outputs are tailored to your requirements.

## Team experience

The team is drawn from BEIS and Ofgem, bringing deep insight into power markets and the approach to power market modelling in government.

## Supports project finance

EY's reputation for robust analysis and power sector knowledge means you, and providers of finance, can have greater confidence in EY forecasts.

## Better user experience

EY will be offering access to the forecasts via a customised power market modelling web portal. This will help enable users to easily access our key forecasts, inputs and assumptions via a tablet or portable device.

## Competitive fees

The EY power market model products and services, including a quarterly subscription based service and bespoke transaction support, will be competitively priced compared with existing providers of these services.

## An integrated one-stop shop experience

Customers will benefit from the unrivalled breadth of services and detailed service capability. We will be able to seamlessly combine insights from the power modelling into wider EY services. EY teams supporting on transactions, M&A, taxation and valuations will have access to EY power market modelling capability, allowing deeper insight into market and regulatory developments. EY clients of transaction support services will have access to a broadly integrated suite of due diligence from one place.

**Customers will benefit from the unrivalled breadth of EY services and detailed service capability.**

## The EY GB Power Market Modelling Team:



**Anthony Legg**  
Head of Power & Utilities  
Economic Advisory  
alegg@uk.ey.com  
+44 7753 300 520



**Anthony Tricot**  
Assistant Director  
Economic Advisory  
atricot@uk.ey.com  
+44 20 7951 9978



**Julian Roberts**  
Manager  
Economic Advisory  
julian.roberts@uk.ey.com  
+44 7824 084 806



**Johannes Pelkonen**  
Manager  
Economic Advisory  
johannes.pelkonen@uk.ey.com  
+44 20 7760 5783

## Other key EY contacts:



**Sunny Aurora**  
Transaction Diligence  
saurora@uk.ey.com  
+44 20 7951 6009



**Ben Warren**  
Corporate Finance  
bwarren@uk.ey.com  
+44 20 7951 6024



**Josephine Bush**  
Tax Leader  
International Tax and Transaction Services  
jbush1@uk.ey.com  
+44 117 981 2071



**Mike Evans**  
Valuations  
mevans5@uk.ey.com  
+44 20 7951 1346

## EY | Assurance | Tax | Transactions | Advisory

### About EY

EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. Information about how EY collects and uses personal data and a description of the rights individuals have under data protection legislation are available via [ey.com/privacy](https://ey.com/privacy). For more information about our organization, please visit [ey.com](https://ey.com).

### Ernst & Young LLP

The UK firm Ernst & Young LLP is a limited liability partnership registered in England and Wales with registered number OC300001 and is a member firm of Ernst & Young Global Limited.

Ernst & Young LLP, 1 More London Place, London, SE1 2AF.

© 2020 Ernst & Young LLP. Published in the UK.

All Rights Reserved.

ED None

EYG no. 000070-20Gbl



In line with EY's commitment to minimize its impact on the environment, this document has been printed on paper with a high recycled content.

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax or other professional advice. Please refer to your advisors for specific advice.

[ey.com/uk](https://ey.com/uk)