



**IPA**  
Energy + Water Economics



## PowerView

The Energy Price Forecast Service

[www.ipaeconomics.com](http://www.ipaeconomics.com)

IPA's PowerView is the energy price forecasting service to support and inform your strategic decision making, helping you create value from the GB energy markets. PowerView is a comprehensive quarterly publication service, providing analysis of energy and environmental market movements, commentary on political and regulatory developments, and detailed modelling of their impact on power prices. Forecasts are provided under three consistent scenarios over a 25 year forecast horizon.

PowerView utilises IPA's proprietary power system model ECLIPSE (Emissions Constraints and Policy Interactions in Power System Economics). ECLIPSE is a powerful modelling tool specifically designed to capture the complexities of today's power markets.

ECLIPSE captures the interactions between the different economic drivers (commodity prices, emissions costs, plant investments) and political drivers (security of supply, emissions, renewable generation) within a single consistent framework.

PowerView provides price forecasts covering all of the energy commodities, with detailed analysis of the following markets:

- GB Wholesale Power Prices;
- Gas (NBP) Prices;
- Carbon (EU ETS) Prices; and
- Renewable Obligation Certificate (ROC) Prices.

# PowerView: Creating Value from the Future

## Power Price Forecasts

Detailed GB power price forecasts, down to a monthly EFA block granularity. Discussion of price drivers over the forecast horizon, including capacity evolution, new entry costs of different technologies, plant profitability, security of supply and the costs of system balancing.

## Gas Market Modelling

Detailed modelling and analysis of the gas markets and price drivers over the forecast horizon including gas supply and demand, gas demand from the power sector and progress of gas infrastructure projects. Modelling of gas pipeline and LNG imports, including analysis of European and Henry Hub gas pricing and discussion of oil price linkages.

## Carbon Market Modelling

Analysis of carbon prices under the EU ETS, including detailed analysis of National Allocation Plans, verified emissions, reserves, and imported credits. Modelling of future carbon prices over the forecast horizon using abatement curves derived from PRIMES and detailed scenarios covering future targets and levels of domestic action. Detailed analysis of the level of power sector free allocations and forecasts of future allocation levels.

## Oil and Coal Price Scenarios

High level analysis of oil and coal market prices and comparison of forecasts from external institutions. Provision of oil, coal and oil product price forecasts and delivery costs.

## Emissions Restrictions

Analysis of developments under the Large Combustion Plant Directive (LCPD) and Integrated Pollution Prevention and Control (IPPC) regulations covering Sulphur Dioxide and Nitrous Oxide emissions. Analysis of the market response to emissions restrictions and the impact on power station running. Detailed modelling of restrictions and assumptions on future directives.

## ROC Forecasts

Detailed ROC (Renewable Obligation Certificate) price forecasts, including potential technology banding of the obligation, modelling of headroom and other price mechanisms, analysis of technology and capacity development and progress toward targets.

## Generation Capacity

Detailed analysis of all generation and interconnection investments, including upgrades, life-extensions, emissions abatement and new capacity construction. Modelled capacity development over the forecast horizon and detailed discussion of capacity drivers and assumptions.

## Renewable Capacity

Detailed analysis of renewable generation developments, including status of all current projects, likely completion rates given planning and connection constraints, assessment of economic resource and maximum potential development over the forecast horizon.

## Demand Scenarios

High level analysis of demand projections over the forecast horizon, including comparison of demand forecasts from a number of different institutions. Description of three demand scenarios investigating base-load and peak growth and the impact upon system load factor. Analysis of short term price sensitive demand elasticity.

## Traded Market Summary

Summary of traded energy market price movements and key market, regulatory and political developments.

## Data Appendices

All key results and assumptions are provided as appendices to the main report, including commodity and carbon price forecasts and power and ROC price forecasts.



## ECLIPSE

The power industry is driven both by the details of plant operation and despatch but also by wider macro-economics, market and regulatory developments and governmental policy all of which have a key role in shaping the future of the industry.

PowerView is based on IPA's proprietary macro-economic model ECLIPSE (Emissions Constraints and Policy Interactions in Power System Economics). ECLIPSE uses a Mathematical Programming approach to model the fundamental economics of power markets, allowing for the interaction with political, environmental and regulatory developments.

ECLIPSE captures the complexity of the power markets in terms of contracts, carbon pricing, emissions constraints, renewable obligation certificates, security of supply and the evolution of generation capacity within a single consistent framework.

### ECLIPSE key features:

#### Despatch

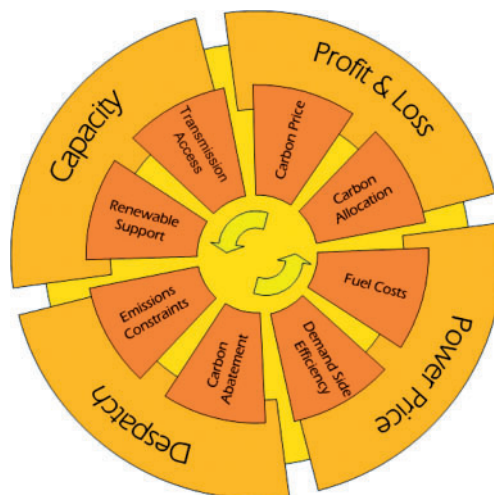
Despatch of all major power stations down to an hourly granularity. Accurate modelling of different generation technologies, including thermal plant, plant co-fired with biomass, hydro and other renewable schemes, and modelling of commercial constraints associated with off-take and fuel contracts. ECLIPSE utilises detailed information on fixed and variable costs, technical constraints and efficiencies for each power station.

#### Carbon Pricing

The European Carbon Trading Scheme (EU ETS) has a significant effect on generator economics. ECLIPSE models both the impact of carbon pricing on station running and power prices as well as the impact of free allocations on station profitability. PowerView utilises IPA's carbon price modelling to inform assumptions about future carbon market prices and free allocations at installation level.

#### Emission Limits

Power plants are subject to emissions restrictions under the LCPD and IPPC which limit the volume and rate of emission of certain pollutants. ECLIPSE represents these emissions limits, and can simulate their impact on plant economics and power pricing. The despatch of coal plant is optimised over the year to ensure maximised profitability over restricted running hours.



#### Renewables Obligation (RO)

The Renewables Obligation is the main renewables support mechanism in Great Britain. ECLIPSE provides detailed forecasts of ROC prices and represents the complexities of the ROC price mechanism. ECLIPSE models the non-linear price curve and the interaction with the despatch of controllable renewables such as biomass and co-fired coal. ECLIPSE captures RO restrictions (such as applied to co-firing), technology banding, headroom, and the proposed ROC over-supply price mechanism.

#### Capacity

ECLIPSE models the economically optimal development of capacity over the forecast horizon. It calculates optimal capacity build rates over the range of generation technologies dependent upon capital and operating costs, fuel, carbon and ROC prices. Build rates are constrained by assumptions on the ability of the industry to develop, finance, build and connect generation. Renewable technologies are also subject to economic resource constraints. Capacity costs are subject to cost curves, reflecting reducing capacity costs for nascent technologies, as well as the quality of the available resource for renewable generation.



## PowerView Clients

PowerView clients include Banks, Investors, Developers, Regulators, Utilities, Traders, Industrial Consumers, Councils and Government and non-Government Bodies.

PowerView has been used to inform the development of strategy, value a wide range of assets, support investment decisions and inform policy makers.

PowerView projects include:

### Asset Valuation

Support for valuation of a wide range of assets including Coal generation, CCGT, On and Offshore Wind, Biomass CHP and Interconnector assets.

### Financing

Support for obtaining and optimising financing for a number of different projects such as CCGT, wind and tidal, including development of the Preliminary Information Memorandum.

### Contract Valuation

Valuation of fuel and off-take contracts and monitoring of contract risk.

### Strategy Optimisation

Working with companies to inform on-going strategy development in terms of asset investments and optimisation of value using existing assets.

### Retail Contracts

Assessment of retail contracts, optimising value of embedded generation and support for regulators in defining price controls.

### Policy Development

Support for Government policy makers, assessing a number of changes to the Renewable Obligation and designing the Phase II allocation methodology under the EU ETS.

## Subscribing

We work closely with our clients to ensure that PowerView supports companies developing a proactive approach to market developments, and developing strategies to maximise the value that they can extract from the power markets.

PowerView can be customised to meet clients requirements. We can investigate a range of scenarios and sensitivities, to identify and quantify the impact of specific opportunities and risks.

PowerView is published quarterly and can be purchased on a one-off or subscription basis.

## IPA Services

### Due Diligence

Provision of due diligence services for major asset acquisitions, including development or audit of asset models, risk analysis and advice on financing.

### Expert Witness

Provision of expert witness services for contract disputes, regulatory decisions and public enquiries.

### Project Development

Provision of advice and support to project developers, from initial project assessment to support in developing full feasibility studies.

### Contract Negotiation

Support for contract negotiations, from supply and off-take contracts to regulated price controls.

### Energy Policy and Regulation

IPA have detailed knowledge of developing government policy, regulations, and energy market rules; and so can advise on the impacts of policy developments and provide lobbying support.

### Strategy

IPA can support in the development of company strategy providing quantitative and qualitative analysis to support strategy development.



## Contact Details

For more information please contact **Nikhil Venkateswaran**

41 Manor Place,  
Edinburgh EH3 7EB, Scotland.

T: +44(0) 131 240 0840

F: +44(0) 131 220 6440

E: [nikhil.venkateswaran@ipaeconomics.com](mailto:nikhil.venkateswaran@ipaeconomics.com)

IPA also offer two free monthly publications: 'Review of Ofgem & Government Documents' and 'Monthly Market Data Summary'

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