ICIS Power Index (IPI) methodology

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ICIS is launching the ICIS Power Index (IPI) for the UK with the aim of bringing more transparency to wholesale electricity price movements and trends for UK consumers.

ICIS has been covering the UK power market since 1997, when Heren Energy published its first UK power price assessment, giving the traded market an independent price benchmark. Since then the market has expanded rapidly, both in liquidity and complexity.

Rationale for the IPI

In launching the IPI, ICIS has focused on the two most actively traded seasonal contracts on the UK power market for forward delivery, which together give a quote for a full year. Typically, the price of wholesale power delivered in winter rises to reflect greater demand, before falling in the summer. In showing a full year of delivery, ICIS aims to avoid misrepresenting price trends on the wholesale power market by removing seasonality as a factor.

The IPI focuses on the wholesale portion of UK consumers' electricity bills, reflecting trends in wholesale power market trading that affect the retail price of electricity, both for households and for industrial and commercial customers.

In practice, UK power market participants buy and sell power on the forward market for delivery over a wide range of timescales, and also trade additional power to meet the needs of their specific customer base. This index does not reflect hedging positions for individual companies, or the additional costs companies incur in shaping their energy supply and purchases to meet specific customer demand. These costs include ensuring energy supply during times of peak demand at a more expensive rate, and also adjustment or 'balancing' costs to meet any difference between forecast and actual demand. Consumers' energy bills also include additional fees and charges, on top of the cost of the wholesale energy portion.[1]

Energy suppliers typically expect to pay more for wholesale power than the baseload price alone. ICIS has not factored this into the calculation of the IPI because the amount of power bought to meet higher-priced peak demand varies according to individual energy suppliers' customer bases. The IPI is intended to show trends across the market as a whole, rather than absolute market prices.

ICIS already has two well-established and widely trusted pricing methodologies for the European power markets, published in European Daily Electricity Markets (EDEM) on a daily basis. These are closing price assessments and deals-based indices for a full trading period. These methodologies have helped to inform the IPI, and are not affected by the publication of the IPI.

Frequency of the IPI

The IPI will be published daily, alongside a chart showing one year of historical data, a 20-day rolling average to reflect the recent prevailing trend in the market over the last month of trading sessions, and a linear trend line over the last year.

How the IPI is calculated

The IPI is formed by calculating a volume-weighted average of front-season trades for 'baseload' delivery[2] concluded during the day's trading, and a volume-weighted average of the second-season baseload trades made during the trading session.[3]

These two components of the index are then weighted according to demand varying across winter and summer. More power is typically traded at the higher winter price as a result of greater demand, so this methodology ensures the index is fairly weighted across the delivery year.

ICIS' seasonal weighting averages demand for each season over the last five years to one decimal place, using quarterly demand data from the UK Department of Energy and Climate Change.

Between 2009 and 2013, winter demand (calendar year Q4 and Q1) has accounted for 54.1% of the UK's total over the calendar year, while summer quarters Q2 and Q3 account for 45.9%.

The weighting will be for a rolling five-year period and adjusted in the first half of each calendar year to include the latest year's data, with 30 days' notice given.
The IPI uses all seasonal baseload electricity transactions verified by ICIS in its market reporting business. If there are less than three trades for the front season or the second season on a given day, the value is taken as the midpoint of the price assessment for the relevant contract, as published in its official daily electricity publication European Daily Electricity Markets (EDEM).

The IPI will roll the two seasons used two trading sessions before delivery, as the amount of seasonal contracts trading typically drops dramatically at this point, because companies switch to trading power delivered during the front season in monthly or quarterly contracts. The IPI is intended to be a guide to wholesale power market trends, and is not intended for use in trading or hedging activities.

Notes

1. For a detailed breakdown of average household electricity bills, please see Ofgem's factsheet explaining household energy bills.

   Wholesale energy purchasing strategies vary according to individual companies, and so does the proportion of the wholesale energy cost within individual customers' retail or commercial bills. The UK Department of Energy and Climate Change (DECC) has estimated the average proportion of wholesale energy costs at around one-third of a retail electricity bill across the market as a whole, while supplier costs and margins bring the proportion to more than half of the average bill, based on 2013 figures used in DECC's publication Estimated impacts of energy and climate change policies on energy prices and bills (see Annex D).

2. Baseload delivery means power delivered continuously for 24 hours, seven days a week, for every day of the period named – in this case, the season.

   In practice, additional power is traded for delivery during times of peak demand, which is typically more expensive than power traded for baseload delivery, and this 'peak' power also forms part of wholesale energy costs for energy suppliers.

3. Volume-weighted indices factor the amount traded at a particular price into the index.

   For example, if 100MW is traded in six trades, with five trades of 10MW at £50.00/MWh and one trade of 50MW at £48.00/MWh, a mathematical mean will show £49.66/MWh as the index, but a volume-weighted average will show £49.00/MWh, reflecting that half of the electricity was traded at the lower price.

About ICIS

ICIS publishes price assessments, indices, news and analysis for the oil, gas, liquefied natural gas, carbon, coal and petrochemicals sectors.

Our reports aim to bring liquidity and transparency to power and gas hubs, giving market participants and observers the information they need to closely follow, analyse and evaluate changes in the marketplace.
ICIS has been a trusted source of independent data for two decades, relied on by businesses in the energy industry to support their commercial planning and decision-making.

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