



GB Electricity Market Summary

FOURTH QUARTER 2014
OCT TO DEC

Recorded Levels of GB Generation by Fuel (based upon Ofgem & DECC Embedded Forecasts & FUELHH data):

COAL: 12.3GW (+71%)
WIND: 4.3GW (+97%)

CCGT: 10.0GW (-14%)
INTERCONNECTORS: 2.2GW (-8%)

NUCLEAR: 6.0GW (-9%)
BIOMASS: 1.8GW (+5%)

Contents

Foreword	1
Executive Summary	2
System Summary in Quarter	3
Key Activity	3
Market Prices	3
System Margin & Demand	4
Fuel Mix	6
Activity by Fuel Type	8
Gas Generation	8
Coal Generation	8
Wind Generation	9
Generation by Operator	11
About EnAppSys	13

Foreword

As a specialist information business based in the GB energy markets, EnAppSys provides market participants with online market analysis, reporting and forecasting tools and regular weekly and monthly reports alongside bespoke analysis and consultancy and as part of providing these services the company has built up specialist knowledge in the GB energy market.

In this report, EnAppSys has used the insights that have resulted from this analysis to produce a summary of activity in Q4 2014 for GB as a whole.

The charts in the report are produced from our online data analysis tools which we provide to market participants and stakeholders.

Within this report EnAppSys has focused on the high level activity in this period, specifically that around the overall system activity and the by fuel type activity in the quarter, but with further details included where of particular interest.

The aim is to provide a concise overview of the most important activity noted in the three month period with the aim of the report to provide an understanding of the broad trends and notable events occurring in the period.

The charts included primarily focus on activity within the GB market (excluding Northern Ireland).

Executive Summary

The quarter was most notable for a 71% increase in levels of coal-fired generation with levels of wind generation increasing by 97% following low levels of generation for both fuel types in the previous quarter.

This offset a 14% drop in levels of generation from gas-fired plants and 9% lower levels of generation at nuclear plants in the quarter, despite a large increase in the levels of nuclear output being noted in December.

Numerous wind records were set in the quarter with the most notable records being a new record for wind generation in a single half hour at 9,398MW, a new daily record for wind output at 8,964MW and a new record for the share of generation over a single quarter at 12% of total generation.

Generally the market price of electricity was low in the month, but peaked to a daily average of just below £100/MWh in mid-October as the system margin between supply and demand tightened with some power generators being called on for prices of £550/MWh.

This period of high prices was brief and by the end of the month prices were very low over the Christmas period as the system saw low demand and/or high wind.

In the quarter, the coal fleet provided 33% of the overall generation with gas plants providing 27%, nuclear plants 16%, wind farms 11%, interconnectors 6% and biomass 5%.

System Summary in Quarter

The fourth quarter of 2014 began with high electricity prices and a tight margin between supply and demand as a number of units were yet to return from their periods of maintenance over the summer period.

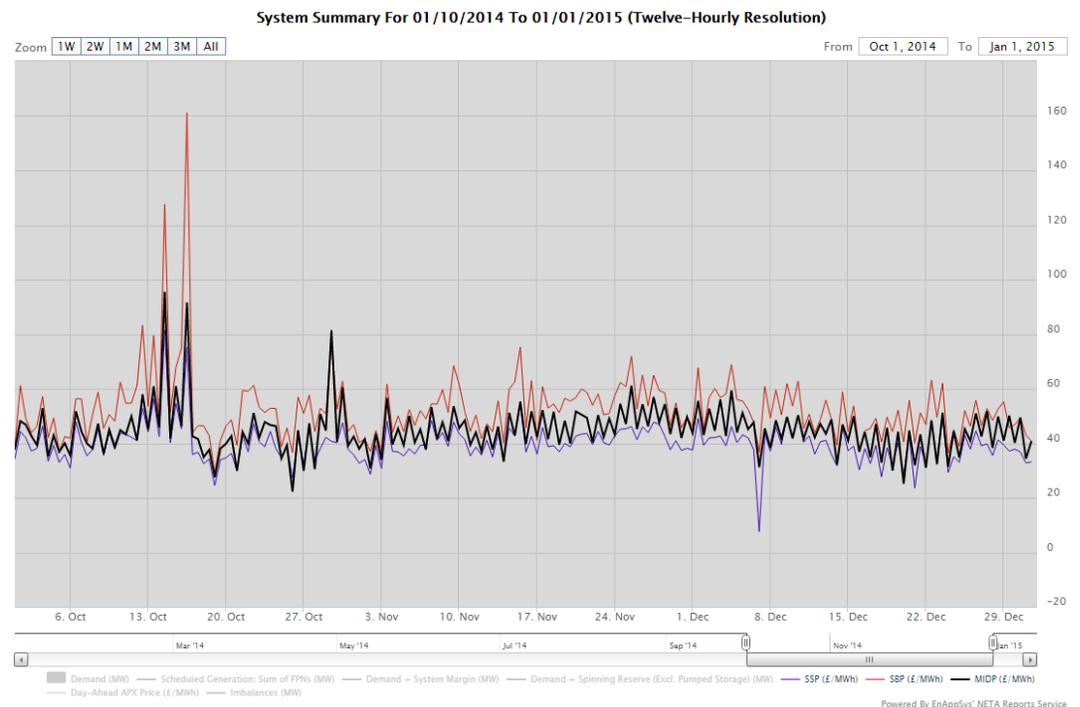
As the quarter progressed and as units returned to service electricity prices generally declined with December seeing a very comfortable system as demand remained low whilst levels of wind generation were high.

Key Activity

Beyond this activity gas prices remained lower than usual, but higher than they had been in the summer months (see previous quarterly reports) with this resulting in lower levels of gas-fired generation. This coupled with coal plants returning to service resulted in a 71% increase in levels of coal-fired generation, with increased levels of nuclear generation towards the end of the period putting further downwards pressure on prices.

Market Prices

A summary of within day market and system prices in the quarter can be seen in the following chart:



In this chart the dark black price is the within day price with the red line being the price a supplier of electricity must pay to 'buy' electricity to make up for any under-delivery of power against their contracted position whilst the purple prices is the price a supplier will be paid to 'sell' any oversupply of electricity against their contracted position.

These last two prices are useful indicators of how over or under supplied the GB Electricity Market is at any given time. Periods where the 'red' line is high corresponds with periods when the system was particularly undersupplied and periods when the purple line is low implies that the system was particularly oversupplied.

In mid-October as the margin between the supply of power and the demand for power was at its tightest the daily price of electricity increased to peak just below £100/MWh with power plants being paid particularly high prices rising as high as £550/MWh to come online and generate at times of system stress.

As units returned from outages this period of high prices quickly passed, having seen a week of particularly high prices, and saw daily average prices of between £40/MWh and £60/MWh for much of the remainder of the quarter, dropping towards the end of the quarter.

This drop came in the second half of December with prices being low over the holiday period as high levels of wind generation and/or low demand resulted in lower prices.

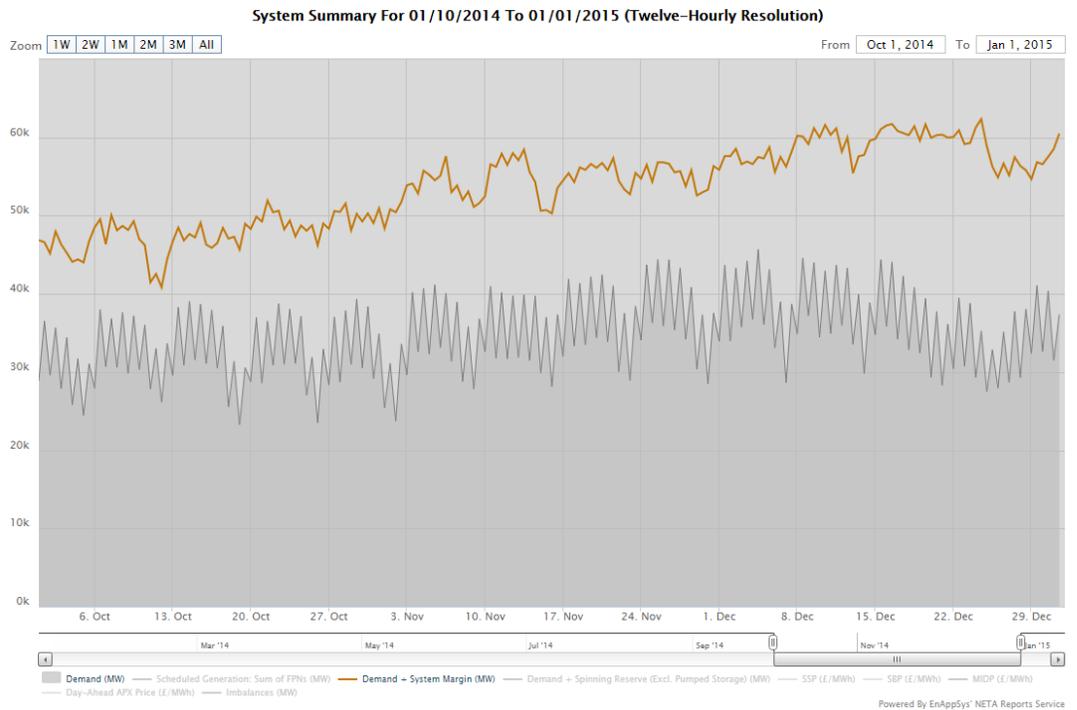
These generally low prices coupled with numerous units failing to win contracts in the Capacity Mechanism could encourage plants on the fringes of the system, including many of the older gas-fired plants, to close. This could further tighten the margin in October in future years if numerous plants were to close.

System Margin & Demand

A summary of key demand & margin activity may be seen in the following chart:

"In mid-October as the margin between supply of power and the demand for power was at its tightest the daily price of electricity increased to peak just below £100/MWh..."

... with power plants being paid particularly high prices rising as high as £550/MWh to come online and generate at times of system stress."

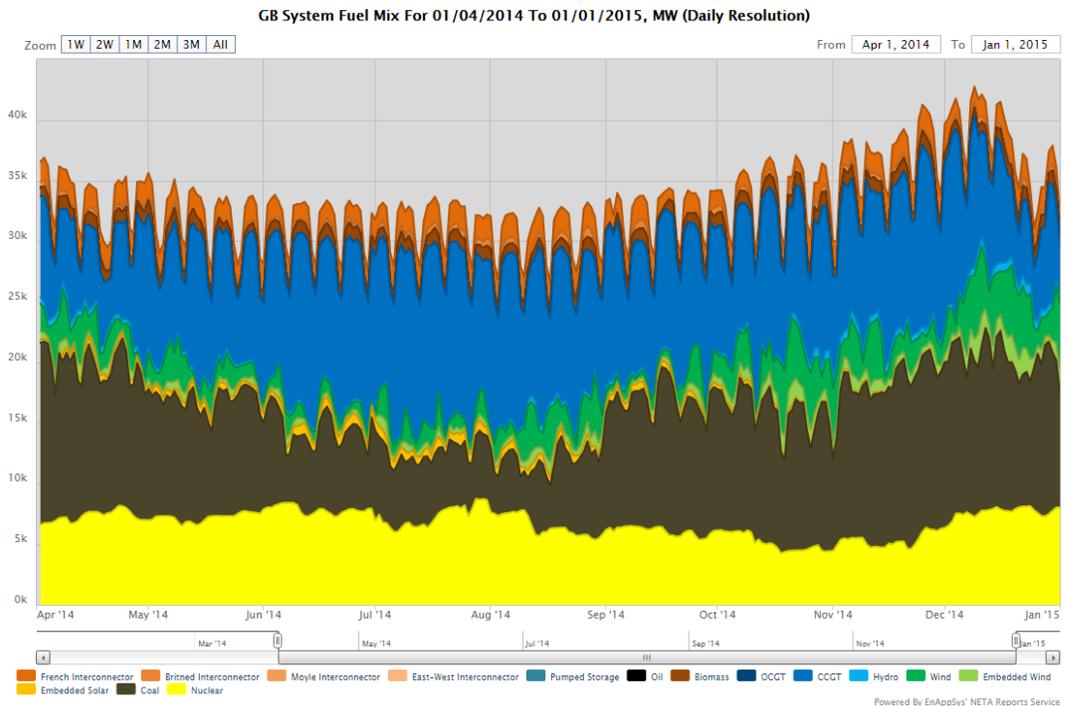


The orange line ('Demand + System Margin') represents the available capacity to supply power to the market and the tight margin against demand at the beginning of the quarter can be noted from the above chart.

As the quarter progressed it can be seen that the margin widened and as demand fell over the holiday period the margin was particularly wide with this coinciding with the return to service of much of the nuclear fleet and coming as almost all the plants offline for periods of maintenance over the summer were back to service.

Fuel Mix

To put the quarters by fuel type activity into context the following chart plots levels of generation by fuel since the beginning of Q2 2014:



The most notable activity saw a 71% increase in levels of generation from coal-fired plants from the previous quarter as gas prices rise and as coal plants returned from periods of maintenance.

In the previous quarter, gas prices had been low and this meant that some of the most efficient gas plants were able to generate more cheaply than some of the least efficient coal plants, but the increased gas prices in the quarter prevented this from being the case (see previous quarterly report).

This meant that the only activity reducing coal plant output was the high levels of wind generation overnight when demand was insufficient to absorb the total levels of nuclear wind and coal generation if the coal fleet had remained at full output.

With these higher gas prices, gas plants saw 14% lower levels of generation with nuclear plants seeing 9% lower levels of generation, despite a large increase in nuclear fleet output towards the end of December as nuclear output was otherwise low throughout the quarter.

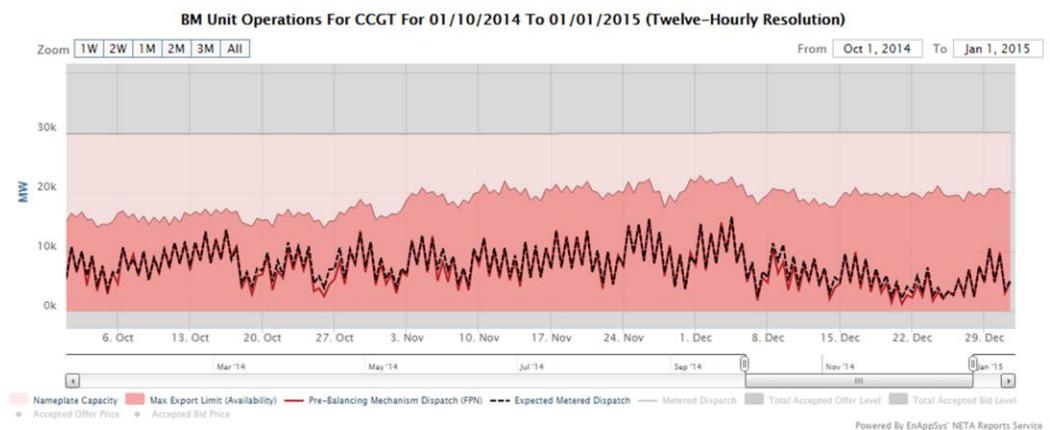
The other activity of note saw levels of wind generation increase by 97% from the previous quarter having seen low levels of generation in Q3 2014 and high levels in early December with renewable plants as a whole seeing 42% higher levels of generation against the previous quarter.

Activity by Fuel Type

Levels of generation by fuel have already been introduced in the previous section, with this section going into that activity in greater detail. Any activity of note is summarised in the following by fuel type sections.

Gas Generation

Generation by CCGT units (excluding CHP units) can be aggregated into the following summary chart for the quarter:



This chart shows levels of generation (black and red lines) against availability (dark pink area) and nameplate capacity (light pink area).

Against levels of installed capacity the levels of generation at CCGT units noted were relatively modest and very low in December as low demand and/or high levels of wind generation reduced the requirement for generation from gas-fired plants.

Levels of CCGT generation fell 14% from the previous quarter when gas prices were lower resulting in higher levels of CCGT fleet generation.

Coal Generation

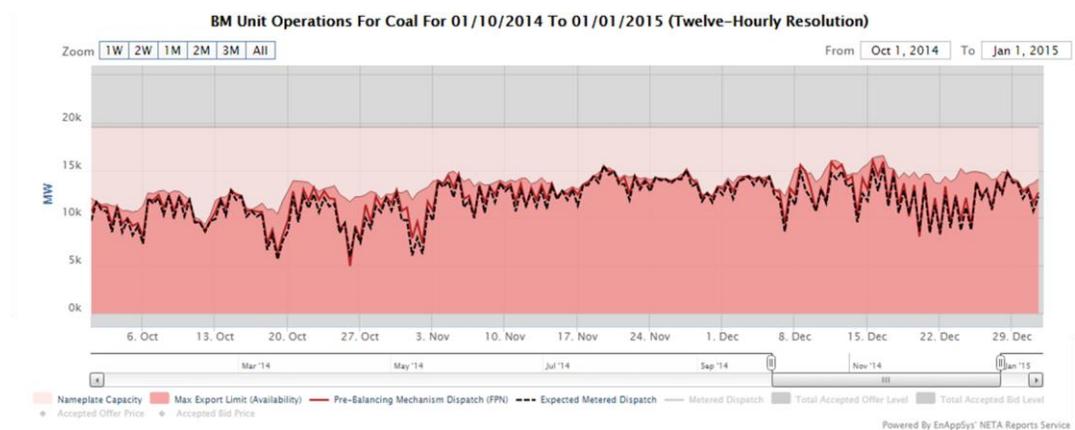
Throughout the quarter levels of coal-fired generation were very close to the overall levels of available capacity with availability levels increasing as the quarter progressed as units returned to service following summer outages.

The only exceptions to this were during weekend periods and over the Christmas period when demand was very low which coupled with stronger levels of wind generation across the quarter reduced the requirement for generation from coal-fired plants.

This came as coal was the cheaper fuel than gas in the quarter with levels of generation from coal-fired plants increasing 71% from the previous quarter when the most efficient gas plants could generate more cheaply than the least efficient coal plants (see previous quarterly report).

It is typical for coal plants to generate more power in winter months but this increase from the previous quarter reflects the low levels of coal generation seen formerly.

This activity can be seen in the following chart with the rise in levels of coal-fired generation in the second half of the quarter particularly notable:



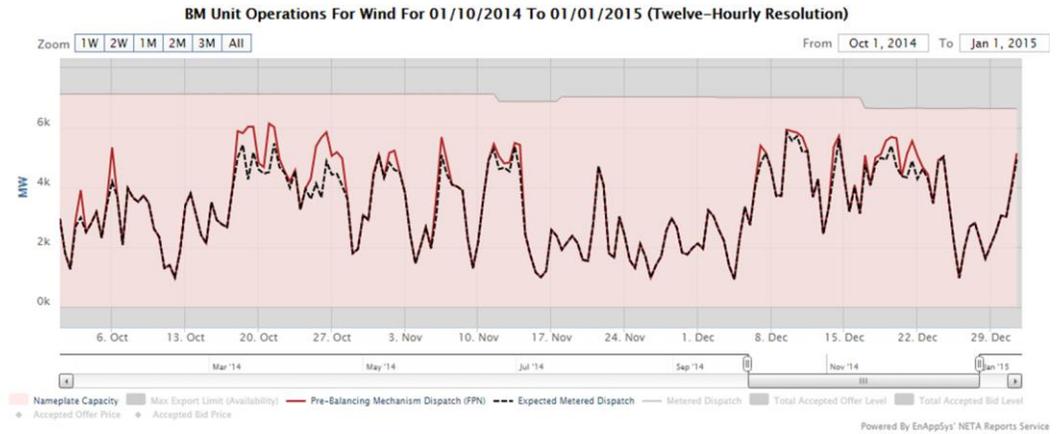
Wind Generation

The quarter saw high levels of wind generation, particularly in December when stronger wind speeds are common with levels of wind generation increasing 97% from the previous quarter.

Q4 2014 recorded the highest share of generation in a single quarter at 12% with December 2014 also seeing a new record at 14% of total generation, with the first quarter of the year typically seeing higher levels of generation than the fourth quarter on an overall basis.

The quarter also saw a new record for half-hourly wind output at 9,398MW, a new daily record for wind generation at 8,694MW, a new weekly record for wind output at 6,632MW and generally saw wind generation peak at particularly high levels.

This overall activity for the wind fleet in the period can be seen in the following chart (only including CVA-metered wind farms - some 65% of the total):

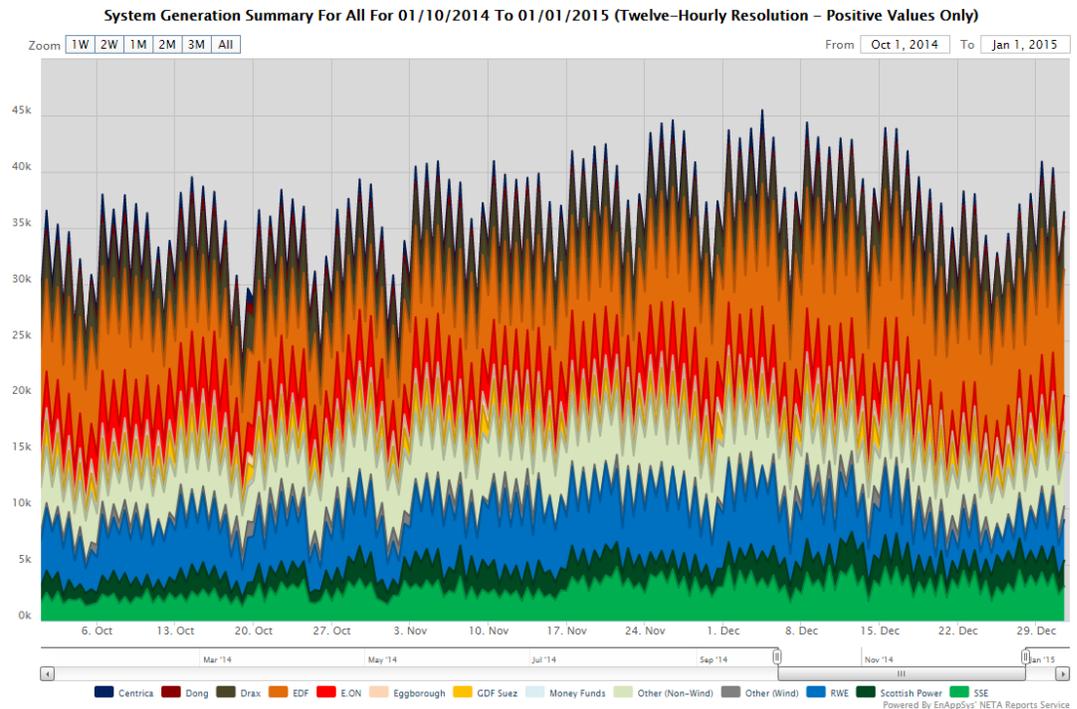


These record levels have come as winter typically sees the highest levels of wind generation with the overall wind capacity being higher than it was twelve months ago as wind farms have continued to have been built.

As noted in the annual (2014) report this has seen the overall share of generation from wind farms increase from 7.8% in 2013 to 8.9% in 2014.

Generation by Operator

Over the quarter the levels of generation can be broken down by operator to consider the effect of changing levels of generation on the different participants in the market.

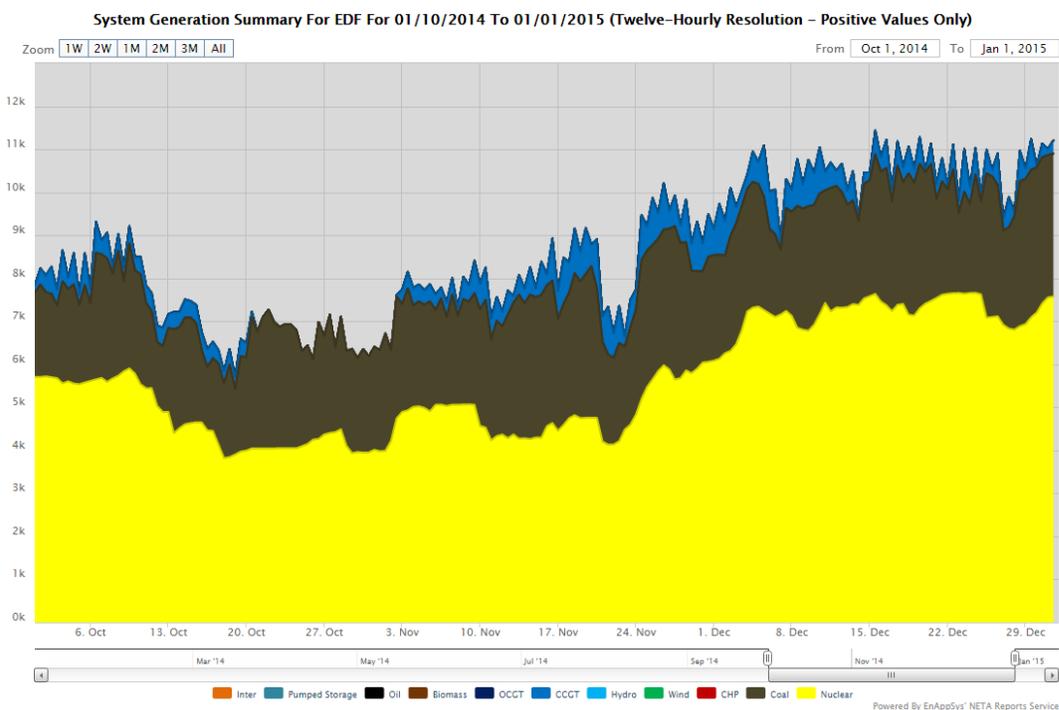


“The largest generator of power in the period was EDF with 25.0% of the total generation.”

Overall the largest operator in the generating market was EDF with 25.0% of the total generation (down from 27.7%) with RWE generating the next largest amount of power at 13.8% (up from 13.5%).

EDF had seen 33.0% of generation in Q2 2014 and so the relatively small decrease in the share of generation was noteworthy activity and followed precautionary outages at Heysham 1 and Hartlepool in the previous quarter that continued into Q4 2014.

These levels of generation for EDF can be seen in the following chart and from this chart it can be seen that despite the lower levels of generation as a whole for the quarter, levels of generation did rise as the quarter progressed as nuclear plants returned to service:



About EnAppSys

Enappsys is a specialist information business providing both electricity and energy market data, systems and applications to parties with an interest in the UK energy market.

The company provides a range of services from access to energy data, analytical services, provision of consultancy services and development of bespoke energy data applications.

Enappsys is focused on providing information and analytical services covering the energy sector and is actively growing the business to provide products with enhanced analysis and forecasting capabilities and extending the geographic and sector coverage beyond the UK and the electricity market.

The company's business objective is to make available timely, optimal and insightful information, analysis and systems to the energy sector to ensure all sizes of company have the best available tools and information to make informed decisions and to optimise their business strategy.

Enappsys was formed in 2003 to support and provide IT development and services to businesses working in the UK energy sector.

At its formation the business was focused on the English electricity market which in 2003 had been completely restructured with the introduction of the New Electricity Trading Arrangements (NETA) from which Enappsys got the name for the NETA Reports Data Service.

Enappsys has continued to develop its services to this market and through the extension of the arrangements to the UK via the British Electricity Trading Arrangements (BETTA) to the current day.

The charts from this report have come from a beta version of an upgrade to EnAppSys' online charting service www.netareports.com/enbm with the data provided by the company's data service at www.netareports.com.

To find out more about EnAppSys contact the company at about@enappsys.com or visit the company's website at www.enappsys.com.