



GB Electricity Market Summary

FIRST QUARTER 2015
JAN TO MAR

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

COAL: 13.3GW (+8.5%)
WIND: 4.6GW (+8.8%)

CCGT: 9.1GW (-9.4%)
INTERCONNECTION: 2.2GW (-1.5%)

NUCLEAR: 7.8GW (+29.7%)
BIOMASS: 1.8GW (-0.9%)

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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 Q1 2015 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 saw high levels of generation from coal-fired plants with gas prices sufficiently high to place coal plants above gas plants in the merit order, with coal plants typically generating at the limits of availability.

This coupled with levels of nuclear fleet generation - up 30% from the previous quarter - and record levels of output from wind farms led to utilisation rates averaging 23% at non-CHP CCGT plants.

This spare capacity in the system placed downward pressure on market prices throughout the quarter with these prices generally averaging around £40/MWh which would translate into tight margins at gas-fired plants with few of the newer plants likely to be able to meet their capital costs at these prices.

The levels of gas-fired generation that did occur came around changing levels of wind generation with CCGT plants filling the gap when wind generation levels fell.

Prices did increase during times of a particularly tight margin, but unless the system margin was particularly tight the system did not respond to these prices resulting in few price peaks.

This suggests a system not particularly well suited to plants on the margins of the market which could be at risk of closure over the coming months/years.

In the quarter, the coal fleet provided 33% of the overall generation with gas plants providing 23%, nuclear plants 20%, wind farms 12%, interconnectors 5% and biomass 4%.

System Summary in Quarter

The first quarter of 2015 was a quiet quarter with low prices and with coal-fired units generating the most power and with nuclear plants seeing much higher levels of power output having seen outages in the previous quarter for precautionary reasons.

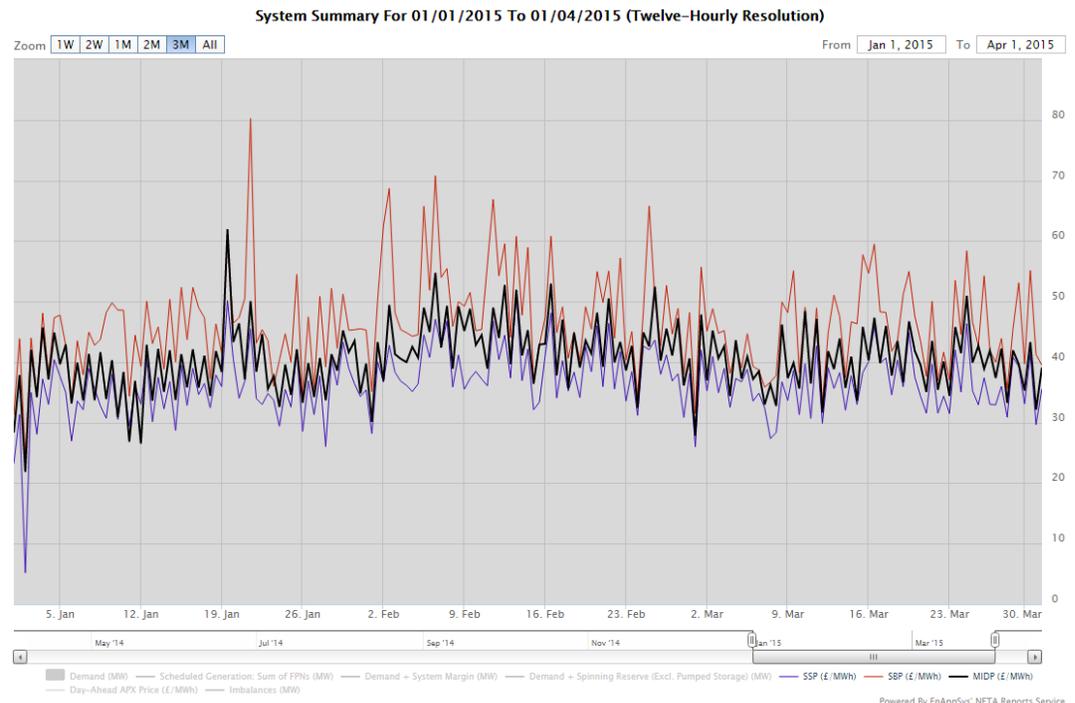
Key Activity

The quarter saw notably higher levels of nuclear fleet generation from the previous quarter (up around 30%) and this coupled with high levels of generation from coal units, strong levels of wind generation and relatively low demand led to a quiet and low priced quarter.

Changing levels of demand and output from wind farms resulted in changing levels of gas-fired generation, ranging from daily average levels of 3.9GW to 15.6GW while the wind fleet saw daily average levels ranging from to 0.5GW to 8.7GW with the two interchanging throughout the quarter.

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.

The quarter was notable for no major price peaks with generators likely to have hoped for more higher priced activity to boost the levels of income achievable at plants on the margins of the market.

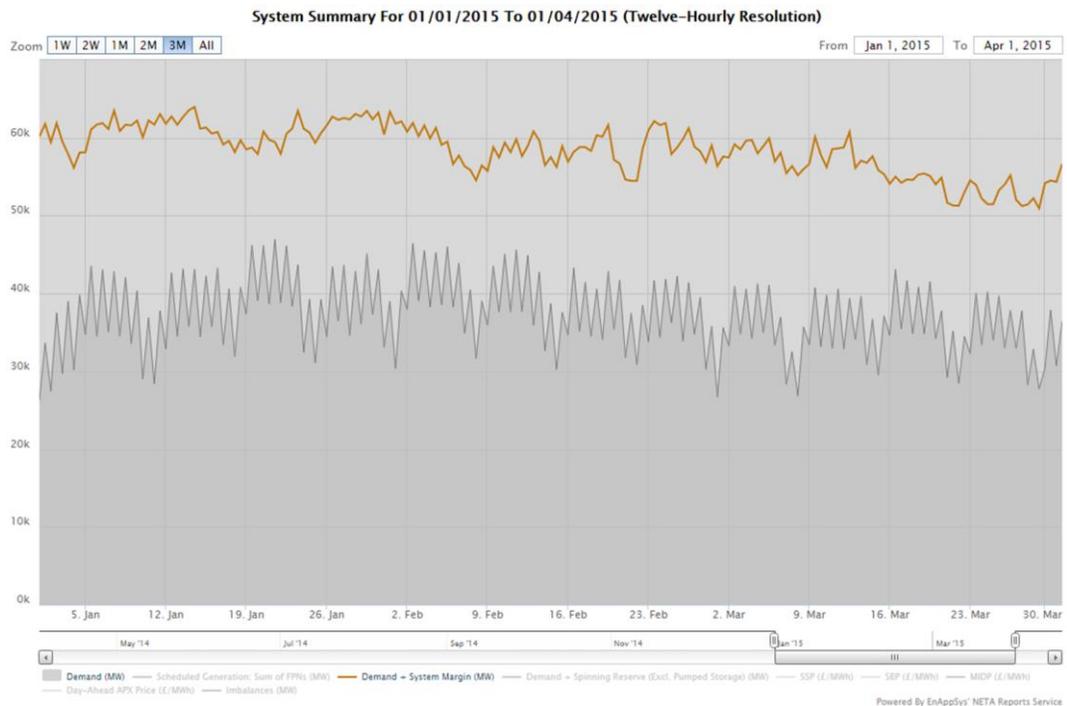
There were brief periods in the quarter when prices rose, but generally market prices averaged £40/MWh (4p/kWh) with these prices likely to encourage plants out of the market and discourage plants from entering the market.

Across the quarter a high efficiency CCGT plant might have had carbon and fuel costs amounting to £35-37/MWh with worse economics for lesser efficiency CCGT plants (up to £50/MWh for plants on the margins of the market).

At these prices even the best CCGT plants can only hope to make tight margins generating across the quarter which is unlikely to result in an attractive return on any capacity invested building new plants.

System Margin & Demand

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



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.

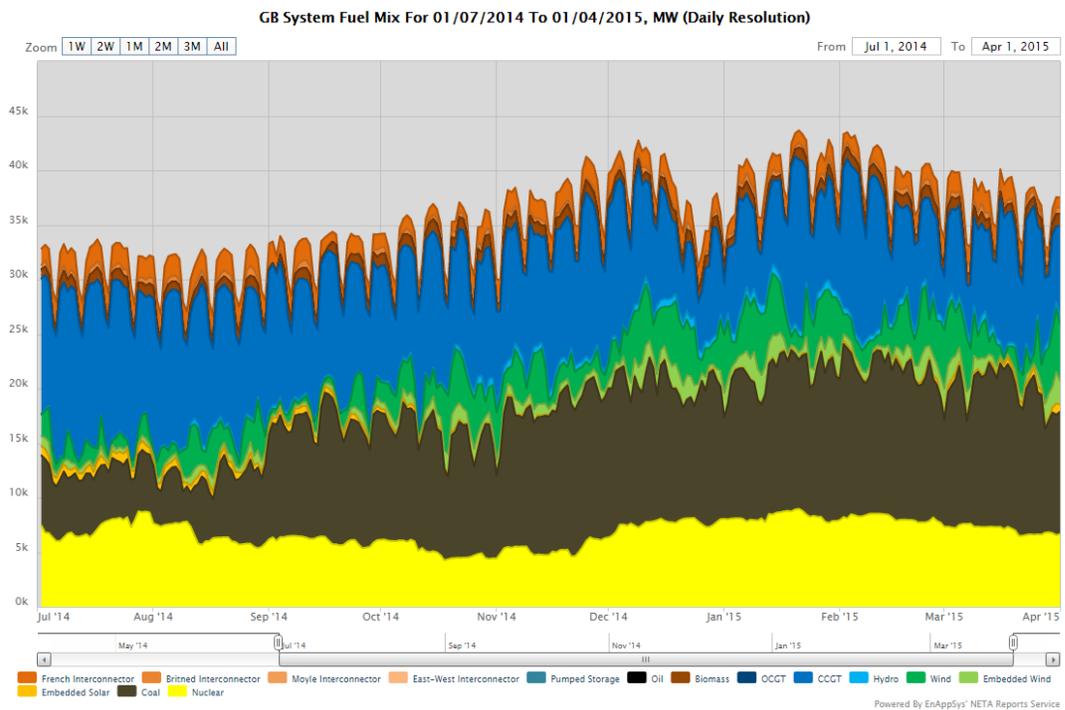
The margin between demand and supply was relatively tight at times in the quarter (particularly during peak hours which can't be seen at the given resolution), but this did not seem to impact prices with units opting not to hold back generation and drive up prices, but rather participating where possible.

Generally levels of demand were steady throughout the quarter, but started to fall away towards the end of the quarter as the general weather conditions improved heading into the warmer half of the year.

Electrical demand was low at the beginning of the quarter as the holiday period reduced the need to generate electricity.

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 Q3 2014:



Over this entire period gas prices began low in the summer, with 50% efficient gas plants being competitive against coal plants for much of July and August (marked by the low levels of coal fired generation).

Over the summer coal plants typically go offline for periods of maintenance having seen high levels of activity over the winter months reducing the potential levels of generation from these units.

By late August gas prices had been rising and generally rose through till the start of December at an incremental rate. Throughout this period coal units were back to generating at the limits of availability, being the cheaper fuel and so coming into Q1 2015 gas prices were high enough to place all coal plants in merit.

Quarter one was then characterised by rising and falling levels of wind output with gas-fired power stations having to adjust their output around the changing levels of generation provided by other fuels and against the changing levels of demand.

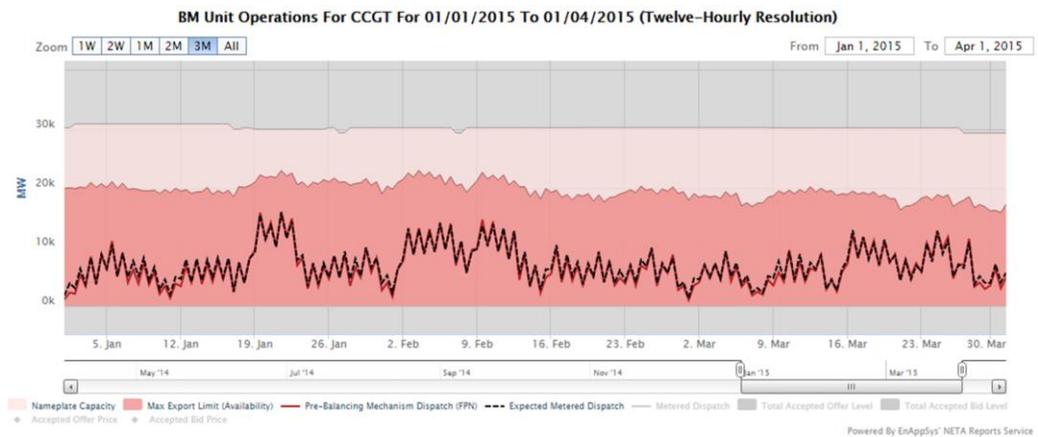
The most notable activity in the quarter saw 29.7% higher levels of generation from nuclear plants following their reduced levels of output in Q4 2014 following the discovery of some minor faults.

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).

Notable throughout the quarter was the gap between levels of generation and levels of availability with the fleet often seeing very modest levels of generation against its overall capability as the requirements for power within the system were insufficient to allow increased levels of generation from the CCGT fleet.

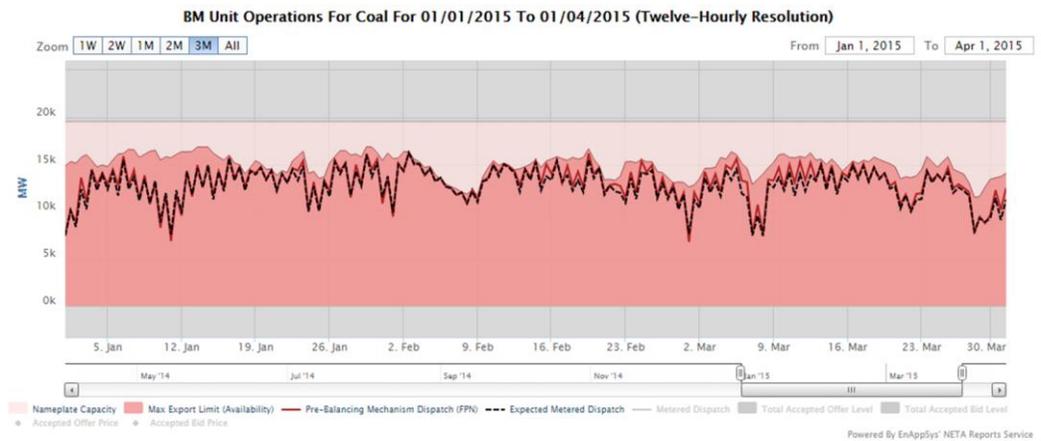
Much of this generation came from the newer more efficient units with some of the less efficient CCGT plants unlikely to find sufficient levels of generation in the market.

The peaks came as wind generation levels were low with generation levels generally low when wind speeds were high with the CCGT fleet seeing average utilisation rates of only 23% across the month (versus 40% at wind farms).

Coal Generation

Throughout the quarter, the coal fleet generally generated at the limits of availability with this only affected by high levels of wind generation, which occasionally displaced coal units (particularly overnight).

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:

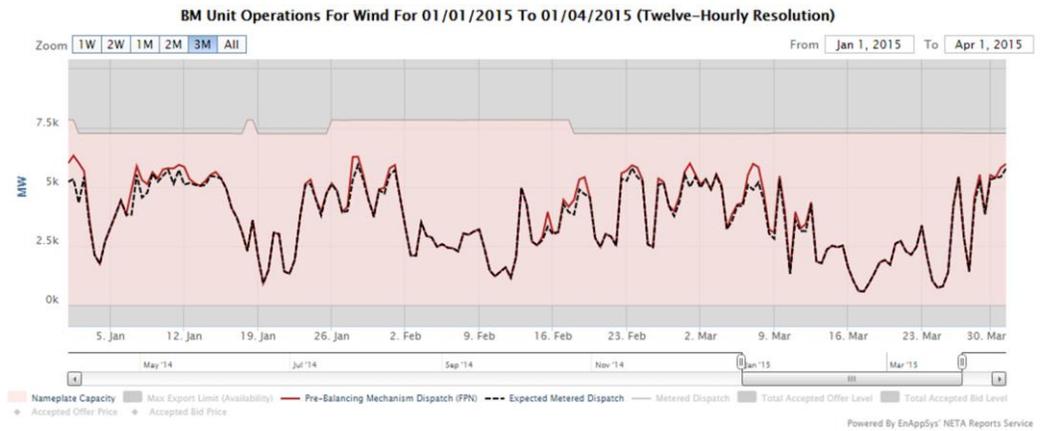


With the doubling of the carbon price support in the next financial year the coal fleet may be under greater pressure in the future, but in the quarter coal prices were sufficiently low to allow coal plants to generate whenever they were available.

Wind Generation

Levels of wind generation were at an average level very strong with record levels of generation for a quarter at 4.6GW (up from 4.4GW in Q1 2014). However, levels of generation were relatively variable across the quarter.

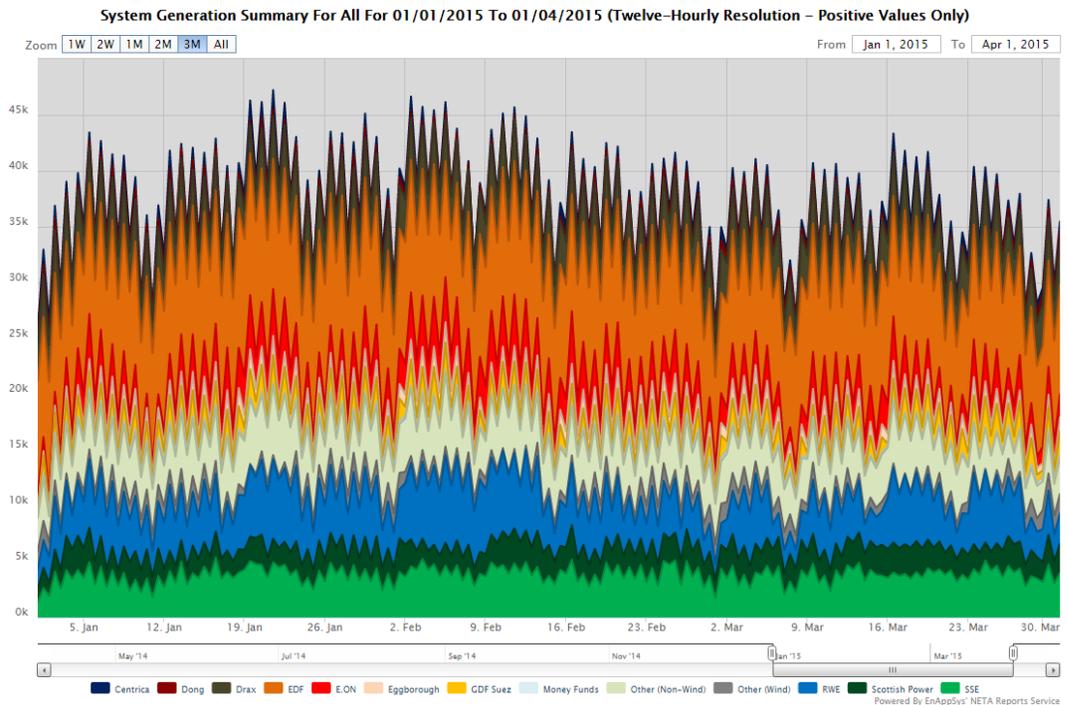
This overall activity for the wind fleet in the period can be seen in the following chart (only including CVA-metered wind farms - some 65% of the total):



The variability can be seen with levels of wind generation generally being more consistent in the first part of the quarter. In the troughs where wind generation levels were lower the gas-fired fleet benefited, seeing higher levels of generation.

Generation by Operator

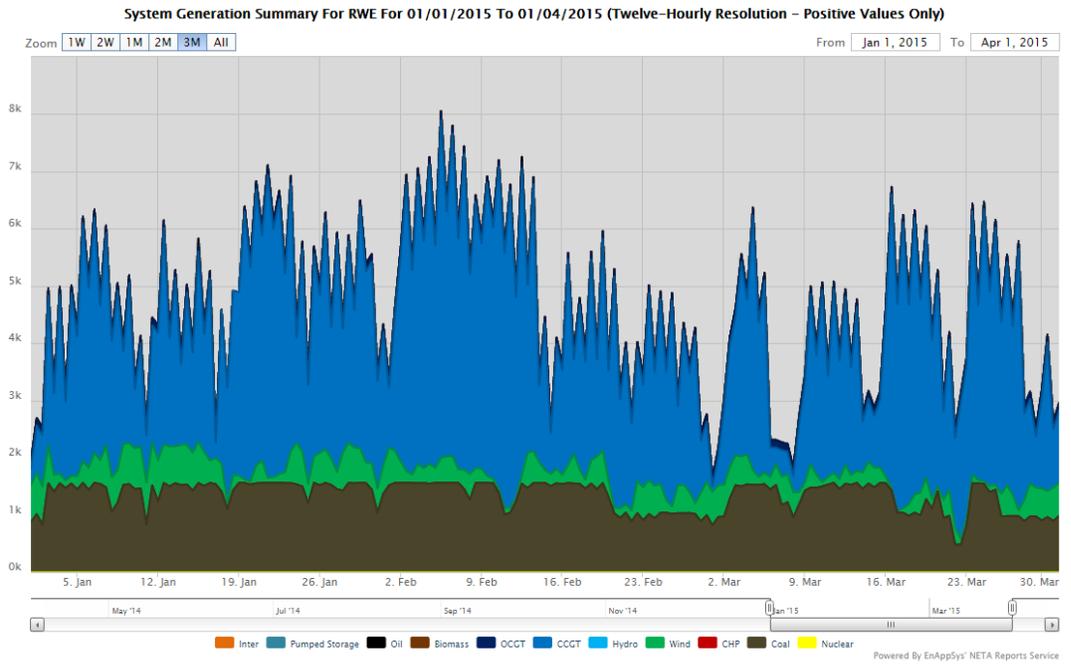
Over the quarter the levels of generation can be broken down by operator to consider the effect of changing levels of generation on the different participants in the market.



Overall the largest operator in the generating market was EDF with 28.9% of the total generation (up from 25.0%) with RWE generating the next largest amount of power at 12.3% (down from 13.8%).

Notable of the units in the month was Centrica which only saw 1.9% of total generation by operator, which highlights the struggles the operator has been having with its gas-fired fleet with the operating having generated an estimated 30% of power from its wind fleet.

RWE saw much of this generation from its highly efficient gas-fired plants such as Pembroke and Staythorpe bucking the trend of operators struggling with their old gas-fired plants:



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 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.