

Trayport Euro Commodities Market Dynamics Report

Trayport Analysis Team
December 2014

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Editorial summary

December 2014

The 2014 Wrap Up: Increased Clearing, Gas and UK Power Volume Growth, and Continued Exchange Competitiveness

There were three main themes evident in the Euro Commodity markets during 2014:

1. Increased clearing;
2. Gas and UK Power volume growth; and
3. Continued exchange competitiveness.

1. Increased Clearing

A major trend through 2014 was the increase of clearing across almost all Euro Commodity markets. The table below shows the cleared market share, and 2014 volume growth, for the six commodity groupings 2012 – 2014.

Table 1: Cleared Market Share

| Euro Commodity Grouping | 2012 | 2013 | 2014 | 2014 vs. 2013 Volume Growth |
|--------------------------------|-------------|-------------|-------------|------------------------------------|
| Emissions | 97% | 97% | 98% | -11% |
| Coal | 65% | 77% | 97% | -4% |
| UK Gas | 36% | 35% | 49% | +25% |
| Euro Power ¹ | N/A | 33% | 37% | -4% |
| Euro Gas | 7% | 6% | 11% | +51% |
| UK Power | 4% | 1% | 1% | +27% |

Coal, UK and Euro Gas and Euro Power all showed significant increases in cleared market share during 2014, amid mixed volume growth. Emissions cleared market share was stable while UK Power shifted to 99% broker bilateral trading.

There were several drivers for the increases in cleared market share: (i) a full year of the increased cleared market share for Coal that resulted from the implementation of Dodd-Frank during 2013, with Dec-13 cleared market share of almost 95%; (ii) impact of the EMIR regulation; (iii) increased price volatility in the Euro Gas markets as a result of political instability in Ukraine increasing liquidity and drawing new participants into the market; and (iv) growth in exchange executions in the largest Euro Power market, German Power, with both Nasdaq and EEX achieving growth in volume, while total market volume declined. The cleared market in German Power also shifted towards exchange executions, gaining 5% to 17% of the market, while broker clearing grew 1% to 10% of the market.

2. Gas and UK Power Volume Growth

The UK and Euro Gas markets saw significant volume increases over 2014. Traded volumes in NBP rose to just under 18,883 TWh for the year, up 25% vs 2013, while volumes in Euro Gas increased 51%, to 17,005 TWh for the year. TTF was the main contributor to Euro Gas growth, with volumes up 61% 2014 vs 2013. TTF also grew to 71% of the size of NBP, up from 55% in 2013. TTF set several new monthly records during 2014, with the most recent in July 2014, traditionally a low volume summer month. Is TTF becoming the European gas benchmark? There were several contributing factors to this volume growth but one of note was the political uncertainty that surrounded the gas markets due to events in Ukraine, with price volatility driving high volumes throughout the early months of the year.

UK Power also recorded a 27% increase in volumes in 2014 vs. 2013 (and a 16% increase on 2012). Ofgem introduced a market making initiative in April 2014 which resulted in the largest monthly volume in UK Power since March 2011. Volumes

¹ We do not have a full year of data for 2012 for Nordic and Italian Power so we are unable to compare FY 2012 Euro Power figures.

throughout the rest of the year continued sustained increases over 2013, and finished the year at 1,010 TWh traded, just under the 2011 record of 1,054 TWh since we began reporting.

3. Continued Exchange Competitiveness

A major theme through 2014 was the continued competition between several exchanges active in our markets: CME, ICE, Nasdaq OMX, PEGAS and EEX.

EEX expanded their power derivative offering into further regional markets. Their success in Italian Power trade registration saw them launch an exchange traded product, and a complementary Oil trade registration product, during 2014.

Additionally, they launched trade registration in Spanish and Greek Power, and re-launched their API2 and API4 coal offering. PEGAS, the Powernext-EEX gas co-operation, also expanded into the ZTP spot and derivatives market during the year.

Nasdaq OMX continued their growth into the German Power market, supported by their German Power initiative which includes broker, liquidity provider and market making programs. Nasdaq OMX achieved a record 11.9 TWh traded in October 2014 and ended the year at 65.2 TWh, up 59% vs. FY 2013. ICE Endex has also attempted to enter this market, launching German power futures trading in June 2014, with no volume traded to date.

The battle between CME and ICE in coal continued throughout 2014, with CME gaining share to record FY 2014 share of 76% of the API2 and API4 cleared market, up from 60% in 2013. ICE responded to this by adding new Coal liquidity programs, one focused on screen trades, and one focused on options. However, this was with limited success as the market remained OTC traded and CME ended the year at 72% of the total cleared API2 and API4 market in December.

In 2015, we expect to see further expansion of the Euro Commodities product set across the exchanges, starting with CME's launch of Euro Gas this month. No doubt as the cleared market continues to grow, we will see further competition amongst the trading venues.

Euro Commodities Report - Plans for 2015

During 2014, the Euro Commodities Report evolved to include additional commodity contracts (PEG, PSV, Italian Power and Spanish Power) and reached a wider audience through increased distribution channels. 3,000 recipients now receive the report directly. We also introduced provision of the underlying data of the report in Excel format for clients. We commit to continuous improvement of the Euro Commodity Report, and expect to develop and expand the report in the following areas during 2015:

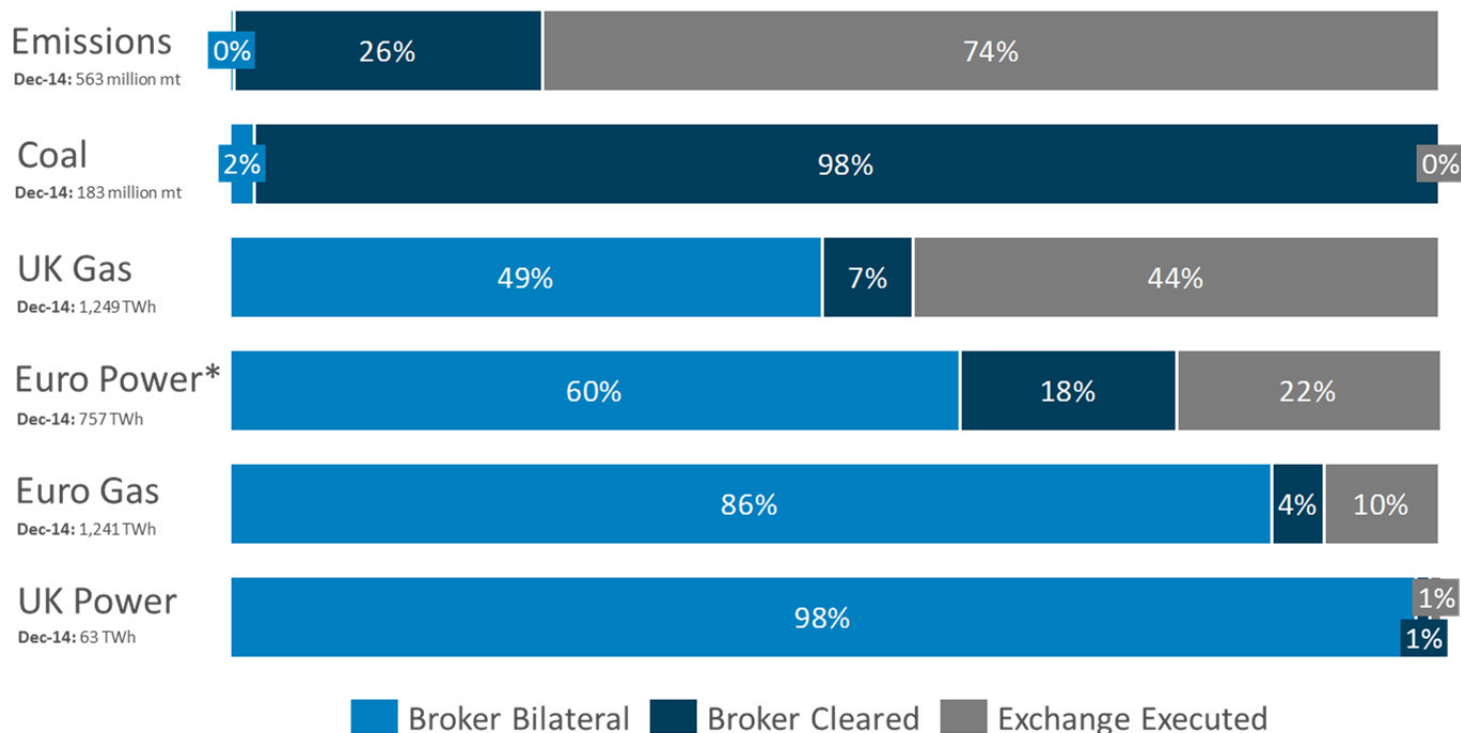
- Inclusion of a commodity report for Zeebrugge; and
- Inclusion of exchange spot market volumes.

If you have any feedback or recommendations on improvement for the Euro Commodity Report in 2015, we would love to hear them. Please get in touch via analysisteam@trayport.com.

European Energy Markets Composition: Broker Bilateral, Broker Cleared and Exchange Execution

Information as at: 31 December 2014

Estimates based on Trayport analysis and market research



Note: Data sources on page 7.

Table 1: Key Term Definitions

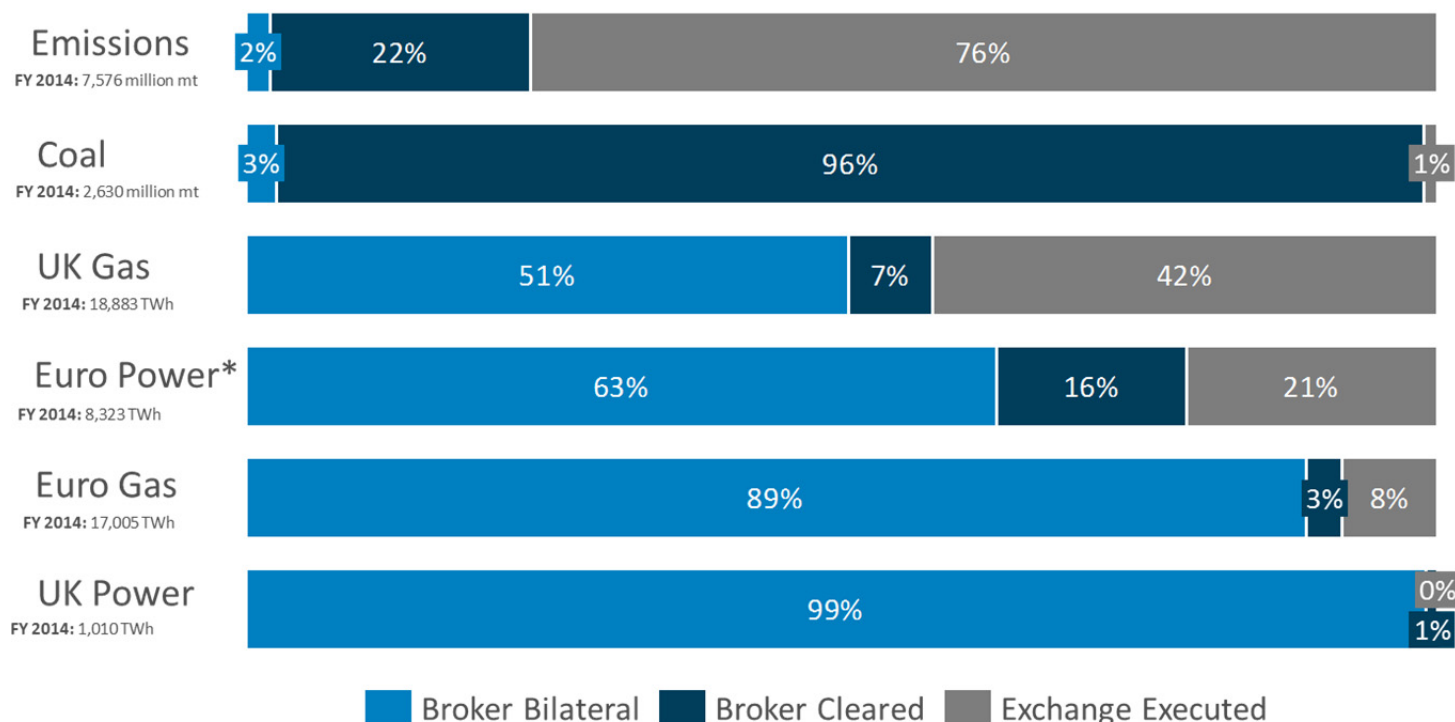
| Term | Definition | Calculation (UK & Euro Gas & Power) | Calculation (Coal & Emissions) |
|--------------------|---|---|---|
| Broker Bilateral | Total volume executed at a broker and cleared bilaterally, without the involvement of a clearinghouse | LEBA published total volume minus aggregated clearinghouse reported broker cleared volume | LEBA published total volume minus LEBA published cleared volume |
| Broker Cleared | Total volume executed at a broker and given up for clearing to a clearinghouse | Aggregated clearinghouse reported broker cleared volume | Aggregated clearinghouse reported broker cleared volume |
| Exchange Execution | Total volume executed directly on exchange and cleared with the relevant clearinghouse | Aggregated exchange reported executed volume | Aggregated exchange reported executed volume |
| Cleared Market | Total volume cleared at a clearinghouse | Broker cleared plus exchange execution | Broker cleared plus exchange execution |
| Total Execution | Total executed volume, at a broker or an exchange | Broker bilateral plus broker cleared plus exchange executed | Broker bilateral plus broker cleared plus exchange executed |

NB: Brokered volumes include spot volume while exchange volumes do not. We are currently addressing this.

European Energy Markets Composition: Broker Bilateral, Broker Cleared and Exchange Execution

Information as at: FY 2014

Estimates based on Trayport analysis and market research



Note: Data sources on page 7.

Table 1: Key Term Definitions

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European Energy Markets Composition: YTD Trends

Information as at: 31 December 2014

Estimates based on Trayport analysis and market research

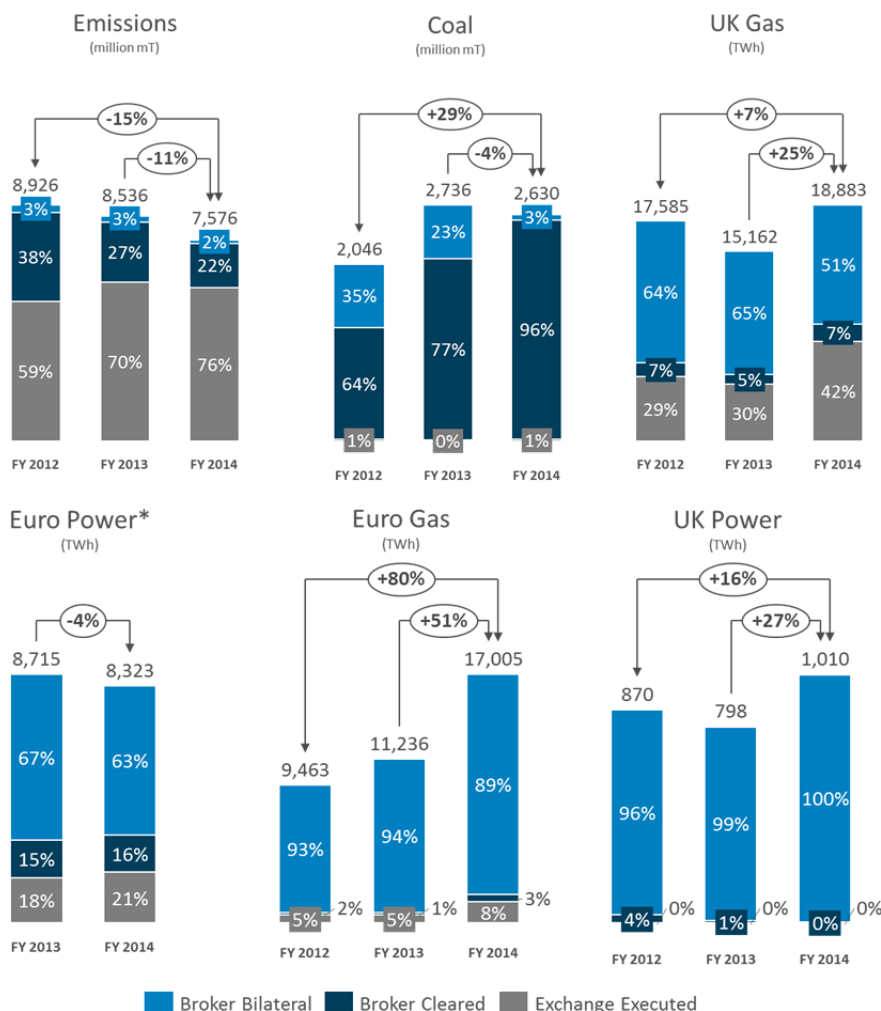


Table 2: Volume Traded Change

| Commodity Class | MoM | YoY | YTD | Term | Definition |
|-----------------|------|------|------|------|--|
| Emissions | -9% | -12% | -11% | MoM | Current month volume versus previous month volume (e.g., October 2012 vs. September 2012) |
| Coal | -26% | +63% | -4% | | |
| UK Gas | -13% | +34% | +25% | YoY | Current month volume versus same month last year volume |
| Euro Power | -14% | +34% | -4% | | |
| Euro Gas | -12% | +55% | +51% | YTD | Total volume YTD 2014 versus total volume YTD 2013 (e.g., Jan – Oct 2014 vs. Jan – Oct 2013) |
| UK Power | -17% | +24% | +27% | | |

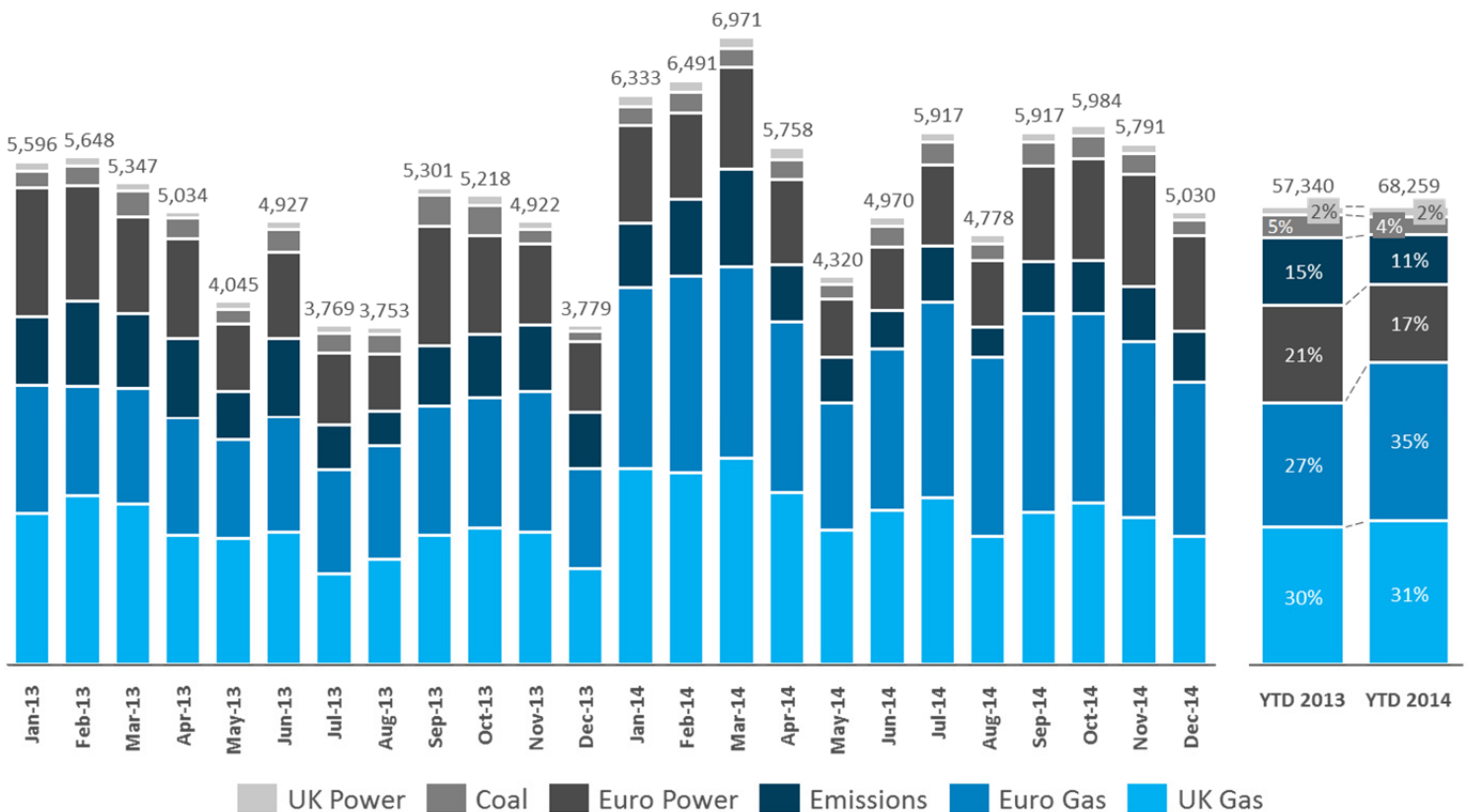
Note: Data sources on page 7.

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European Energy Markets Composition: Total Euro Commodity Market Volumes

Information as at: 31 December 2014
 Estimates based on Trayport analysis and market research

(Monthly Contract Equivalents* 000's)



Note: Data sources on page 7.

*Monthly Contract Equivalents calculated as total volume divided by a standard monthly contract lot size (30 day month):

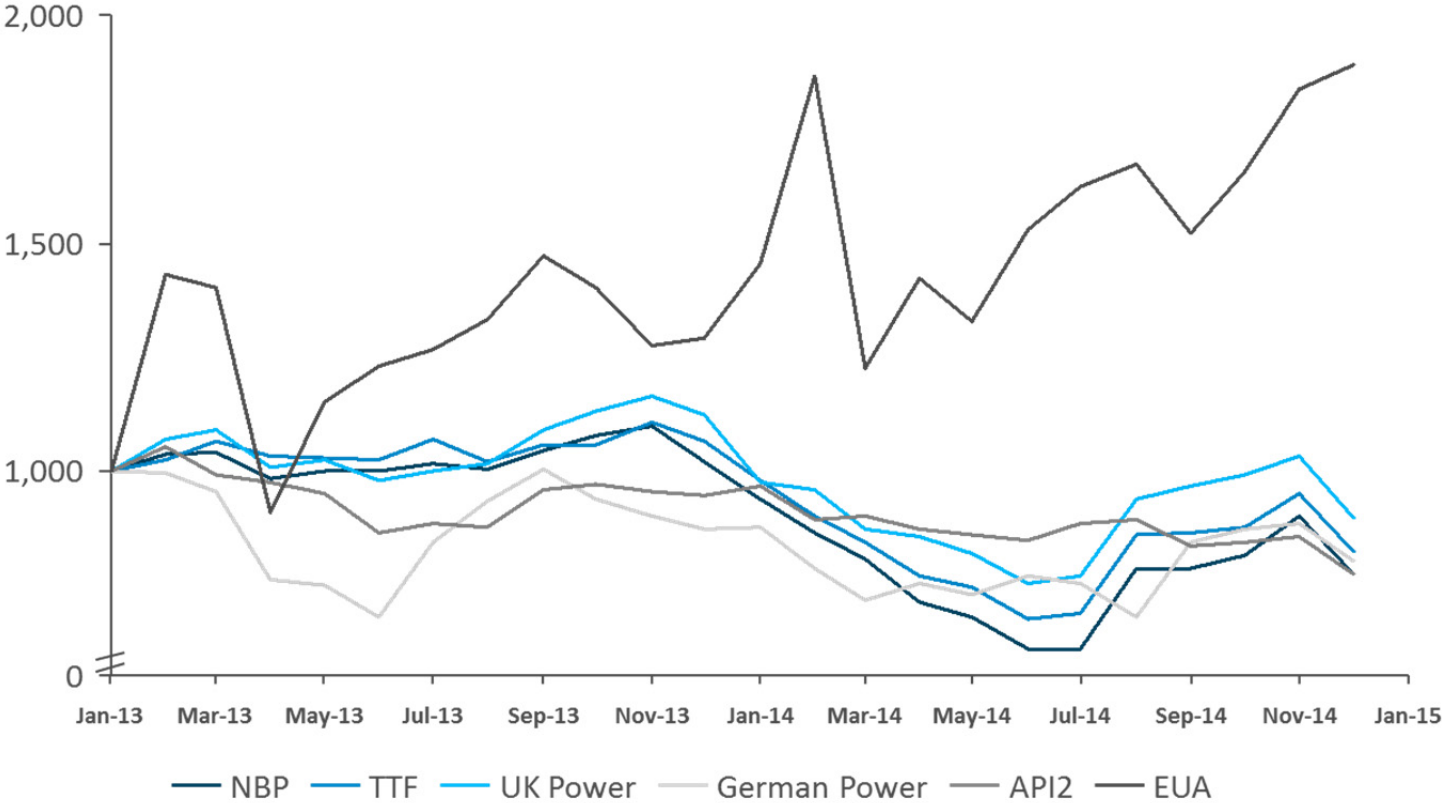
| Commodity Class | Volume Unit | Standard Monthly Contract Lot Size | Monthly Contract Equivalent Calculation |
|-----------------|---------------|------------------------------------|---|
| Emissions | Metric tonnes | 1,000 tonnes | Total volume in metric tonnes divided by 1,000 tonnes |
| Coal | Metric tonnes | 1,000 tonnes | Total volume in metric tonnes divided by 1,000 tonnes |
| UK Gas | Therms / MWh | 30,000 therms / 879 MWh | Total volume in MWh divided by 879 MWh |
| Euro Power | MWh | 720 MWh | Total volume in MWh divided by 720 MWh |
| UK Power | MWh | 720 MWh | Total volume in MWh divided by 720 MWh |
| Euro Gas | MWh | 720 MWh | Total volume in MWh divided by 720 MWh |

Monthly Contract Equivalents allow us to compare trading volumes across commodity classes that are traded in different volume units.

NB: Brokered volumes include spot volume while exchange volumes do not. We are currently addressing this.

European Energy Markets Composition: Rebased Price Trends over Time

Information as at: 31 December 2014
 Estimates based on Trayport analysis and market research



All prices are Front Month, except EUAs, which are Front Vintage.
 Prices rebased to 1,000 24 Months previous.

Note: Data sources on page 7.

Data Sources

OTC brokers data

LEBA www.leba.org.uk

Exchange data

APX-ENDEX Data source Jan 2011 – Oct 2013; source no longer available
CME <http://www.cmegroup.com>
EEX <http://www.eex.com/en/Download>
NYMEX <http://www.cmegroup.com>
ICE www.theice.com
N2EX www.N2ex.com
NASDAQ OMX www.nasdaqomxcommodities.com
BMEClearing <http://www.meff.es/aspx/DerEnergia/HistoricoResumen.aspx?id=ing>
OMIP <http://www.omip.pt/Downloads/tabid/104/language/en-GB/Default.aspx>

Clearing house data

LCH www.lchclearnet.com