

Bord Gáis Energy Index

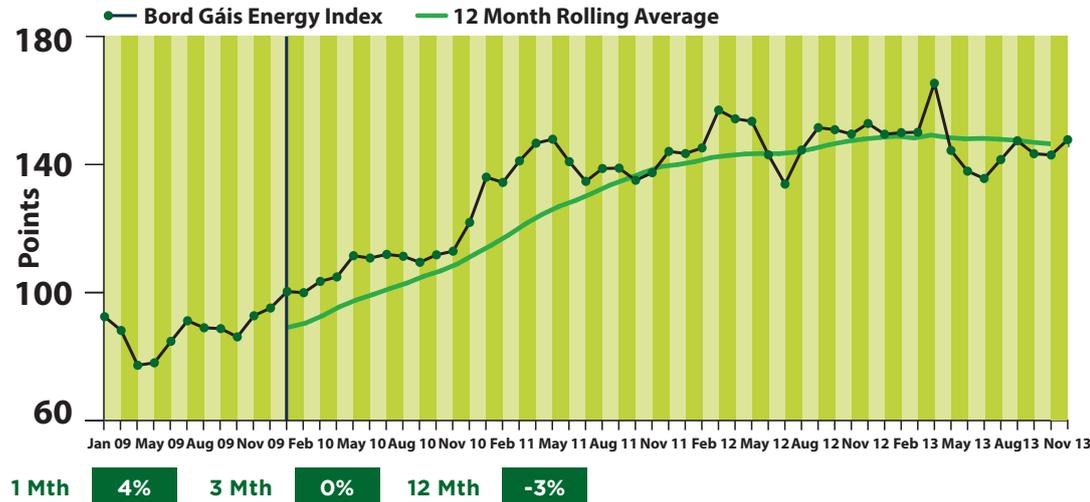
UNDERSTANDING ENERGY

November 2013



Rising wholesale gas prices increase the Bord Gáis Energy Index by 4%

Bord Gáis Energy Index (Dec 31st 2009 = 100)



Summary:

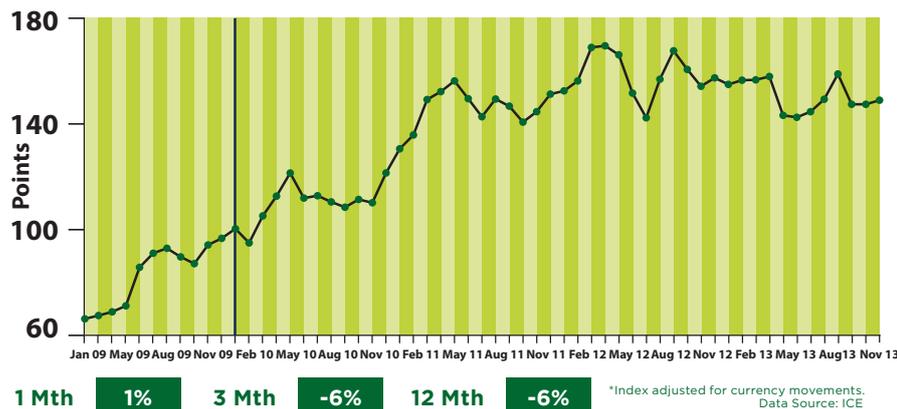
The Bord Gáis Energy Index rose 4% in November as all four commodities tracked in the index rose month-on-month.

Despite achieving an interim deal over Iran's nuclear programme, oil prices were supported by ongoing supply issues particularly in Libya. As Iran's oil sanctions are to remain in place and Iranian oil exports are unlikely to increase over the next six months, Brent crude prices failed to react to news of the agreement. Wholesale UK prices rose with higher demand and a series of minor supply issues which nudged prices incrementally higher throughout the month.

In November 2013 the Index stood at 148.

Despite a modest softening in the annual average price of Brent crude oil in 2013, prices remained at near record highs throughout the year. The market received a rare but brief reprieve in April when prices fell below \$100 for the first time in 2013 but geopolitical tensions and supply disruptions kept prices high for much of the year. At nearly 68p a therm, the annual average Day-ahead UK gas price was at a record high as an extended period of cold weather in early 2013 and a series of supply issues in 2013 nudged prices higher. Higher wholesale UK gas prices meant that the annual average wholesale Irish electricity price was the second highest on record and the highest since 2008. Euro zone buyers of oil and gas were protected somewhat from high record wholesale prices as the euro gained in strength versus the US Dollar and British Pound. However, the euro's strength in 2013 may be a cause of concern for exporters and policy makers who are looking for economic growth and improved competitiveness in 2014.

Oil Index



Oil

Month-on-month the front month Brent crude price was 1% higher as protests in Libya continue to halt oilfields and close export terminals. Brent, the benchmark grade used to price much of the crude produced by OPEC countries, averaged US\$108.53 a barrel this year and, according to a Bloomberg report, is set to record its third-highest level in data starting in 1988.

During November Libyan oil production has fallen to around 200,000 b/d due to continued protests, strikes and industrial action at key infrastructure across the country. The unrest has paralyzed Libya's oil industry for most of the summer and autumn and in excess of 1 million b/d of export capacity has been lost. Toward the end of the month only one main export terminal was operating and, according to reports, worsening unrest in the east of the country during the month further weakens the likelihood of any restart to oil

activity there. In November deadly clashes in the Eastern city of Benghazi left several people dead. According to one analyst "any rapid normalisation of oil production in Libya remains a pipe dream after fighting broke out in the oil-rich east of the country between regular troops and militant Islamists". However, the International Energy Agency tried to address the markets' growing concern and it said that oil markets are sufficiently supplied even with the prospect of dwindling crude output from Libya.

Two security incidents in southern Iraq and "weather-related" export constraints further hampered supplies following bomb attacks on pipeline infrastructure in September. Southern Iraq is home to the country's biggest producing oil fields. Janet Yellen, the woman the White House wants to run the Federal Reserve, provided some additional support to oil prices as she defended its stimulus efforts and vowed to continue them if confirmed. Her comments in her first appearance in front of Congress were seen by financial markets as positive for equities and oil as she is likely to continue the ultra-easy money policy to support US and global growth. During the month the US Dow Jones and S&P 500 index hit record highs. The cheap money policy keeps interest rates low. This means investors are driven to find investments, such as equities and commodities, where they hope to find higher returns.

On November 24 an interim deal over Iran's nuclear programme was achieved. Although the agreement further lowers the geopolitical tension across the Middle East, reaction in the oil market was limited. According to official US estimates, Iran's current export levels are around 1 million b/d, down from 2.5 million b/d in early 2012. However, Iranian oil exports will not be increasing significantly over the next six months as sanctions on oil remain firmly in place. It is estimated that the extension of oil sanctions will cost Iran US\$30 billion over the 6 month period.

Natural Gas Index



issues again highlights how sensitive UK wholesale gas prices have become to import supply disruptions as the UK becomes more reliant on imports. The UK receives less than half of its total gas supplies from the UK Continental Shelf or North Sea. It also receives supplies via pipelines from Norway and continental gas through the IUK interconnector and BBL pipelines. It also has facilities to receive liquefied natural gas (LNG) shipments, as well as gas storage.

With the exception of a few price spikes in March, the Day-ahead gas price had been trading in “normal” conditions around 65p a therm. Traders will be monitoring future price moves closely to assess whether the recent upward trend is a temporary phenomenon or whether 70p a therm is the new normal.

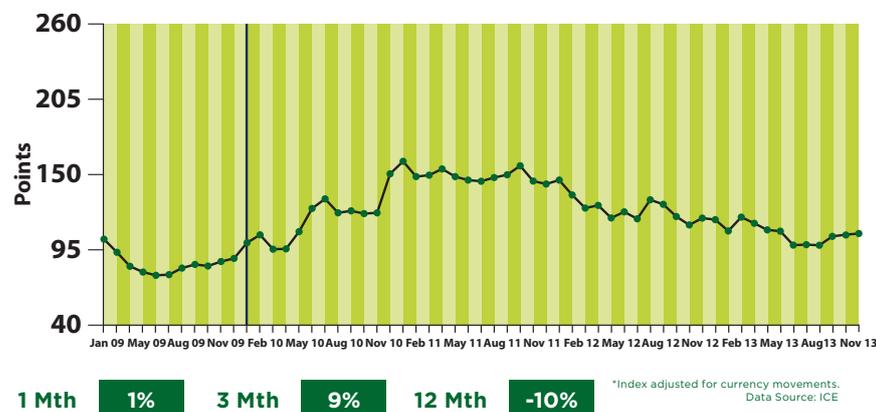
UK Gas prices for summer 14, next winter and beyond also rose in November as movements in the prompt and higher oil prices pushed prices about 1p a therm higher.

Natural Gas

In euro terms, the average Day-ahead gas price for November was over 6% higher month-on-month with colder weather in the UK driving up demand. A stronger Pound versus the euro amplified the upward price movement for euro zone buyers of UK gas.

The average Day-ahead gas price for November was 67.64p a therm but significantly the average for the second half of the month was closer to 70p a therm. For relatively normal conditions (UK gas supplies in November were stable, storage levels are healthy and rising demand is not unexpected) an average of 70p a therm over a two week period is high. During the month Norwegian supplies were interrupted on three days due to processing plant issues and wholesale prices on each occasion were nudged higher and failed to retreat. This upward trend and swift reaction to temporary supply

Coal Index



supplier of coal to Europe and it is unclear whether producer Drummond will receive an extension to its end-year deadline. There is speculation that the Colombian government will slap a ban on Drummond exports until the miner complies with the regulations. Sources from other suppliers remain stable, despite repeated terrorist attacks on the rail infrastructure of the country's largest miner Cerrejon, which has stoked some concerns about security of supply. With coal port stocks at Amsterdam-Rotterdam-Antwerp down approximately 2 million m/t below record highs seen earlier in the year, concerns about the impact of any disruption to supplies are being amplified. Drummond's operations account for over a third of coal output in Colombia. It is unclear what the effect of the possibility of a Drummond stoppage for the first few months of the year will be given that there are South African coal cargoes coming into Europe at the same time, but the uncertainty did support prices in November.

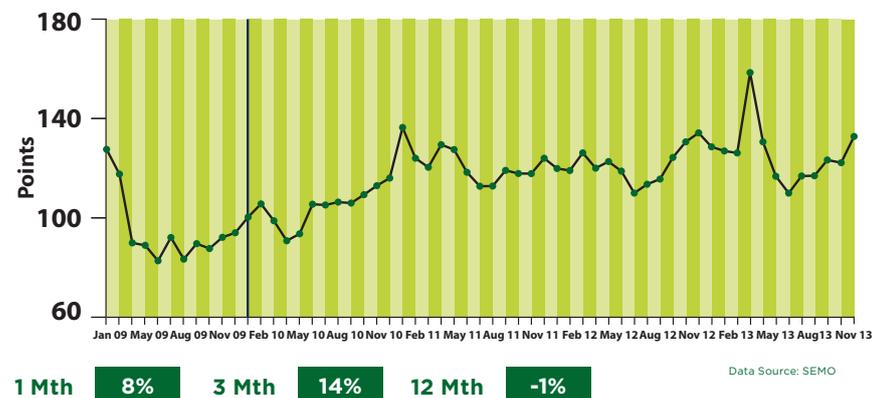
Global coal demand is set to grow 17% to 2035, with two thirds of that increase by 2020, according to the International Energy Agency's World Energy Outlook 2013. Coal is set to expand by one third in non-OECD countries such as India, China and Southeast Asia. Coal use is set to decline in OECD countries. On the production of coal, the International Energy Agency sees India, Indonesia and China accounting for 90% of the growth in output.

Coal

In euro terms the ICE Rotterdam Monthly Coal Futures contract was 1% higher month-on-month.

In October the ICE Rotterdam Monthly Coal Futures price received some support as it was perceived that the market was tight with the impact of the delayed shipments from Colombia, following a 53-day miners' strike which ended in late September, being felt. In November the market traded in a very tight range as players reportedly held off from the market in the absence of any new developments in the issue of whether US miner Drummond will be able to ship coal from its Colombian operations in 2014. Uncertainty over Colombian physical supply in the first quarter of 2014, due to Drummond's likely failure to meet with new direct loading legislation by January 1, largely supported prompt prices in November (all Colombian coal producers are required to convert export terminals to direct loading operations). Colombia is a significant

Electricity Index



as the cost of producing electricity by burning gas tends to determine the wholesale price of power. The vast majority of this gas is imported from the UK on a daily basis.

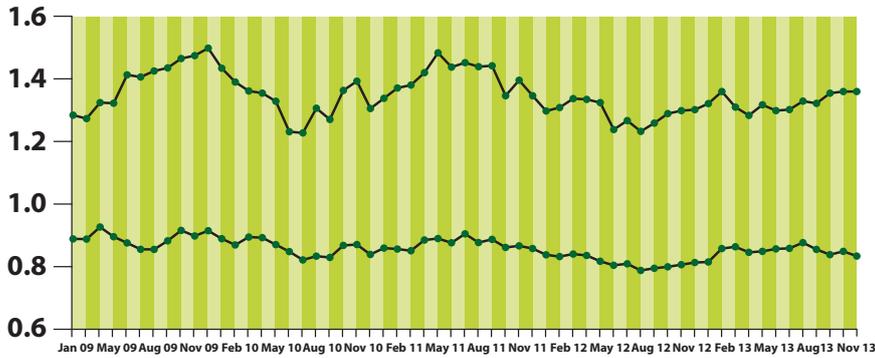
Of note during the month was the media coverage of “Green Bonds”. These are bonds that fund clean energy projects from China to France to Canada. The expectation is that these investments will support clean low-carbon energy technologies. Big global players like the World Bank, European Investment Bank and International Finance Corporation are among the biggest issuers globally of these new bonds.

Electricity

In November the monthly average Irish wholesale electricity price rose 8% month-on-month with the combination of rising wholesale UK gas prices and higher ‘clean sparks’ (the ‘clean spark’ is the theoretical gross margin of a gas-fired power plant from selling a unit of electricity, having bought the fuel required to produce this unit of electricity and the cost of abating the carbon emitted).

The November monthly average clean spark rose with an increased number of thermal plant starts and rising demand due to colder weather. An increasing number of thermal plant starts applied upward pressure on wholesale prices as the extra cost of starting up large power plants to meet rising demand fed through to wholesale prices. Wholesale UK gas prices have a significant influence on Irish wholesale electricity prices

FX Rates



1 Mth	0%	3 Mth	3%	12 Mth	5%	EURUSD
1 Mth	-2%	3 Mth	-3%	12 Mth	2%	EURGBP

FX Rates

Month-on-month the euro held steady against the US Dollar but lost some value against the British Pound.

During the month the economic data from the UK looked impressive and this in turn supported the Pound. According to the data, activity in the service sector (the biggest part of British economic output) hit a record high. The construction sector continues to grow, unemployment continues to fall and house prices continue to rise. The Bank of England's quarterly Inflation Report added to the positive sentiment as it predicts better than expected growth in 2014, contained inflation and a better than expected unemployment rate in 2015. The Q3 GDP figure showed that growth in the UK is faster than that in the US and Japan and that, at an annualised rate, British growth is higher than any other G7 country. However, other numbers do highlight some weaknesses. Quarter-on-quarter exports declined by £3 billion, investment still remains 25% below its previous peak, productivity per worker is down in Britain and workers have less money in their pockets. According to the

Economist Magazine "with exports growing more slowly than domestic consumption, the economy is becoming inward-focused and unproductive".

Despite a series of positive economic data releases from the US the Dollar failed to gain ground versus the euro as the markets continue to operate on the assumption that the Fed's era of ultra-easy money will continue. In November the US economy scored well on economic growth, jobs, inflation, consumer spending and house prices. Over the last 12 months 2.3 million jobs have been created and ongoing signs of a US recovery support the Fed's aggressive use of monetary policy. According to Yellen, the Fed's US\$85 billion monthly bond buying programme has "made a meaningful contribution to economic growth and improving the outlook".

The euro in turn suffered from a 25bps reduction in its policy rate to 0.25% and the ECB's position that rates will stay low for a long time and could even be lowered if required. A series of poor economic numbers point to the ongoing weakness in the euro zone economy. In particular, euro zone growth staggered in the third quarter and youth unemployment hit a high of 24.4%, with over 3.4 million under-25s out of work.

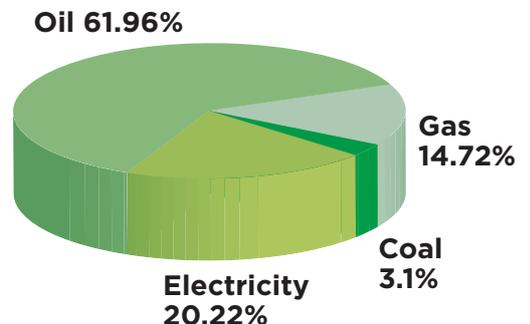
Market Outlook

Despite colder weather, Winter 13/14 has begun calmly and UK gas stocks are healthy. However, despite a balanced supply and demand picture, wholesale prices were rising at the back end of November and into December. The outlook for gas prices over the next four months of winter 13/14 will be driven by the weather and the ability of the UK's diverse supplies to meet demand. The same primary concern continues to hang over the market, being the 34 million cubic metres curtailment of Norwegian gas production due to compressor problems at the Troll swing field. According to Reuters, the Troll outage significantly limits flexibility to ramp-up Norwegian production to meet peak demand in severe weather conditions. With declining domestic supplies and further expected decreases in LNG imports, the UK will be more reliant than ever on piped gas from Norway and Continental Europe. As stated previously, this by itself is not a concern but multiple, coincident events within a winter could still prove challenging. As wholesale prices reacted to temporary disruptions to Norwegian supplies in November, it is clear that the UK gas market is growing tense as we descend further into winter 13/14.

On oil, the International Energy Agency (IEA) point to supply risks and swings in refining demand as "powerful" price drivers in the short-term. Brent crude oil prices have eased from the summer high of over US\$116 despite significant supply disruptions, particularly from Libya. However, the IEA point out that since the summer, global refinery demand has declined with European refiners leading the way. According to the Financial Times, European refiners are facing competition not only from low-cost plants in Asia and the Middle East but increasingly from North America where the shale boom is allowing the US to become a major exporter of cheap oil products. According to the IEA, it expects refinery demand to recover over the next few months due to a seasonal ramp-up. When combined with some production problems in OPEC countries, Brent crude prices should be supported in the short-term. OPEC oil ministers will meet in December to discuss the market outlook for 2014 and the possibility of Iran boosting exports immediately after sanctions are lifted should be discussed. Rising Iranian output coupled with an expected growth in non-OPEC supplies could potentially lead to OPEC production cuts in 2014. The IEA also expects the US to surpass Saudi Arabia and Russia as the world's top oil producer in 2015, two years earlier than it had predicted in last year's report. With domestic oil production up and efficiency increased, the share of petroleum imports in the US energy mix is the same now as in 1973, when Richard Nixon called for "energy independence". The geopolitical impact of the US's abundant production of domestic oil and gas should be intriguing in the years ahead.

Re-weighting of Bord Gáis Energy index

Following the SEAI's 2011 review of energy consumption in Ireland, there was a 6.4% drop in overall energy consumption. Oil continues to be the dominant energy source with most of the oil used in transport and the remainder being used for thermal energy. For the purposes of the Bord Gáis Energy Index, the total final energy consumption in Ireland fell 1,089 ktoe (toe: a tonne of oil equivalent is a unit of energy, roughly equivalent to the energy content of one tonne of crude oil) between 2009 and 2011. This fall was made up of a 1,022 ktoe drop in oil consumption (down 13.5%), a 20 ktoe drop in natural gas (down 12.6%), a 7 ktoe drop in electricity (down 0.3%) and a 40 ktoe drop in coal (down 10.98%). The Bord Gáis Energy Index has been re-weighted in January 2013 to reflect the latest consumption data. The impact has been minimal and has resulted in slight reductions in the share of oil and gas and a slight increase in the weighting of electricity in the overall Index.



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