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EU considers stricter Nord Stream 2 rules

Proposed changes would ensure the EU's energy market rules apply to pipelines such as Nord Stream 2 when on EU territory

The European Parliament is considering giving the European Commission more powers in amendments to proposed rules that could target Russian state-controlled Gazprom's 55bn m³/yr Nord Stream 2 pipeline.

Energy committee chairman and former Polish prime minister Jerzy Buzek wants rules to come into force more quickly and a greater say for the commission on national exemptions in amendments to the 2009 EU gas directive.

The commission proposed the rules on 8 November last year. The amendments would ensure EU energy market rules apply to pipelines including Gazprom's Nord Stream 2 pipeline when on EU territory, in EU territorial waters or in exclusive economic zones.

Buzek backs the commission in seeking to apply EU energy rules such as non-discriminatory network tariffs and third-party access, ownership unbundling and transparency to all natural gas pipelines within EU territory when entering from third countries.

The parliament's energy committee will hold its first formal consideration of the revised law on 11 January. The whole parliament could vote on its position by the end of February. If the parliament rapidly agrees changes with EU member states, the rules could apply before the Nord Stream 2 gas pipeline is completed.

Gazprom plans to start the pipeline before the expiry of its Ukrainian transit contract at the end of 2019. Buzek wants the revised gas rules to come into force only three months after their publication in the EU's official journal.

And he wants member states to take the "utmost" account of the commission's opinion on any national derogation issued to pipelines on their territory. And derogations should be clearly limited to 10 years, from the entry into force of the revised gas directive.

No veto

But Buzek stops short of calling for the commission to be able to veto any national derogations. If Nord Stream 2 is in operation, whether before the adoption or the entry into force of the revised rules, Germany could grant a derogation to the new pipeline.

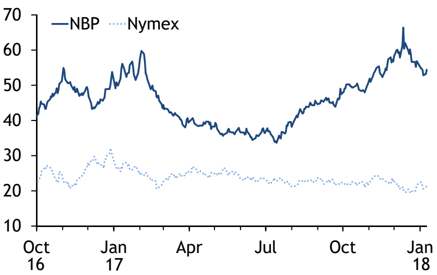
But under the commission's original proposal, which was left unchanged by Buzek, any derogation should not be detrimental to competition, the EU's internal gas market or security of supply.

Separately, Ukraine transited 93.5bn m³ of Russian gas to Europe last year, up from 82.2bn m³ in 2016 and the highest since 2010.

Transit this year will depend on aggregate Russian exports, although Gazprom could deliver more through Nord Stream to Germany for onward shipment through the Opal pipeline rather than through Ukraine. But Gazprom targets to raise its market share in Europe over the next few years, which would require maintaining or raising deliveries through Ukraine, even if the Russian company does use more Opal capacity.

Ukraine's own consumption fell to 30.6bn m³ in 2017 from 32bn m³ a year earlier, the operator said. Parent company Naftogaz had previously said that consumption was higher than 32bn m³ in 2016 at 33.2bn m³.

Front-month US Nymex, UK NBP



Key Argus Prices	€/MWh
	Dec
Natural gas oil index month 1	18.87
Natural gas oil index/TTF month 1	19.16
NBP front month	22.55
TTF front month	20.59
NBP October 18 gas year	17.80

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ARBITRATION

Ukraine could resume imports of Russian gas after a ruling is made on the companies' 2009-19 gas transit contract next month

Naftogaz and Gazprom claim victory in legal battle

Russia's state-controlled Gazprom and Ukraine's state-owned Naftogaz both claim victory following a 22 December Stockholm arbitration court ruling on Naftogaz's 2009-19 gas supply contract. But they largely agree with the court's decisions.

Depending on the outcome of a separate ruling by the court on the companies' 2009-19 gas transit contract — expected in February — and outstanding payments being made by both sides, Ukraine could resume imports from Gazprom. Naftogaz halted purchases of Russian gas in the fourth quarter of 2015.

Naftogaz insists that it has won the case. The court reduced contractual supply to 5bn m^3/yr in 2018-19, with a minimum take of 4bn m^3/yr, the company says — a significant drop from the 2009-19 contract's take-or-pay requirement of 41.6bn m^3/yr. The court "completely rejected" Gazprom's claims for payment of \$56bn for gas contracted but not taken in 2009-17, and it reduced the contract price to \$352/'000m^3 from the second quarter of 2014, down from \$485/'000m^3, Naftogaz says. The court had ruled in May that Naftogaz was "entitled to a market-reflective adjustment of its pricing formula".

The destination clause in the 2009-19 contract, preventing the resale of Russian gas, "and other discriminatory provisions were declared invalid", Naftogaz says. And the court ruled that Ukraine should not pay for Russian gas supplied to territory held by separatists in the country's eastern Luhansk and Donetsk regions. Gazprom had registered deliveries to the disputed territories as sales to Ukraine and demanded payment from Naftogaz.

Gazprom says it secured victories in other parts of the case, with the court ordering Naftogaz to pay \$2.02bn in arrears for gas supplies and rejecting the Ukrainian firm's \$14bn claim relating to a review of the contract price from May 2011-April 2014. And the Russian company says Naftogaz still has a take-or-pay obligation for 5bn m^3/yr.

"Naftogaz will do its utmost to implement the tribunal decisions in good faith," chief commercial officer Yuriy Vitrenko says. But the company plans to make no payments to Gazprom until after the court rules on the transit contract, under which Naftogaz is claiming up to \$16bn from the Russian firm.

'Final clarity on who owes what, how and when it will be paid and how it will be enforced may not come until February'

"Final clarity on who owes what, how and when it will be paid and how it will be enforced may not come until February," Vitrenko says. Interest of 0.03pc/day on the \$2.02bn owed will be applied from 22 December, Gazprom says.

Appeals against the court's rulings can only be made on procedural grounds. But Naftogaz and Gazprom have both claimed the revised 5bn m^3/yr 2018-19 contract as a victory, suggesting that both sides are satisfied with the outcome. Naftogaz estimates the net "positive financial effect" of going through arbitration over the supply contract at \$75bn.

Return of Russian gas

The Ukrainian firm's decision to withhold payment to Gazprom until the ruling on the transit contract may mean that purchases from Russia do not restart until later this year — after the winter period when demand is high. But the resumption of Russian supply would reduce Ukraine's need for gas from EU countries, which have covered import demand since the fourth quarter of 2015.

Ukraine's system operator Ukrtransgaz estimates the country imported 14bn m^3/yr last year, up from just over 11bn m^3/yr in 2016. It forecasts Ukrainian production at 20.6bn m^3 in 2018 and consumption of 28.4bn m^3 — although this would be closer to 31.4bn m^3, taking into account Ukrtransgaz's own use. This could put the country's import demand just short of 11bn m^3 this year, although above-average gas stocks in late 2017 could provide some flexibility for lower imports.

TRANSMISSION

Bnetza rules out uniform gas entry fees before 2020

New EU rules will bring in uniform entry and exit fees so there is no need for further measures, Germany's regulator says

German energy regulator Bnetza does not plan to introduce uniform entry tariffs in Germany's gas market areas before 1 January 2020.

The implementation of the EU's network code on harmonised transmission tariffs (NC TAR) could result in uniform entry and exit fees being introduced at the start of the 2020 calendar year, Bnetza says. So there is "no need" to redevelop plans for a simplified cost allocation mechanism between system operators in the same market area that would result in uniform entry tariffs, it says.

Bnetza had initially planned to implement a cost allocation mechanism, including uniform fees for booking entry capacity in the German market areas, by 1 January 2018. But it scrapped this plan in October after three system operators and a transport customer filed an appeal against the uniform tariffs. Exit fees would not have been covered by the proposed cost allocation mechanism.

NC TAR will require system operators within one EU member state to apply the same reference price methodology for all entry and exit points by 31 May 2019 at the latest, Bnetza says. This will result in uniform entry and exit tariffs in each German market area from the start of the following calendar year, if a "postage stamp" reference price methodology is applied, it says.

Under this methodology "tariffs are identical for all points in entry and all points in exit" within one market area and will factor in system operators' allowed revenue and expected entry and exit bookings at each point, European gas system operators association Entso-G says.

Following the planned merger of the NCG and Gaspool market areas — which should be completed by 1 April 2022 — uniform fees will apply to all entry and exit points in Germany, Bnetza says.

But Bnetza could look again at the idea of introducing uniform tariffs before 2020 if there are developments that "currently cannot be foreseen", the regulator says.

GERMANY

Gas consumption rises in 2017

German demand was driven by higher power sector gas burn and colder weather

Germany's gas consumption rose by just over 5pc year on year in 2017, energy and water association BDEW says.

Aggregate demand is expected to have risen to around 985TWh in 2017 from 936TWh in 2016, preliminary BDEW data show.

Stronger consumption was driven by higher power sector gas burn and colder weather during some months, while industrial demand also increased, the association says.

Strong power sector gas burn boosted German consumption in 2016, largely because gas increasingly pushed coal out of the generation mix for prolonged periods in the second half of the year.

And this trend continued in 2017, with gas-fired generation expected to climb to around 85.7TWh from 81.1TWh in 2016, BDEW says. Gas is expected to have increased its share in Germany's electricity generation mix to around 13.1pc in 2017 from 12.5pc in the previous year, BDEW says.

Weak renewable generation boosted gas-fired generation early in the year, even after gas had generally become uncompetitive with coal.

Gas displaced some coal in the summer of 2017. Brisk imports from Norway, Russia and the UK through Belgium weighed on NCG and Gaspool prompt prices, even as injection demand was strong following quick withdrawals for much of the 2016-17 winter.

UK

Energy demand projected to fall by 2025

The government expects a gradual decline in the rate of new thermal generation coming on line through to 2035

Final UK energy demand is projected to fall by 3pc by 2025 from 2016 levels, while the share of low-carbon electricity generation is forecast to rise to 58pc in 2020 from 22pc in 2010, the UK's Department for Business, Energy and Industrial Strategy (Beis) says.

Final energy demand — which excludes intermediaries such as electricity generators — across the transport, domestic, industry and services sectors is expected to fall to around 134mn t of oil equivalent (toe) in 2025 from 139mn toe in 2016, Beis says in its *Energy and emissions projections 2017* report. But it is expected to rise by 2pc to 141mn toe in 2035 as the effects of energy policies diminish and macroeconomic drivers continue to support demand.

The transport sector, including international aviation, accounted for 40pc of final energy demand in 2016. Its share is expected to hold steady through to 2035. Domestic sector demand is projected to account for a 33pc share in 2035 compared with 30pc in 2016, based on estimates of household numbers, retail fuel prices and weather. Industrial sector demand is projected to fall by 13pc between 2016 and 2035, with the share from renewable sources expected to rise to 10pc in 2030 from 6pc in 2016. Services sector demand is expected to hold steady at 13pc through to 2035, with the share from renewable sources expected to rise to 59pc in 2035 from 47pc in 2016.

Beis' models estimate a gradual decline in the rate of new thermal generation coming on line through to 2035 across all four of its scenarios, with renewables largely expected to bridge the gap, along with supply from new power interconnectors and nuclear units from 2019 and 2025, respectively.

No coal-fired power generation is expected to be connected to the grid beyond 2025, compared with 14GW at present. The decline in coal-fired installed capacity is projected to be steepest under the government's low price scenario.

New gas generation capacity is expected to rise by a further 6GW by 2031 under its low and high economic growth and low fossil fuel price scenarios — and increase by 10GW under the high fuel price scenario, from 38GW in 2017.

Renewable and nuclear generation capacities are projected to reach 69GW and 14GW, respectively, for all scenarios by 2035, up from 40GW and 9GW in 2017.

EASTERN EUROPE

Romania's Transgaz seeks stake in Moldovan operator

Securing a share in the operator of the Iasi-Ungheni pipeline could allow Romania to export more gas to Moldova

Romanian state-owned gas system operator Transgaz has applied to participate in the privatisation of Moldova's state-owned system operator Vestmoldtransgaz.

Vestmoldtransgaz was created in June 2014 to operate the Iasi-Ungheni pipeline connecting Moldova and Romania. Moldova aims to privatise the firm for 180mn lei ($10.5mn) on the condition that the new owner continues to develop the pipeline.

The European Bank for Reconstruction and Development and the European Investment Bank have agreed to provide funds to expand the connection, providing that Moldova liberalises its energy market. The country receives almost all of its gas from Russia through Ukraine at present.

Romania has exported small quantities of gas to Moldova following an agreement between Romania's OMV Petrom, a subsidiary of Austrian integrated oil and gas company OMV, and Moldovan power distributor Energocom. Transgaz aims to improve the border connection and plans to expand its capacity to Moldova to 1.5bn m^3/yr — or 4.1mn m^3/d — up from 336,000-360,000 m^3/d.

Romania aims to become a net exporter of gas following recent onshore and offshore discoveries in the Black Sea.

SPAIN

Spanish power sector gas demand was above the three-year average in December despite record wind power generation

December consumption at seven-year high

Spanish gas consumption in December last year was the highest for the month since 2010, driven by conventional demand and gas-fired generation.

Aggregate demand reached 1.21 TWh/d, up from the three-year December average of 1.05 TWh/d. It was at 1.28 TWh/d in December 2010.

Higher consumption was mainly driven by conventional demand, which increased to 957 GWh/d, the highest for December since at least 2005 and up from the three-year December average of 822 GWh/d.

Stronger conventional consumption could have been driven by industrial demand, which accounts for more than half of aggregate demand. Industrial consumption had already reached a record high in November and is forecast to remain strong in 2018.

Power sector gas demand of 221 GWh/d was up from the three-year average for the month of 196 GWh/d, despite record wind power generation for December, but was the lowest since May. Wind generation reached 185 GWh/d last month, compared with 87 GWh/d a year earlier.

Lower hydroelectric output last year supported a rise in gas-fired output compared with recent years. And lower French nuclear capacity availability in October-November compared with a year earlier boosted the call on Spanish gas-fired plants.

French nuclear output increased in December and Spain switched to being a net importer of power from France in the second half of the month, after being a net exporter in November. Electricity imports from France were 39.1 GWh/d on 21-31 December, compared with exports of 13.1 GWh/d earlier in the month. Power sector gas demand fell to 109 GWh/d on 21-31 December from 282 GWh/d earlier in the month.

The restart of the 1.06GW Cofrentes 1 and 992MW Asco 2 nuclear plants last month boosted domestic nuclear output.

LATVIA

The share acquisition is aimed at improving Latvia's energy independence and security of supply

Riga buys shares in gas operator

The Latvian government has bought shares in gas system operator Conexus Baltic Grid from German utility Uniper and Russian state-controlled oil producer Rosneft's Itera Latvija subsidiary.

State-owned electricity system operator Augstsprieguma tikls has purchased Uniper's 18.31pc stake and Itera Latvija's 16.05pc holding, making it the largest shareholder with a 34.36pc share.

The acquisition of shares in the operator and its 2.3bn m^3 Incukalns underground storage facility is "important" for the country's energy independence and security of supply, Conexus Baltic Grid says.

Partial ownership will help guarantee supply for state-owned utility Latvenergo's gas-fired combined heat and power plants in Riga, which are a "significant" source of power for the region when demand for heat and electricity is high and water levels on the Daugava river are too low to meet demand from hydropower plants, the operator says.

Conexus Baltic Grid took over domestic gas firm Latvijas Gaze's transmission and storage business in April last year as part of the Latvian government's plans to liberalise its gas market.

The other shareholders in Conexus Baltic Grid are Russia's state-controlled Gazprom, with a 34.1pc stake, and EU investment fund Marguerite with 29.06pc. The remaining 2.48pc belongs to employees and other shareholders.

ALGERIA

A rule that limits foreign firms to a maximum 49pc stake in Algerian companies will continue within the oil industry

Oil minister offers reassurances over sovereignty

Algerian oil minister Mustapha Guitouni has told his country's parliamentary finance committee that legislative changes aimed at attracting foreign and domestic investment into the industry will not extend to major fields.

But state-owned Sonatrach could invest in overseas refining capacity "if the project is profitable for the national economy", while any move to exploit shale reserves in Algeria will not begin for "a dozen years", Guitouni says.

The so-called 51/49 rule in the 2009 Complementary Finance Act, which limits foreign partners to a maximum 49pc stake in Algerian companies, will be retained for the oil industry, "particularly in respect of field and large projects of national sovereignty significance", Guitouni says. Attracting new capital is aimed at guaranteeing sufficient production for domestic demand and exports but "investment in the big fields will remain under rule 51/49, although incentives will be offered at other levels to attract partners", he says.

Guitouni's comment about possible investment in foreign refining capacity underlines remarks he made in December last year, confirming that Sonatrach was considering making a bid for Russian firm Lukoil's 320,000 b/d Isab plant in Sicily.

A planned expansion of domestic refining capacity will not only satisfy domestic demand and replace imports but also enable oil product exports, Guitouni says. A number of African countries have already expressed interest in buying products from Algeria, he says.

The country is only evaluating its national shale gas reserves at present, Guitouni says. No exploration work is under way and the exploitation of any reserves will not happen for a number of years. The government had rejected the idea of developing shale resources until October last year.

RUSSIA

Power sector gas consumption, lower French power imports and weak hydroelectric generation are supporting Iberian LNG demand

Yamal LNG's second cargo transshipped to Spain

The second cargo loaded at Russia's recently commissioned Yamal liquefaction facility has been delivered to Spain's 2.8mn t/yr Mugardos terminal after transshipment at the Netherlands' 8.7mn t/yr Gate facility.

The 162,000m³ *Clean Ocean* carrier received its cargo at Gate from the Russian independent Novatek-chartered 172,600m³ ice-class carrier *Boris Vilkitsky* on 31 December, and unloaded 149,000m³ at Mugardos on 8 January.

This was the second cargo loaded at Yamal since the commissioning of its first 5.5mn t/yr train in December. Novatek had previously said the cargo was offered to China's state-owned CNPC, which is a shareholder in Yamal LNG.

At times in December, Spanish LNG prices for delivery in January offered higher netbacks for transshipments from northwest Europe than deliveries to northeast Asia, where China has driven strong demand this winter. LNG demand in Iberia has been high in recent months, supported by strong power sector gas consumption amid lower French power imports and weak hydroelectric generation.

The ultimate destination of Yamal LNG's third loaded cargo is still unclear. It is due to arrive at France's 7.25mn t/yr Montoir terminal on 10 January on board the 172,600m³ ice-class carrier *Fedor Litke*.

Yamal's first cargo was unloaded at the UK's 14.8mn t/yr Isle of Grain terminal from the 172,600m³ *Christophe de Margerie* on 29 December. It may have been re-exported to the US following a cold snap that lifted northeast US prompt prices. The 8.3mn t/yr Everett LNG import terminal outside Boston, Massachusetts, operated by France's Engie, is scheduled to receive a cargo on 22 January that was reloaded from the Isle of Grain on the 153,500m³ *Gaselys* carrier.

NETHERLANDS

Dutch quality conversion rises in 2017

Increased quality conversion was needed to meet demand for low-calorie gas in the Netherlands and neighbouring countries

Gas quality conversion in the Netherlands rose last year, driven by more extensive use of nitrogen ballasting facilities. But a lower amount of high-calorie gas was used for enrichment.

High-calorie gas supply used for nitrogen ballasting and enrichment reached 286TWh or 785 GWh/d last year, up from 257TWh or 704 GWh/d in 2016.

Supply converted through nitrogen ballasting increased to 475 GWh/d in 2017 from 368 GWh/d a year earlier. And it reached its highest for any month since at least October 2014 in December, at 696 GWh/d.

Increased quality conversion was needed to meet demand for low-calorie gas in the Netherlands and neighbouring countries, as a further lowering of the output cap at the Groningen field cut into domestic production. The Groningen cap was lowered to 24bn m^3 for the 2016-17 gas year, from 27bn m^3 in October 2015-September 2016, and has been reduced to 21.6bn m^3 for this gas year.

Groningen production data for November-December are not yet available, but output for sale — which includes stock movements at the Norg storage facility — dropped to 58.3mn m^3/d in January-October from 66.6mn m^3/d a year earlier.

The government had said that more extensive and efficient use of nitrogen ballasting facilities would allow for further cuts to Groningen production. But while more gas was converted through nitrogen ballasting last year than in 2016, less high-calorie supply was used for enrichment. Around 310 GWh/d of high-calorie gas was used for blending with low-calorie supply, down from 337 GWh/d a year earlier.

Groningen gas, which has an average Wobbe value — a measure of heating, or calorific value — of around 43.8 MJ/m^3, can be mixed with high-calorie supply to increase the value to the maximum that is still compatible with equipment that burns low-calorie gas. The Wobbe value can be up to 46.5 MJ/m^3 if the gas is exported to Germany, Belgium or France. A total of 219 GWh/d of high-calorie supply was used last year to enrich low-calorie gas that could be delivered to these countries, down from 226 GWh/d a year earlier.

Blending in

Another 91 GWh/d of high-calorie gas was blended with low-calorie supply for domestic use last year, compared with 111 GWh/d in 2016. The Wobbe value for supply to Dutch consumers cannot exceed 44.4 MJ/m^3.

The average Wobbe value of high-calorie supply used for conversion and enrichment increased to 50.7MJ/m^3 last year from 50.1MJ/m^3 in 2016. This may have reduced the amount of low-calorie gas that could be enriched up to the maximum possible Wobbe value using high-calorie supply. High-calorie gas with a greater Wobbe value that is used for blending raises the Wobbe value of the low-calorie supply more quickly.

The government will publish scenarios for future Groningen production by the end of March

The increase also meant that more nitrogen was needed to convert the same amount of high-calorie supply into low-calorie gas.

The average Wobbe value could increase further because of changes in the Dutch high-calorie supply mix, especially a larger share of imports from Norway and Russia relative to production from the Netherlands' small fields.

The Dutch government plans to publish scenarios for future production from the Groningen field by the end of March. It will also study how much production will be possible while conforming with required safety standards.

Seismic activity in the Groningen area was higher in 2017 than a year earlier, with 18 earthquakes with a magnitude greater than 1.5, compared with 13 in 2016. Lower seismic activity in 2016 than in previous years appeared to be related to lower gas production, meteorological institute KNMI says.

IN BRIEF

Shell to buy UK supplier First Utility

Shell will enter the household energy supply market by buying UK power and gas supplier First Utility. The firm is the largest power supplier in the UK outside the retail arms of the big six integrated utilities, with 825,000 customers. The two companies have collaborated for a number of years, with Shell providing wholesale power and gas market access and trading services for First Utility since 2013. The two firms also partnered to launch a power and gas retail arm in Germany in 2015. Shell says it sees a "new electricity value chain" in the UK. The deal is subject to regulatory approval and is expected to be completed early this year. First Utility will operate as a stand-alone entity within Shell's New Energies division. The purchase will enable the major to enter a market in which customers are beginning to manage their power use and sell power produced in distributed generation capacity such as solar back to the grid. Shell recently purchased Netherlands-based electric vehicle charge provider NewMotion and is increasing the number of charging points on its filling station forecourts.

Gazprom drops Serbia destination clause

The EU-led Energy Community has welcomed a decision by Russia's state-controlled Gazprom to drop a destination clause in its natural gas supply contract with Serbian utility Srbijagas and Gazprom subsidiary Yugorosgaz. The community secretariat launched an investigation against Serbia in January last year over the destination clause in a 2012 intergovernmental agreement, which stipulates that gas supplied under the contract is only for use in Serbia. The secretariat came to a preliminary conclusion in May that Serbia had "infringed its obligations" under EU law by ratifying the agreement. "We encourage both sides to finalise the relevant amendments to the intergovernmental agreement as soon as possible," Energy Community director Janez Kopac says. This will open the possibility of Serbia and neighbouring Bosnia and Herzegovina establishing a "more liquid" gas market, he says.

Qatar merges state-owned LNG producers

Qatari state-owned oil company QP completed the merger of its two LNG producing subsidiaries Qatargas and Rasgas on 1 January — the proposal was first announced in December 2016. The merged entity, operating under the name Qatargas, will enhance the competitiveness of the Qatari gas industry, QP says. Other stakeholders in Qatargas include ExxonMobil, Total, Shell and US upstream independent ConocoPhillips, as well as Japanese firms Mitsui, Marubeni, Idemitsu Kosan and Cosmo Oil. Qatargas has liquefaction capacity of 77mn t/yr at the Ras Laffan LNG hub. The company has plans to expand this to 100mn t/yr in the next 5-7 years through debottlenecking and further expansion of the country's offshore North Field.

Spain supplies Europe's first LNG-fuelled train

Spain's 2.8mn t/yr Mugardos terminal will provide LNG to test Europe's first LNG-fuelled passenger train. Mugardos will supply the LNG for four months to Asturias, where the train is undergoing tests on a 20km stretch of track. The train, which was converted from a diesel-fuelled model, will receive LNG from trucks that will be loaded on a weekly basis. The project is intended to study the advantages of LNG over diesel in reducing operational costs and emissions. It forms part of a wider EU initiative to develop clean fuels for the transport sector, Mugardos operator Reganosa says. LNG's development as a fuel for trains would further support demand for Spanish LNG truck loadings, which have been the highest in Europe in recent years. Reganosa also plans to offer LNG bunkering services at Mugardos.

IN BRIEF

German inland LNG fuelling station readies launch

An inland LNG fuelling station on the Rhine river in western Germany is due to start operating this month. The facility will bunker support vessels at the port of Duisburg and supply fuel for heavy goods vehicles. The LNG fuelling station is a joint project between German utility RWE and the Port of Duisburg and has received a €740,000 ($890,000) grant from the European Regional Development Fund. The facility is expected to operate for 29 months.

Turkey deregulates LNG capacity costs

Turkey's energy regulator EPDK has ended regulated LNG capacity fees at Turkish terminals, with effect from 1 January. The fees for using Turkish LNG import facilities should be determined by the market because there is already "sufficient capacity" installed, EPDK says. But there may be no short-term impact on fees paid for using Turkish terminals, given the small number of market participants. State-owned supplier and LNG importer Botas operates the onshore Marmara Ereglisi terminal, as well as the *Dortyol* floating storage and regasification unit (FSRU), which is due to begin operations this month. Botas also has a six-year capacity agreement for the use of Turkish private-sector terminal operator Etki Liman's FSRU in Aliaga, which started operating in December 2016.

FGSZ to buy Hungarian side of pipeline to Slovakia

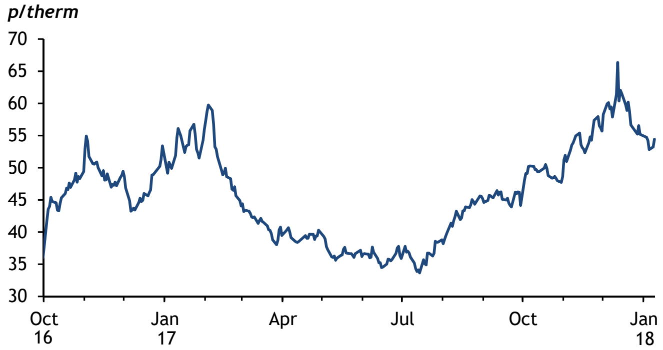
Hungarian system operator FGSZ is buying the domestic part of the gas pipeline that connects to Slovakia from system operator MGT. The link at Velke Zlievce-Balassagyarmat has 127 GWh/d of capacity towards Hungary and 50.8 GWh/d towards Slovakia, but has been little used since its commissioning. But the construction of the 55bn m^3/yr Nord Stream 2 pipeline, planned for late 2019, could result in a reconfiguration of European gas flows as Russia's state-controlled Gazprom intends to reduce transit through Ukraine. Natural gas delivery capacity to Slovakia from Hungary will expand from 2022, owing to demand from market participants. Slovakia and Hungary signed an agreement in late October on the proposed Eastring pipeline, which will serve as a bidirectional link from Velke Kapusany on the Slovakia-Ukraine border through Hungary and Romania to Bulgaria.

UK makes first LNG shipment to US

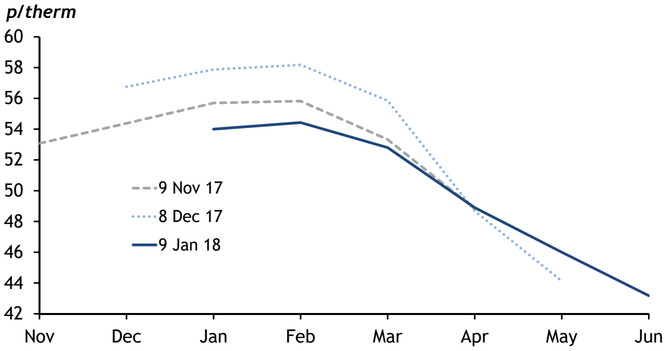
The UK has re-exported its first LNG cargo to the US following a cold snap that lifted northeast US prompt prices. The 8.3mn t/yr Everett LNG import terminal outside Boston, Massachusetts, operated by France's Engie, is scheduled to receive a cargo reloaded from the UK's 14.8mn t/yr Isle of Grain terminal on 8 January. The cargo is being transported on the 153,500m^3 *Gaselys* LNG carrier. The vessel is scheduled to deliver its cargo at the US terminal on 22 January. This may have been an onward sale of a cargo brought to the Isle of Grain as Russia's first export from the Yamal liquefaction plant on 29 December. This cargo was not intended for delivery to the UK grid, Isle of Grain terminal operator National Grid says. The Isle of Grain began re-exporting cargoes in November 2014 and is the only UK LNG receiving terminal with this capacity. The delivery follows the onset of cold weather in the northeast US, boosting the call for sendout and supporting Algonquin Gas Transmission city-gate prompt prices. The terminal supplies gas to local utilities, including a 1.6GW gas-fired power plant. Some of the LNG is transported by truck to peak-shaving storage facilities. The average day-ahead price at Algonquin was $36.53/mn Btu on 26 December 2017-5 January 2018, up from $6.50/mn Btu on 27 December 2016–6 January 2017. This was against a northwest European first-half January reload price of $8.625/mn Btu on 15 December.

NWE MARKET VIEW

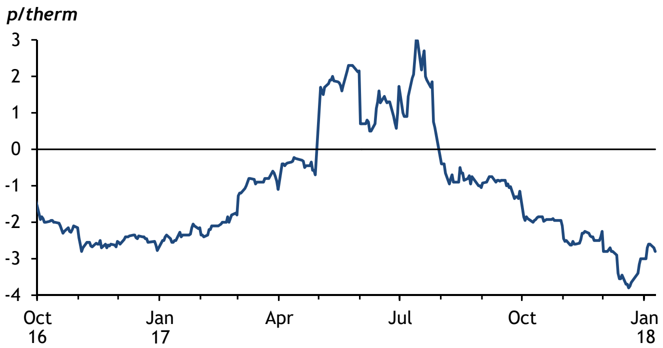
NBP month-ahead price



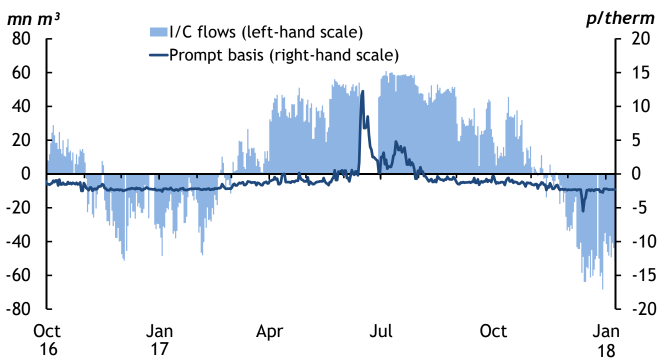
NBP forward curve



Zeebrugge front month vs NBP



Interconnector flows vs NBP/Zeebrugge basis



UK NBP

WATCH FOR: Low end-winter mid-range stocks

• NBP prompt near-curve markets tumbled from the four-year highs reached after the shutdown of the Forties Pipeline System (FPS) amid mild weather in the holiday season.

• All FPS restrictions were lifted on 28 December and UK offshore output then took a few days to reach normal rates. Even with lower domestic production than a year earlier in late December, mild weather and quick imports from Norway and the continent allowed for a brisk stockbuild.

• Mid-range stocks remain lower than a year earlier and could be drawn down more than in recent years by the end of winter. A strong mid-range stockdraw in January last year was followed by low withdrawals in February-March.

• Higher demand in February-March than in the corresponding period of 2017 could raise the call on mid-range sites, particularly given expected lower Rough withdrawals from the end of January. Drawing down stocks quickly could leave less flexibility to deal with a late cold snap or supply disruption.

ZEEBRUGGE AND FRANCE

WATCH FOR: Effects of mild weather

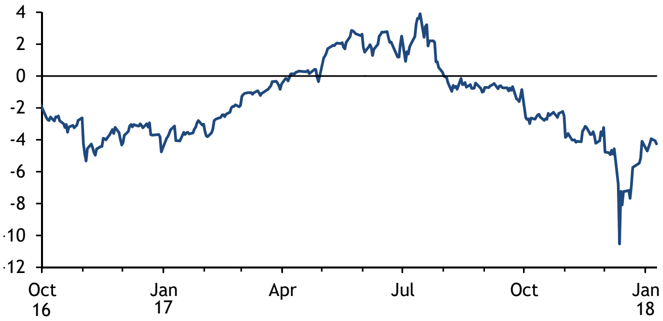
• The Peg Nord February market tightened its premium to the TTF in recent days as mild weather reduced the stockdraw. More in storage for later in the winter could reduce import demand from neighbouring hubs. Virtual flows slipped in January from December. The draw on northwest European storage could ease as UK gas output returned to normal after 28 December following the Forties Pipeline System shutdown.

• Mild weather in the TRS market area reduced demand for gas from northern France. The Peg Nord day-ahead market has narrowed its discount to the TRS in recent days. And the North-South link allocations dropped compared with December levels, when flows had been close to capacity for most of the month. The Joint Transport Storage (JTS), which transfers stocks from the Peg Nord area to the TRS area, has not been used since 22 December.

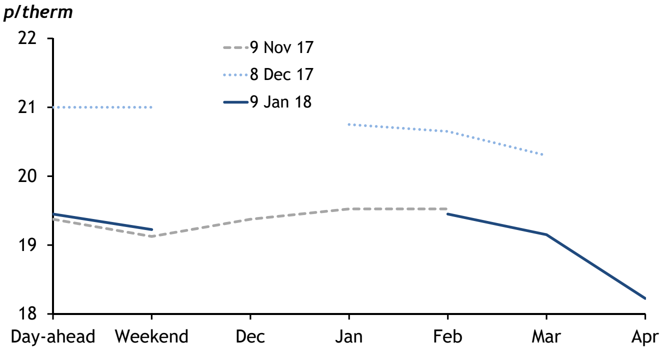
• Brisk exports to Italy could persist over the coming month as maintenance on the Tenp pipeline will continue to limit flows at Wallbach to Switzerland and the PSV.

NWE MARKET VIEW

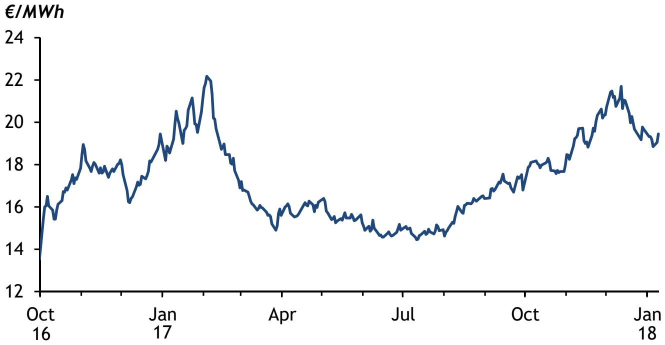
TTF front month vs NBP



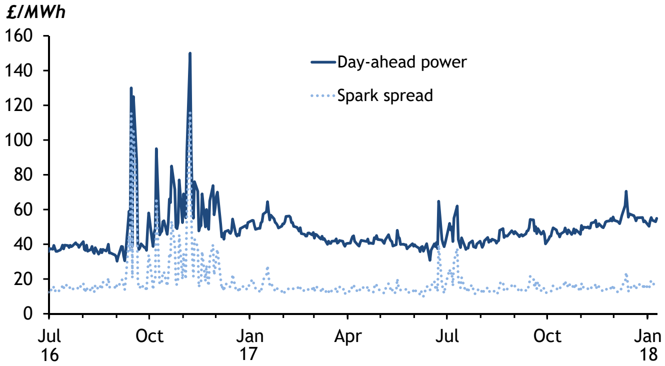
TTF forward curve



TTF 1st month



UK day-ahead power price and spark spread



DUTCH TTF

WATCH FOR: Groningen cap cutting output

• TTF prompt and near-curve prices fell in 13 December-9 January, after they had risen on 11 December following the unscheduled shutdown of the Forties Pipeline System (FPS). The FPS halt — which lasted until 28 December — shut in connected fields and lifted UK demand for continental gas. Stronger BBL and Interconnector flows required brisk withdrawals in northwest Europe and took stocks to considerably below the average. But mild weather and slower UK exports have pared the stockdraw since the start of January, helping stocks to edge back towards the average.

• Receipts from Norway and Russia rose to support strong Dutch exports to the UK over the period. TTF prompt prices expanded their premium to the NCG and Gaspool hubs to encourage quicker deliveries into the Dutch system. The brisk imports helped to offset weaker domestic production, which was driven down by lower Groningen output for sale, which includes Norg withdrawals. Field operator Nam may cut output further for the rest of this gas year after a recent earthquake that was the strongest in the region since 2012.

SPARK SPREADS

WATCH FOR: Power sector taking summer supply

• Dutch and German gas mostly remained uncompetitive with coal in recent weeks, even as milder weather weighed on prompt prices at northwest hubs, while strong German renewable output cut into gas-fired generation. German wind output in early January was considerably higher than a year earlier, paring the call on thermal generation.

• But the weaker draw on northwest European storage sites in recent weeks could result in higher inventories by the end of the winter and pare injection demand in summer, leaving more supply to be absorbed by the power sector. German stocks in the first week of January were higher than a year earlier for the first time this winter. And the Gaspool second-quarter 2018 contract has consistently held below fuel-switching prices so far this month — at which a 55pc-efficient gas-fired unit is competitive with a 38pc-efficient coal-fired plant — after being firmly above this support level between mid-November and early December. Quick imports this summer could again allow for strong power sector gas burn in the summer, even when injections are quick.

PRICES

Norwegian exports to 'match' 2017 high

Norwegian pipeline natural gas exports could equal 2017's record high this year, driven by falling European production, offshore system operator Gassco chief executive Frode Leversund says.

Norwegian pipeline deliveries reached 116bn m³ last year, or 317.9mn m³/d, up from the previous high of 108.2bn m³ set in 2016, Gassco data show.

Declining Dutch output in recent years has supported northwest European demand for additional sources of supply.

The production cap on the Netherlands' Groningen field is 21.6bn m³ for October 2017-September 2018, down from 24bn m³ a year earlier and 27bn m³ in 2015-16. And Dutch small fields are in long-term decline.

Norwegian output, excluding deliveries from the 4.2mn t/yr Snohvit LNG export terminal, reached 292mn m³/d in January-October — the latest data available — up from 267mn m³/d a year earlier.

Increased capacity at the Nyhamna gas processing plant and the expected start-up of the 22mn m³/d Aasta Hansteen project later this year could boost Norwegian production.

LNG imports are not a concern for Gassco's short-term outlook for exports, Leversund says, without commenting further.

Northwest European LNG imports have remained weak in recent years, despite an increase in global liquefaction capacity. This has resulted in strong demand for pipeline gas, particularly with consumption in the region increasing in the past two years.

Argus European long-term contract prices		Jan 18
	€/MWh	*$/'000m³*
Oil index	19.31	243.56
+5pc discount	18.34	231.32
+7.5pc discount	17.86	225.27
+10pc discount	17.38	219.21
+12.5pc discount	16.90	213.16
+15pc discount	16.41	206.98
+20pc discount	15.45	194.87
Oil/TTF		
Oil index 90pc + 10pc TTF	19.44	245.20
Oil index 80pc + 20pc TTF	19.57	246.84
Oil index 70pc + 30pc TTF	19.70	248.48
Oil index 60pc + 40pc TTF	19.82	249.99
Oil index 50pc + 50pc TTF	19.95	251.63
Oil/NCG		
Oil index 90pc + 10pc NCG	19.44	245.20
Oil index 80pc + 20pc NCG	19.57	246.84
Oil index 70pc + 30pc NCG	19.70	248.48
Oil index 60pc + 40pc NCG	19.83	250.12
Oil index 50pc + 50pc NCG	19.96	251.76
Oil/VTP		
Oil index 90pc + 10pc VTP	19.46	245.45
Oil index 80pc + 20pc VTP	19.60	247.21
Oil index 70pc + 30pc VTP	19.75	249.11
Oil index 60pc + 40pc VTP	19.90	251.00
Oil index 50pc + 50pc VTP	20.04	252.76

PRICES

UK spark spreads for varying degrees of power station efficiency					9 Jan
UK base load	Fuel	Electricity	Spark spreads at varying conversion rates		
			30pc	38pc	49.13pc
UK base load £/MWh					
Month-ahead gas, NBP	18.57	52.55	-9.35	3.68	14.75
Coal, cif ARA	10.26	52.55	18.35	25.55	31.67
1pc sulphur fuel oil, cif UK	23.35	52.55	-25.28	-8.90	5.02
Germany base load €/MWh					
Month-ahead gas, BEB	19.40	41.20	-23.47	-9.85	1.71
Coal, cif ARA	11.63	41.20	2.43	10.59	17.53
1pc sulphur fuel oil, fob ARA	25.59	41.20	-44.10	-26.14	-10.89
Germany peak load €/MWh					
Month-ahead gas, BEB	19.40	52.90	-11.77	1.85	13.41
Coal, cif ARA	11.63	52.90	14.13	22.29	29.23
1pc sulphur fuel oil, fob ARA	25.59	52.90	-32.40	-14.44	0.81

Spark spreads compare the cost of generating power at various heating efficiencies with the cost of buying power from the grid. A positive spread indicates it is economical to buy fuel, while a negative spread indicates it is economical to buy power off the grid. Fuel and electricity prices are taken from the Argus European Electricity, Argus European Natural Gas, Argus Coal Daily International and Argus European Products daily market reports. The model does not take into account local taxes or transport costs.

Alternative fuels monthly average													
Delivery Period	Dec 16	Jan 17	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
North Sea Dated crude (*$/bl*)	54.34	54.90	54.90	51.35	51.52	50.75	45.72	49.65	52.11	54.46	58.00	61.97	64.63
German diesel fob (*$/t*)	479.65	480.70	489.76	458.75	474.07	453.71	423.06	450.95	479.61	527.18	529.60	558.05	563.55
LSFO 1pc cif NWE (*$/t*)	321.86	337.89	326.20	298.97	307.64	300.73	289.58	291.86	302.44	322.62	330.42	359.95	357.70
Propane cif NWE (*$/t*)	387.75	447.19	450.20	381.26	367.72	363.31	345.43	371.60	439.36	501.48	520.61	560.09	553.97
Coal Daily ARA Index (*$/t*)	90.44	88.08	81.69	72.90	75.46	74.86	79.40	83.47	85.80	91.89	92.16	93.58	94.91

Argus European long-term contract prices													*€/MWh*
Delivery month	Apr 17	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan 18	Feb*	Mar*	Apr*
Oil index	19.55	20.00	20.22	20.41	19.87	19.31	18.85	18.86	18.87	19.31	19.96	20.74	21.60
+5pc discount	18.57	19.00	19.21	19.39	18.87	18.35	17.91	17.92	17.93	18.34	18.96	19.71	20.52
+7.5pc discount	18.08	18.50	18.71	18.88	18.38	17.87	17.43	17.45	17.45	17.86	18.47	19.19	19.98
+10pc discount	17.59	18.00	18.20	18.37	17.88	17.38	16.96	16.98	16.98	17.38	17.97	18.67	19.44
+12.5pc discount	17.10	17.50	17.69	17.86	17.38	16.90	16.49	16.50	16.51	16.90	17.47	18.15	18.90
+15pc discount	16.62	17.00	17.19	17.35	16.89	16.42	16.02	16.03	16.04	16.41	16.97	17.63	18.36
+20pc discount	15.64	16.00	16.18	16.33	15.89	15.45	15.08	15.09	15.10	15.45	15.97	16.60	17.28
TTF													
Oil index 90pc + 10pc TTF	19.19	19.60	19.76	19.86	19.36	18.96	18.67	18.77	18.93	19.44	19.91	20.59	21.26
Oil index 80pc + 20pc TTF	18.83	19.19	19.29	19.30	18.86	18.61	18.48	18.67	18.99	19.57	19.86	20.43	20.93
Oil index 70pc + 30pc TTF	18.47	18.78	18.83	18.75	18.35	18.26	18.30	18.58	19.04	19.70	19.81	20.27	20.59
Oil index 60pc + 40pc TTF	18.11	18.38	18.36	18.19	17.85	17.91	18.12	18.48	19.10	19.82	19.76	20.11	20.25
Oil index 50pc + 50pc TTF	17.76	17.97	17.90	17.64	17.34	17.56	17.94	18.39	19.16	19.95	19.71	19.95	19.91
NCG													
Oil index 90pc + 10pc NCG	19.23	19.63	19.79	19.90	19.39	18.98	18.68	18.79	18.94	19.44	19.91	20.59	21.30
Oil index 80pc + 20pc NCG	18.90	19.26	19.37	19.39	18.92	18.65	18.52	18.72	19.02	19.57	19.86	20.43	20.99
Oil index 70pc + 30pc NCG	18.58	18.88	18.94	18.88	18.44	18.32	18.36	18.64	19.09	19.70	19.80	20.27	20.69
Oil index 60pc + 40pc NCG	18.26	18.51	18.51	18.37	17.97	17.99	18.19	18.57	19.17	19.83	19.75	20.12	20.38
Oil index 50pc + 50pc NCG	17.94	18.14	18.08	17.86	17.49	17.66	18.03	18.50	19.24	19.96	19.69	19.96	20.08
VTP													
Oil index 90pc + 10pc VTP	19.27	19.70	19.88	20.02	19.49	19.05	18.73	18.84	18.97	19.46	19.91	20.60	
Oil index 80pc + 20pc VTP	19.00	19.39	19.54	19.63	19.11	18.78	18.61	18.81	19.07	19.60	19.85	20.45	
Oil index 70pc + 30pc VTP	18.73	19.08	19.21	19.24	18.73	18.51	18.49	18.78	19.18	19.75	19.79	20.30	
Oil index 60pc + 40pc VTP	18.45	18.78	18.87	18.84	18.35	18.25	18.37	18.75	19.28	19.90	19.74	20.15	
Oil index 50pc + 50pc VTP	18.18	18.47	18.53	18.45	17.98	17.98	18.25	18.73	19.38	20.04	19.68	20.00	

**provisional*

PRICES

UK: Physical and forward trade: National Balancing Point monthly average													*p/therm*
Delivery period	**Dec 16**	**Jan 17**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Day ahead	45.96	53.36	51.01	41.02	39.84	39.30	34.84	36.20	42.57	45.99	45.40	52.95	58.56
Current month balance	46.54	53.37	50.93	41.31	39.40	36.84	36.09	36.29	42.70	45.38	49.19	54.25	59.36
First full month forward	46.87	52.44	47.73	40.77	37.89	37.51	37.05	37.68	43.06	48.60	51.39	55.51	59.60
Second	45.89	53.27	51.41	41.05	39.68	38.20	34.41	36.17	42.40	45.34	46.15	53.53	58.11
Third	45.89	53.27	51.41	41.05	39.68	38.20	34.41	36.17	42.40	45.34	46.15	53.53	58.11
Fourth	45.89	53.27	51.41	41.05	39.68	38.20	34.41	36.17	42.40	45.34	46.15	53.53	58.11
Fifth	45.89	53.27	51.41	41.05	39.68	38.20	34.41	36.17	42.40	45.34	46.15	53.53	58.11
1Q 17	46.51	-	-	-	-	-	-	-	-	-	-	-	-
2Q 17	42.92	46.71	45.31	40.52	-	-	-	-	-	-	-	-	-
3Q 17	41.49	44.73	43.81	40.40	39.31	38.27	37.19	-	-	-	-	-	-
4Q 17	46.60	49.35	48.68	45.30	44.62	43.95	43.56	43.18	46.12	48.31	-	-	-
1Q 18	49.16	52.01	51.45	48.36	48.02	47.38	46.99	46.74	49.00	51.31	51.86	54.88	58.38
2Q 18	42.65	44.89	43.82	41.17	40.66	39.93	39.87	39.58	41.48	42.58	43.33	45.54	45.63
3Q 18	41.43	43.25	41.92	39.72	39.61	38.90	38.81	38.41	39.97	40.85	41.39	43.62	43.31
4Q 18	45.88	47.86	46.99	45.22	44.87	43.92	44.46	44.61	46.04	47.18	47.79	49.99	50.26
1Q 19	48.48	50.47	49.86	48.43	48.19	47.27	47.78	48.26	49.99	51.04	51.49	53.89	54.41
2Q 19	42.50	43.87	42.23	40.26	39.89	38.89	39.62	39.93	41.26	41.38	41.47	43.65	42.94
3Q 19	41.50	42.87	41.29	39.49	39.14	38.10	38.75	38.98	39.96	39.89	39.83	41.47	40.52
4Q 19	45.77	47.01	45.88	44.86	44.20	42.95	43.81	44.66	45.90	45.86	45.99	47.74	47.46
1Q 20	48.37	49.61	48.48	47.46	47.11	46.25	47.15	48.20	49.62	49.66	49.79	52.03	52.28
October 17 gas year	44.96	47.38	46.47	43.64	43.23	42.54	42.31	41.98	44.14	45.76	-	-	-
October 18 gas year	44.59	46.27	45.09	43.35	43.03	42.05	42.65	42.95	44.31	44.87	45.14	47.25	47.03
October 19 gas year	44.59	45.74	44.14	42.86	42.65	41.55	42.34	42.99	44.03	43.91	44.10	45.50	45.46

National Grid's cashout balancing prices end of month 30-day rolling average price													
	Dec 16	**Jan 17**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
System average price (*p/kWh*)	1.5614	1.8084	1.7330	1.3894	1.3495	1.3440	1.2024	1.2441	1.4659	1.5662	1.5426	1.7982	1.9889
System average price (*p/therm*)	45.76	53.00	50.79	40.72	39.55	39.39	35.24	36.46	42.96	45.90	45.21	52.70	58.29
System marginal price buy (*p/kWh*)	1.6034	1.8497	1.7733	1.4293	1.3891	1.3836	1.2512	1.2854	1.5071	1.6081	1.5931	1.8463	2.0538
System marginal price buy (*p/therm*)	46.99	54.21	51.97	41.89	40.71	40.55	36.67	37.67	44.17	47.13	46.69	54.11	60.19
System marginal price sell (*p/kWh*)	1.5095	1.7685	1.6931	1.3468	1.3069	1.3041	1.1625	1.2041	1.4259	1.5263	1.4976	1.7521	1.9313
System marginal price sell (*p/therm*)	44.24	51.83	49.62	39.47	38.30	38.22	34.07	35.29	41.79	44.73	43.89	51.35	56.60

Belgium: Physical and forward trade: Zeebrugge						*€/MWh*						*p/therm*
Delivery period	**Jul 17**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jul 17**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Day ahead	14.80	15.71	17.12	16.91	19.61	21.56	38.44	41.96	44.85	44.15	51.05	55.79
Current month balance	14.59	15.70	16.94	18.10	19.89	21.68	37.91	41.94	44.40	47.27	51.79	56.12
First full month forward	14.76	15.88	17.86	18.71	20.20	21.76	38.35	42.44	46.85	48.91	52.66	56.39
Second	15.04	16.79	18.56	18.87	20.23	20.60	39.13	44.91	48.71	49.36	52.79	53.41
Third	15.04	16.79	18.56	18.87	20.23	20.60	39.13	44.91	48.71	49.36	52.79	53.41
Fourth	16.27	17.40	18.66	18.91	19.53	19.15	42.36	46.56	49.03	49.50	51.00	49.70
Fifth	17.02	17.47	18.68	18.48	18.79	17.68	44.33	46.78	49.12	48.41	49.10	45.92
1Q 18	16.91	17.34	18.53	18.75	19.99	21.35	44.12	17.34	18.53	18.75	19.99	21.35
2Q 18	15.37	15.70	16.49	16.78	17.62	17.80	40.19	15.70	16.49	16.78	17.62	17.80
3Q 18	15.03	15.24	15.92	16.13	16.97	16.99	39.37	15.24	15.92	16.13	16.97	16.99
4Q 18	16.47	16.58	17.33	17.60	18.46	18.67	43.15	16.58	17.33	17.60	18.46	18.67
1Q 19	17.52	17.75	18.50	18.73	19.66	19.97	46.10	17.75	18.50	18.73	19.66	19.97
2Q 19	15.39	15.47	15.90	16.07	16.99	16.96	40.53	15.47	15.90	16.07	16.99	16.96
3Q 19	14.97	14.96	15.32	15.44	16.11	15.95	39.58	14.96	15.32	15.44	16.11	15.95
4Q 19	16.63	16.65	16.88	16.85	17.54	17.58	44.01	16.65	16.88	16.85	17.54	17.58
1Q 20	17.71	17.76	18.03	17.99	18.82	19.04	46.85	17.76	18.03	17.99	18.82	19.04
2Q 20	15.35	15.22	15.42	15.56	16.30	16.40	40.61	15.22	15.42	15.56	16.30	16.40

PRICES

Germany/Netherlands: Physical and forward trade: TTF						€/MWh						p/therm
Delivery period	**Jul 17**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Jul 17**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Day ahead	15.11	15.99	17.32	17.12	19.60	20.93	39.91	43.41	46.23	45.67	52.17	55.31
First full month forward	14.82	15.81	17.03	17.91	19.45	20.59	39.15	42.92	45.46	47.78	51.77	54.41
Second	14.89	15.94	17.62	18.21	19.54	20.52	39.33	43.27	47.03	48.58	52.01	54.23
Third	15.20	16.67	17.92	18.29	19.54	20.06	40.15	45.25	47.83	48.79	52.01	53.01
1Q 18	16.50	16.93	17.94	18.20	19.44	20.39	43.58	45.96	47.88	48.55	51.74	53.88
2Q 18	15.43	15.74	16.47	16.70	17.52	17.67	40.76	42.73	43.96	44.55	46.63	46.70
3Q 18	15.18	15.46	16.17	16.33	17.13	17.26	40.10	41.97	43.16	43.56	45.59	45.61
4Q 18	16.56	16.67	17.32	17.57	18.44	18.58	43.74	45.25	46.23	46.87	49.08	49.10
1Q 19	17.15	17.24	17.88	18.12	18.96	19.10	45.30	46.80	47.72	48.34	50.46	50.48
2Q 19	15.51	15.59	16.08	16.23	17.01	16.88	40.97	42.32	42.92	43.30	45.27	44.61
3Q 19	15.33	15.39	15.88	15.96	16.59	16.48	40.49	41.78	42.39	42.58	44.16	43.55
4Q 19	16.45	16.52	16.92	17.12	17.85	17.81	43.45	44.85	45.16	45.67	47.51	47.07
1Q 20	17.11	17.17	17.53	17.63	18.41	18.40	45.20	46.61	46.79	47.03	49.00	48.63
2Q 20	-	-	-	15.81	16.46	16.23	-	-	-	42.18	43.81	42.89

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