Section 4 - Gas

Key results show:

Provisional 2016

In 2016, gross production of natural gas was 3.6 per cent higher than in 2015, continuing the upward trend that began in 2014 **(Chart 4.1).** This is due in part to higher volumes of gas following the start-up of the relatively large Laggan field towards the middle of 2016, alongside limited maintenance activity throughout the year.

Gas imports were 5.9 per cent higher than in 2015, yet LNG imports decreased by 20.0 per cent in this time as pipeline imports rose by 17.9 per cent year-on-year. Exports of gas decreased by 23 per cent as a result of increased demand and Irish exports failing due to production from the new Corrib gas field. Net imports increased by 19.9 per cent on 2015, driven by the low exports figures. **(Chart 4.4)**

Gas demand in 2016 was up significantly on last year – up 12.6 per cent – and the highest demand figure since 2011. This increase has been driven by the 39 per cent rise in gas (instead of coal) used in electricity generation, as well as a 5.1 per cent increase in domestic gas use, related to a colder winter in 2016 than in 2015. **(Chart 4.6)**

Quarter 4 2016

UK demand for natural gas in Q4 2016 was up a quarter in comparison to Q4 2015, to around 271 TWh the highest Q4 demand since the notably cold 2010. Within this there has been a significant increase in gas used for electricity generation, which is up 48 per cent. Final consumption has also increased 19.9 per cent with domestic, other final users and other industry all increasing by 24, 22 and 5.6 per cent respectively. These increases were driven by colder temperatures, with the coldest November since 2010 and a December substantially colder than last year. **(Chart 4.6)**

Gross UK production of natural gas in Q4 2016 was 3.3 per cent higher on Q4 2015, at 126 TWh **(Chart 4.1).** Within this production of associated gas was 13.0 per cent higher, whilst dry gas production was14.5 per cent lower **(Chart 4.2)**.

Net imports increased by 44 per cent in comparison to Q4 2015 **(Chart 4.4).** This is largely due to exports falling by 52 per cent to 20 TWh, the lowest quarterly figure since 2006, while imports in Q4 2016 were up 16.2 per cent. A particularly cold Q4 2016 and the delayed restart of gas withdrawals from the Rough Storage Facility could also have affected the trade figures.

Relevant table

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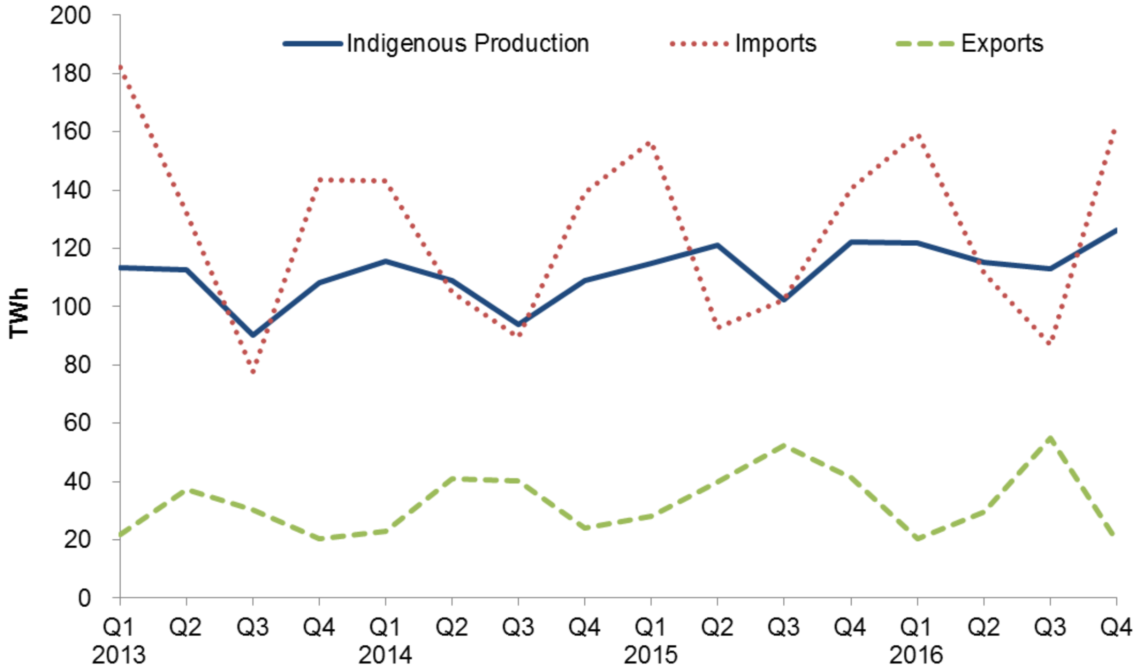
Chart 4.1 Production and imports and exports of natural gas



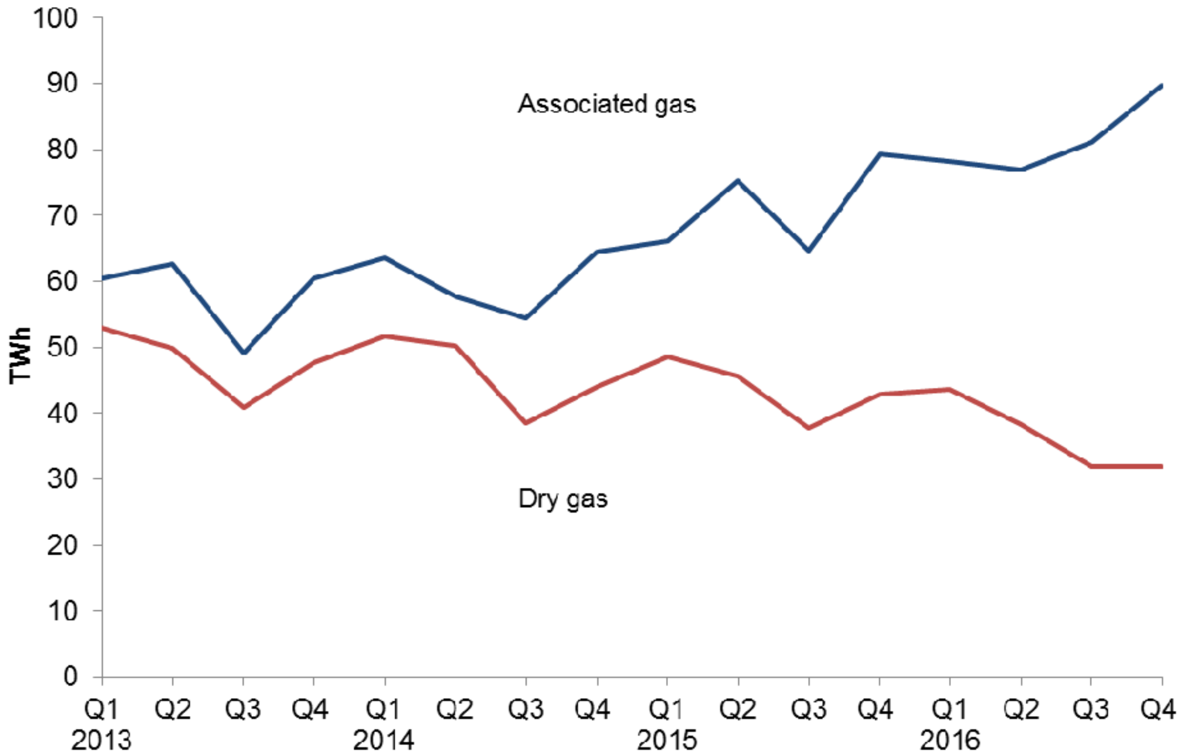
Production of natural gas in 2016 was 3.6 per cent higher than in 2015. Year-on-year production has decreased by an average of nearly 6 per cent since 2000, but has seen an increase in the years since 2014. This recent trend is driven by both reduced maintenance and new fields, such as Laggan coming on stream towards the middle of 2016.

Imports in 2016 increased by 5.9 per cent compared to 2015, most notably caused by the 11.9 per cent increase in gas coming to the UK from Norway. Exports decreased from 2015 by 22.7 per cent in 2016 to 124,866 GWh, with exports to Belgium, the Republic of Ireland and the Netherlands down.

In Q4 2016, gross production of natural gas was up 3.3 per cent on Q4 2015. This is in line with the recent upwards trend previously mentioned and was driven by an 8.4 per cent increase in October 2016 production figures in comparison to October 2015. The increase is due to a number of factors including production from the new Laggan field and the continued strong production across much of the UK's Continental Shelf.

Imports in Q4 2016 were up 16.2 per cent in comparison to the same quarter in 2015. This increase has largely been driven by imports from Norway which are up 28.6 per cent for the quarter. Exports decreased by 52.1 per cent on Q4 2016, with exports to the Republic of Ireland down 33.0 per cent and exports to Belgium down 79.1 per cent from 23,882 to 4,990 GWh.

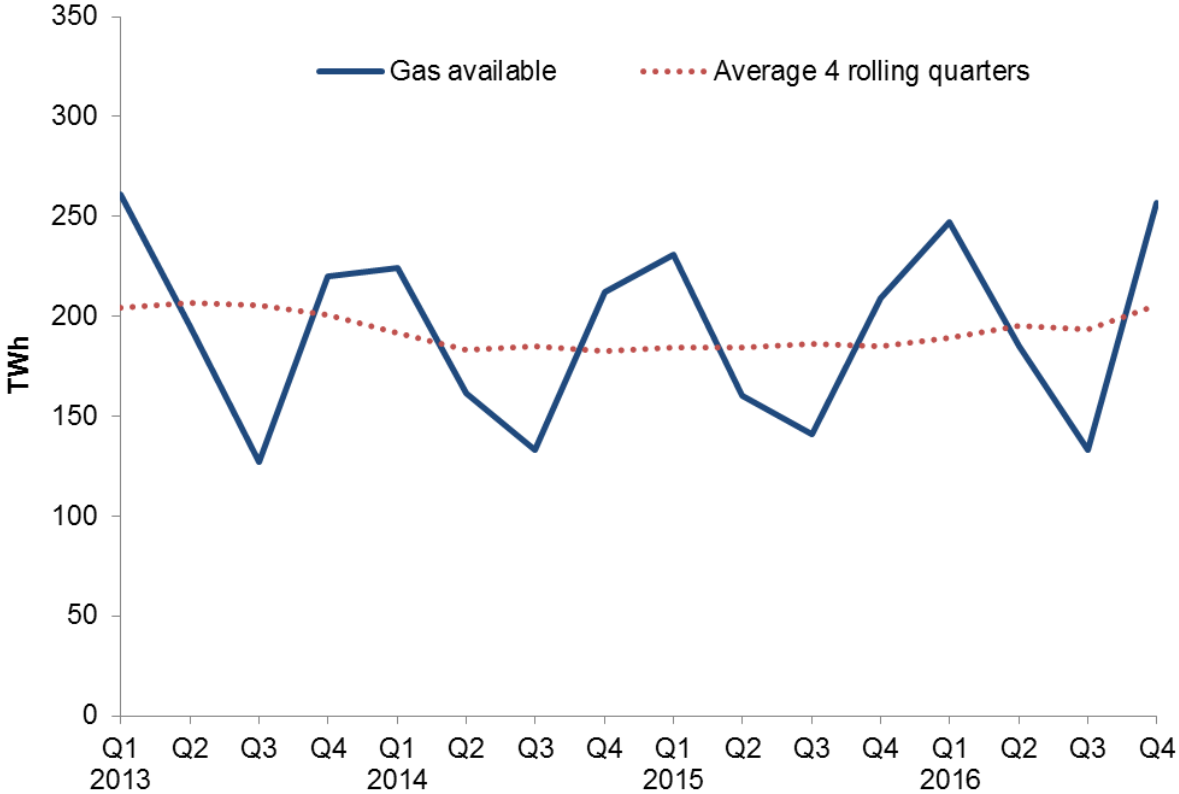
Chart 4.2 Production of dry gas and associated gas



Production of associated gas (natural gas produced from oil fields) in 2016 was up by 14.2 per cent compared to 2015, partly reflecting steady production from a number of new, relatively large condensate fields in the North Sea. In Q4 2016 associated gas production increased by 13.0 per cent versus Q4 2015, from 79 TWh to 90 TWh.

Compared to the same quarter in 2015 dry gas production decreased by 14.5 per cent to 37 TWh. Overall, dry gas production fell by 13.8% in 2016 compared to 2015.

Chart 4.3 Gas availability

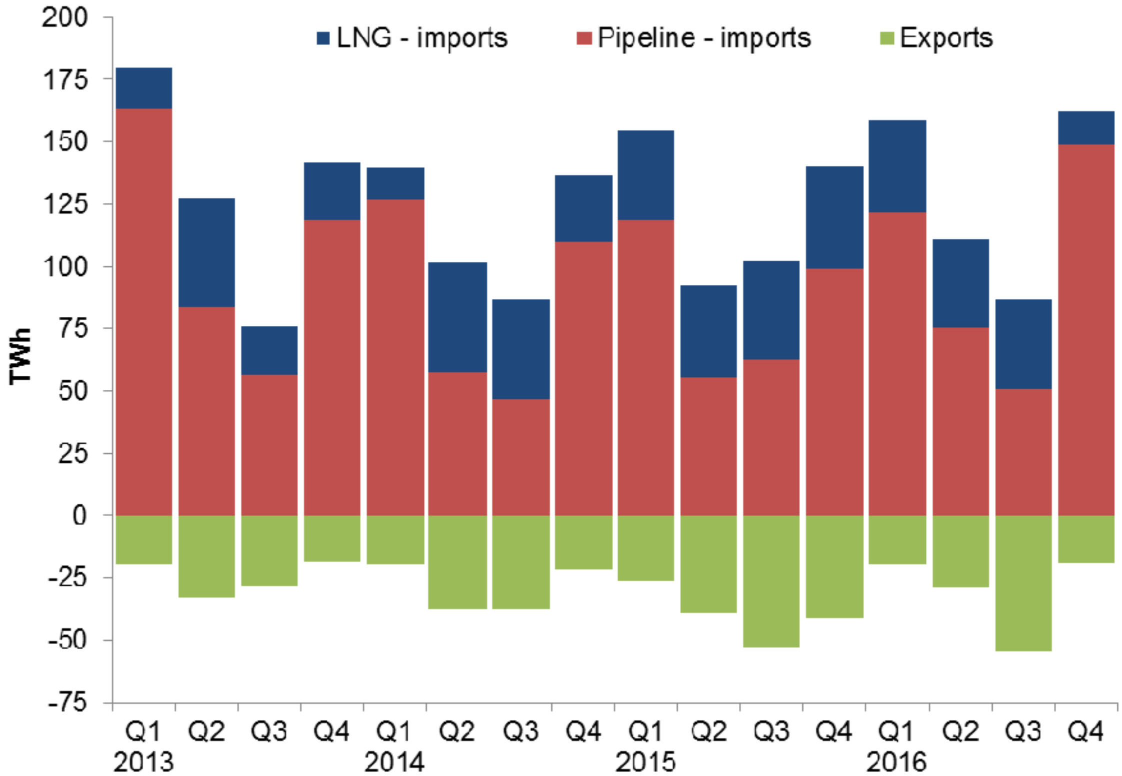


Gas available at terminals is equal to the gross gas production minus producers own use, plus net imports.

Gas availability is seasonal, mirroring gas demand, and peaks during Q1 and Q4 each year. Gas availability in Q4 2016 increased by 22.8 per cent compared to Q4 2015 to 257 TWh. This was driven by an increase in net imports.

The long-term picture shows that the average availability over 4 rolling quarters had remained fairly constant since the start of 2012 before increasing slightly since the start of 2015. Over 2016, the amount of gas available rose by 11.0 per cent on 2015.

Chart 4.4 Import and exports



In 2016, imports of natural gas increased by 5.9 per cent on 2015, whereas exports decreased by 22.7 per cent. Net imports increased by 19.9 per cent over the year, clearly driven by the large decrease in exports.

Pipeline imports in 2016 were 17.9 per cent higher, whilst LNG imports were down by a fifth compared to 2015. LNG imports accounted for 23.4 per cent of total imports in 2016, compared to 31.0 per cent in 2015. This is driven by a 20.7 per cent decrease in imports from the UK's biggest LNG supplier, Qatar.

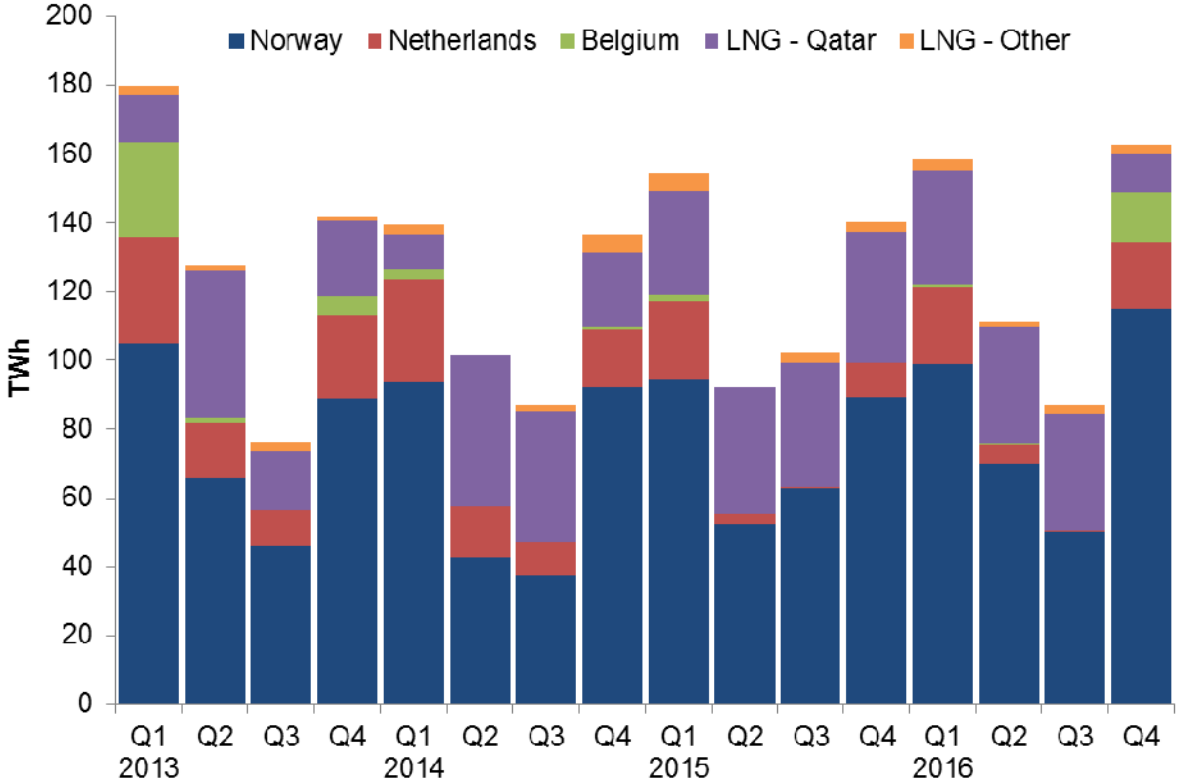
Net imports during Q4 2016 were up by 44.5 per cent in comparison to the same quarter in 2015**.** This increase has been driven a significantly lower export figure, a result of increased demand.

Imports in Q4 2016 were up 16.2 per cent in comparison to Q4 2015. This increase has largely been driven by imports from Norway which is up 28.6 per cent for the quarter. Imports of LNG have decreased by two thirds since Q4 2015, due to these decreases LNG only accounted for 8.4 per cent of total imports in Q4 2016, compared to 29.2 per cent for the same quarter last year.

Exports decreased by 52.1 per cent over the same time frame. This decrease has been driven by a 79.1 per cent decrease in exports to Belgium and a 33.0 per cent decrease to the Republic of Ireland. This is largely due to the production from the Corrib gas field which is now supplying Ireland.

Liquefied Natural Gas 'reloads' started in late 2014 and have continued since with the UK exporting to various countries such as Brazil, Pakistan and the United Arab Emirates.

Chart 4.5 Imports by origin



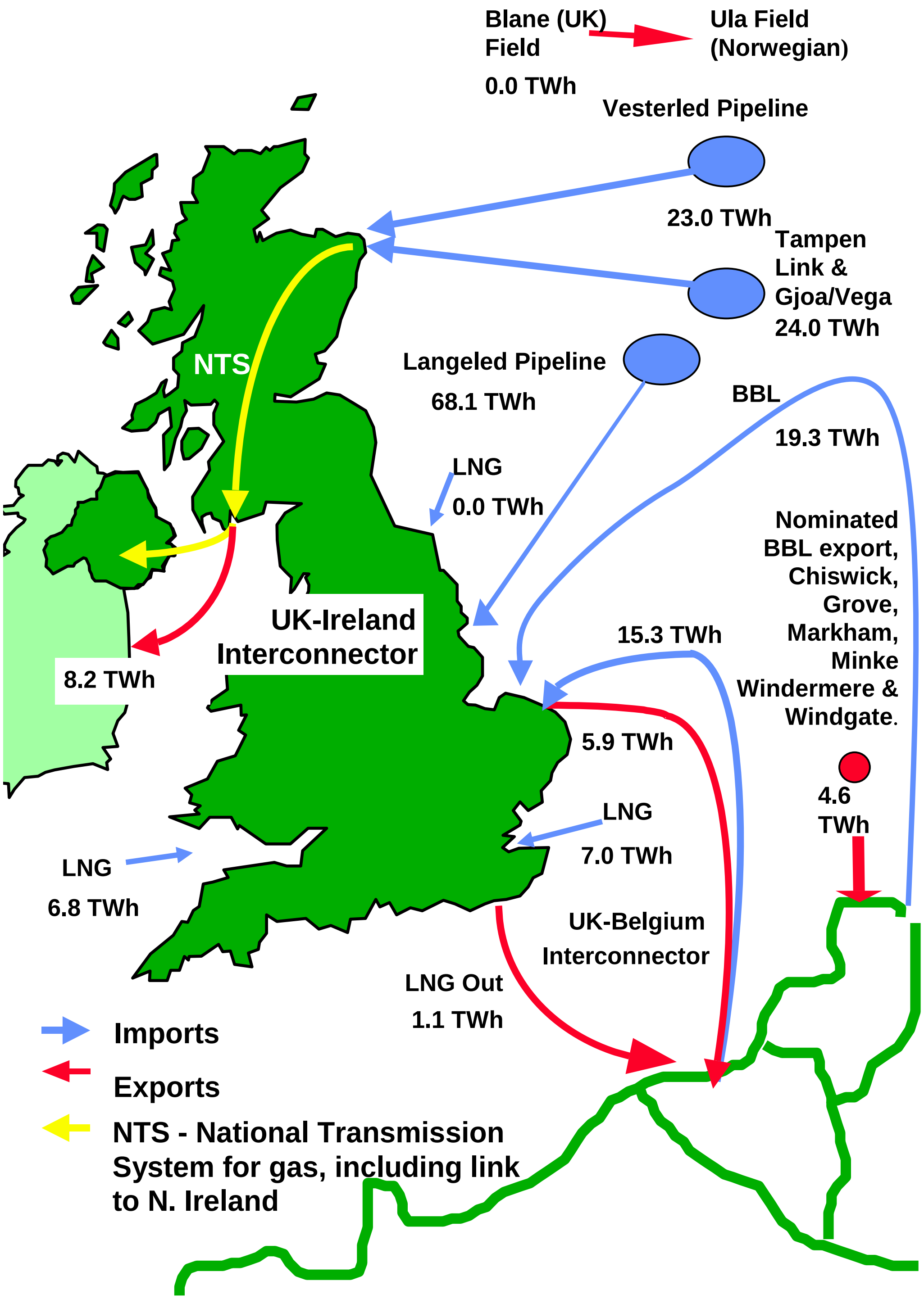
In 2016, the main development is the contraction in the amount of LNG imported into the UK. LNG's share of imports decreased (from 31 per cent to 24 per cent) with imports from Norway and the Netherlands increasing, the latter breaking a downward trend since 2014. Norway remains the principal source of UK gas imports at 64 per cent.

The majority of LNG imports are sourced from Qatar, around 79 per cent in Q4 2016. This is significantly lower than the overall 2016 figure from Qatar of 92 per cent. Imports from Qatar decreased from 38 TWh in Q4 2015 to 11 TWh in Q4 2016, a 71 per cent fall. This is due to increased demand in Northeast Asia for Qatar gas following the temporary shutdown of a number of nuclear facilities across the region coinciding with the start of the peak winter demand. LNG prices therefore increased in the Asia market, consequently diverting supply from the European market.

Pipeline imports from the Netherlands in Q4 2016 up by 97 per cent compared to Q4 2015, though the Netherlands' Q4 2015 figure was the lowest seen since 2006. Imports in the last quarter of 2016 from Norway were up 29% compared to 2015. Whereas Belgium had no pipeline exports to the UK in Q4 2015, Q4 2016 saw this increase to 14 TWh of pipeline imports, the highest Q4 pipeline import figure from Belgium since 2000.

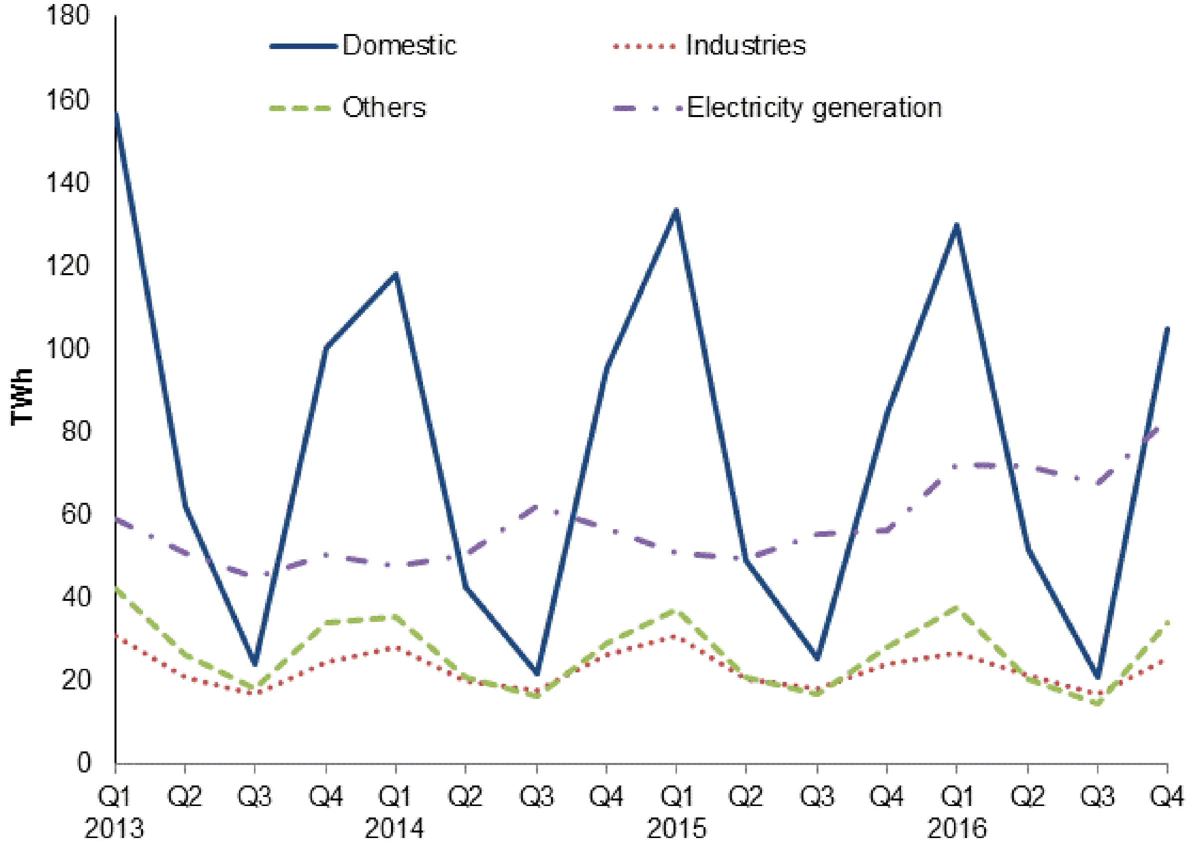
A complete country breakdown for physical pipeline and LNG imports is provided in Energy Trends table 4.4 - *Supplementary information on the origin of UK gas imports*.

Map: UK imports and exports of gas Q4 2016*



*Please note that imports and exports in this map uses nominated flows through the UK-Belgium Interconnector and BBL pipeline as in table 4.1. The figures here will differ from those in ET Table 4.3 which uses actual physical flows through the Interconnector.

Chart 4.6 UK demand for natural gas



In 2016, the UK's gas demand was up 12.6 per cent compared to 2015. Demand for gas in electricity generation was up by 38.8 per cent year-on-year as a result of less coal generation. Gas demand for domestic and other final users increased by 5.1 and 4.0 per cent respectively, reflecting the record warm temperatures in Q4 2015.

UK demand for natural gas in Q4 2016 was up 25.2 per cent in comparison to the same quarter last year. The principal cause of this is the rise in gas use for electricity generation, up by nearly half in comparison to Q4 2015, again as a result of less coal generation.

Final consumption of gas is up 19.9 per cent compared to Q4 2015. Within this consumption by domestic, other final users and other industries were all up by 23.9, 21.8 and 5.6 per cent. These increases were driven by colder temperatures, with the coldest November since 2010 and a December substantially colder than last year.

A complete breakdown for gas demand is provided in Energy Trends table 4.1 - *Natural gas supply and consumption*.

4 GAS

Table 4.1. Natural gas supply and consumption

GWh

	2015	2016 p	*per cent change*	2014 4th quarter	2015 1st quarter	2015 2nd quarter	2015 3rd quarter	2015 4th quarter	2016 1st quarter	2016 2nd quarter	2016 3rd quarter	2016 4th quarter p	*per cent change*[1]
SUPPLY													
Indigenous production	460,268	476,744	*+3.6*	109,116	114,776	120,931	102,315	122,246	122,011	115,328r	113,089r	126,316	*+3.3*
Imports	492,382	521,586	*+5.9*	139,141	156,690	92,828	102,270	140,594	159,542	111,624	87,036	163,384	*+16.2*
of which LNG	*152,397*	*121,952*	*-20.0*	*27,046*	*35,602*	*36,565*	*39,242*	*40,988*	*36,466*	*35,523*	*36,245*	*13,718*	*-66.5*
Exports	161,575	124,866	*-22.7*	24,049	28,105	39,789	52,520	41,161	20,518	*29,692*	*54,938*	19,718	*-52.1*
Stock change[2]	+3,515	+19,718		5,754	34,500	-11,042	-15,919	-4,024	31,688	-8,669	-5,563	2,261	
Transfers	-420	-344		-66	-92	-96	-99	-132	-127	-106	-64	-47	
Total supply	794,170	892,838	*+12.4*	229,896	277,768	162,832	136,047	217,523	292,596r	188,485r	139,560r	272,196	*+25.1*
Statistical difference	1,823	1,039		-422	649	170	258	746	5r	520r	-365r	879	
Total demand	792,346	891,799	*+12.6*	230,318	277,119	162,661	135,789	216,777	292,590r	187,965r	139,925r	271,318	*+25.2*
TRANSFORMATION	237,957	320,433	*+34.7*	64,173	59,266	55,370	60,259	63,063	80,538r	77,335r	72,674r	89,887	*+42.5*
Electricity generation	212,556	295,032	*+38.8*	56,961	51,144	49,713	55,338	56,361	72,416r	71,679r	67,753r	83,185	*+47.6*
Heat generation[3]	25,401	25,401	-	7,212	8,122	5,656	4,921	6,702	8,122	5,656	4,921	6,702	-
Energy industry use	57,580	59,468	*+3.3*	13,482	14,651	15,534	13,079	14,315	16,273r	15,125r	13,046r	15,024	*+5.0*
Losses	6,500	5,934	*-8.7*	1,667	1,438	1,115	1,834	2,114	1,136r	1,380r	1,626r	1,793	*-15.2*
FINAL CONSUMPTION	490,309	505,963	*+3.2*	150,995	201,763	90,643	60,618	137,285	194,643r	94,126r	52,580r	164,615	*+19.9*
Iron & steel	5,374	4,265	*-20.7*	1,375	1,589	1,454	1,224	1,108	1,191	1,016	998	1,059	*-4.4*
Other industries	89,088	87,089	*-2.2*	25,204	29,532	19,291	17,118	23,146	25,925r	20,568r	16,152r	24,444	*+5.6*
Domestic	292,417	307,207	*+5.1*	95,204	133,307	49,034	25,510	84,565	129,681r	52,004r	20,787r	104,735	*+23.9*
Other final users	98,163	102,136	*+4.0*	27,854	36,019	19,547	15,448	27,149	36,530r	19,222r	13,325r	33,059	*+21.8*
Non energy use[3]	5,267	5,267	-	1,357	1,317	1,317	1,317	1,317	1,317	1,317	1,317	1,317	-

1. Percentage change between the most recent quarter and the same quarter a year earlier.

2. Stock change + = stock draw, - = stock build.

3. For heat generation and non energy use, the 2016 figures currently shown are the 2015 figures carried forward - these will be updated in July 2017.