

More gas use in 2015 and 2016 makes CO₂ emissions tumble

Brussels, 10 April 2017: Natural gas consumption in the EU-28 increased by 4% in 2015, compared with 2014, and by another 7% in 2016, compared with 2015, the recent Eurogas statistical exercise showed. As a result, CO₂ emissions in the EU's power generation sector dropped by 4.5% in 2016, mainly due to a large switch from coal to gas.¹

“In the UK, power sector CO₂ emissions even decreased by as much as 18.7% thanks to gas²,” Eurogas Secretary General Beate Raabe points out, “and its **potential to reduce CO₂ emissions** in all sectors is still large: **66% in power generation, 42% in heating and 25% in transport**. Blend in renewable gas over time and emissions can go towards zero.”

As the winters of 2015 and 2016 were colder, **more gas was particularly used for heating** in EU households. This shows the flexibility of the gas system, compared with the limitations of the power grid, to cope with large differences in demand. **Gas demand also grew in power generation, industry and transport** in some countries in 2015 and more widely in 2016. A lot more electricity was produced from gas in France (+61%), where combined-cycle gas turbines (CCGTs) became more competitive, and in the Netherlands.

“**Gas use is also very efficient** and a switch from coal and oil **can gain 45% in power generation and 65% in heating**”, says Ms Raabe. New gas heating systems are the most economic way to realise the energy transition in buildings. The recently launched **Eurogas microsite** www.gaswindandsun.eu provides these and further details.

Gas works well with variable renewables, such as wind and sun, but also ambient heat. Agora and Fraunhofer have pointed out the role of natural gas is in heating.³ Also in Germany, electricity from gas stepped in during lower wind availability in 2016.⁴ As full electrification is facing high costs⁵ and technical limits, the flexibility and energy storage capability of the existing gas grid are becoming more apparent.

In the transport sector, gas is gaining new market share both as compressed natural gas (CNG) and liquid natural gas (LNG). CNG for cars, vans and fleet vehicles have grown particularly popular in Czechia. LNG is increasingly becoming available for trucks and as a maritime fuel, like recently in Rotterdam and in Baltic and Mediterranean ports, reducing all transport emissions and helping ships meet sulphur regulations.

Gas demand increased in 23 Member States and in Switzerland between 2015 and 2016 to 4 928.6 TWh GCV, equivalent to **456.3 bcm** or 381.4 mtoe NCV.⁶ It very slightly decreased only in Finland. European production is further declining, whilst **the availability of LNG is increasing**, particularly from the Americas.

Supplies of renewable gases are also developing. In 2016 France recorded the largest increase of biomethane injected into the national gas grid: 162% compared with 2015. Several power-to-gas plants turning excess renewable electricity into hydrogen or synthetic methane are operating in the EU.

Note to Editors: Eurogas is an association representing 43 companies and associations engaged in the wholesale, retail and distribution of gas in Europe. Eurogas provides data and information relevant to EU decision makers and opinion formers in making the right policy choices.

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Developments in European natural gas demand in 2015-2016

NATURAL GAS CONSUMPTION IN 2016 (PRELIMINARY)

	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	United Kingdom	EU-28**	Switzerland
TWh (Terawatt hours)	92.8	182.2	32.3	29.1	-	88.2	54.4	1.6	27.4	491.3	930.2	44.5	103.0	51.6	750.5	14.1	28.6	9.2	-	390.5	189.2	55.7	130.2	50.7	7.1	321.5	10.0	842.7	4 928.6	38.7
BCM* (billion cubic metres)	8.6	16.9	3.0	2.7	-	8.2	5.0	0.1	2.5	45.5	86.1	4.1	9.5	4.8	69.5	1.3	2.6	0.9	-	36.2	17.5	5.2	12.1	4.7	0.7	29.8	0.9	78.0	456.3	3.6
MTOE* (million tons of oil equivalent)	7.2	14.1	2.5	2.3	-	6.8	4.2	0.1	2.1	38.0	72.0	3.4	8.0	4.0	58.1	1.1	2.2	0.7	-	30.2	14.6	4.3	10.1	3.9	0.5	24.9	0.8	65.2	381.4	3.0
PJ (Petajoules)	334.2	655.9	116.3	104.8	-	317.7	195.7	5.8	98.5	1 768.7	3 348.7	160.2	370.9	185.7	2 701.8	50.8	102.8	33.1	-	1 405.8	681.0	200.5	468.8	182.6	25.4	1 157.4	35.8	3 033.8	17 742.8	139.3

NATURAL GAS CONSUMPTION IN 2015

	AT	BE	BG	HR	CY	CZ	DK	EE	FI	FR	DE	GR	HU	IE	IT	LV	LT	LU	MT	NL	PL	PT	RO	SK	SI	ES	SE	UK	EU-28	CH
TWh (Terawatt hours)	88.6	179.6	30.2	27.2	-	81.1	50.8	1.5	28.9	449.4	849.8	34.1	96.3	48.2	714.6	14.0	26.7	9.9	-	373.7	176.8	52.4	121.7	49.9	6.6	314.8	9.3	787.6	4 623.8	37.0
BCM* (billion cubic metres)	8.2	16.6	2.8	2.5	-	7.5	4.7	0.1	2.7	41.6	78.7	3.2	8.9	4.5	66.2	1.3	2.5	0.9	-	34.6	16.4	4.9	11.3	4.6	0.6	29.1	0.9	72.9	428.1	3.4
MTOE* (million tons of oil equivalent)	6.9	13.9	2.3	2.1	-	6.3	3.9	0.1	2.2	34.8	65.8	2.6	7.5	3.7	55.3	1.1	2.1	0.8	-	28.9	13.7	4.1	9.4	3.9	0.5	24.4	0.7	60.9	357.8	2.9
PJ (Petajoules)	319.1	646.6	108.7	97.9	-	292.1	182.9	5.4	104.0	1 617.9	3 059.3	122.8	346.7	173.5	2 572.6	50.4	96.1	35.6	-	1 345.3	636.5	188.6	438.1	179.6	23.8	1 133.2	33.5	2 835.4	16 645.7	133.2

* Based on terawatt hours, the applied calorific values (10.8 kWh/cubic metre GCV; 11.63 TWh/MTOE NCV; NCV = 0.9 GCV) are representing a European average.

** Estimation based on available data received from EU-28 countries. The EU trend of 7% consumption growth was used for the missing countries by way of extrapolation on 2015 data. Cyprus and Malta do not have significant gas consumption.

- Energy Transition in the Power Sector in Europe: State of Affairs in 2016, Agora and Sandbag, <https://sandbag.org.uk/wp-content/uploads/2017/01/Energy-Transition-in-the-Power-Sector-in-Europe-2016.pdf>
- UK department for Business, Energy & Industrial Strategy: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/604408/2016_Provisional_Emissions_statistics.pdf
- https://www.agora-energiewende.de/fileadmin/Projekte/2016/Sektoruebergreifende_EW/Heat-Transition-2030_Summary-WEB.pdf: "A climate friendly building heating mix in 2030 consists of 40 percent natural gas, 25 percent heat pumps, and 20 percent heat networks."
- <https://www.agora-energiewende.de/en/topics/-agothem-/Produkt/produkt/76/Agorameter/>
- See for example studies in the UK and Spain: <http://www.energynetworks.org/gas/futures/gas-futures-reports.html> + <https://www.sedigas.es/pagina.php?p=257>
- TWh GCV = terawatt-hours gross calorific value; bcm = billion cubic metres; mtoe NVC = million tonnes of oil equivalent net calorific value - Based on terawatt hours, the applied calorific values (10.8 kWh/cubic metre GCV; 11.63 TWh/MTOE NCV; NCV = 0.9 GCV) represent a European average.

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