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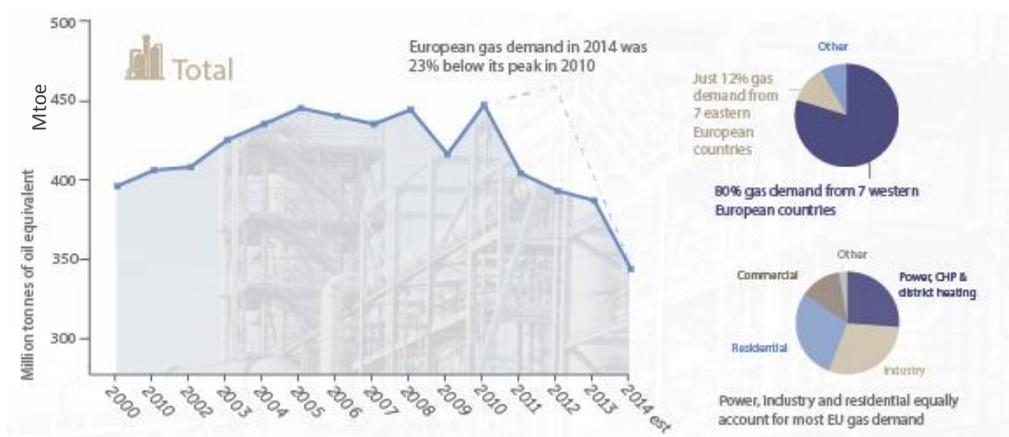
EUROPE'S DECLINING GAS DEMAND IMPLICATIONS FOR INFRASTRUCTURE INVESTMENT AND ENERGY SECURITY

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Gas infrastructure has become a major focus for the EU. In response to energy security concerns, the European Commission is promoting new gas pipelines and LNG terminals, including through EU funds such as the Connecting Europe Facility and the European Fund for Strategic Investment. Behind these supply-side efforts, however, the realities of EU gas consumption are changing.

In contrast to official projections, EU gas demand is falling and is now 23% below its peak. This raises important questions about the economic viability of new gas import infrastructure and the risk of stranded assets. This briefing assesses recent trends in EU gas demand and the EU infrastructure investment and energy security.

Gas demand is falling



European demand for gas is falling. In fact, it peaked in 2010 and in 2014 EU gas demand was the lowest it had been since 1995. This is due to structural shifts to the European economy, changing consumption patterns and significant progress on energy efficiency¹.

¹ Data on European gas consumption to 2013 comes from Eurostat (table available [here](#)). 2014 gas consumption was estimated on the basis of Eurogas' [analysis](#).



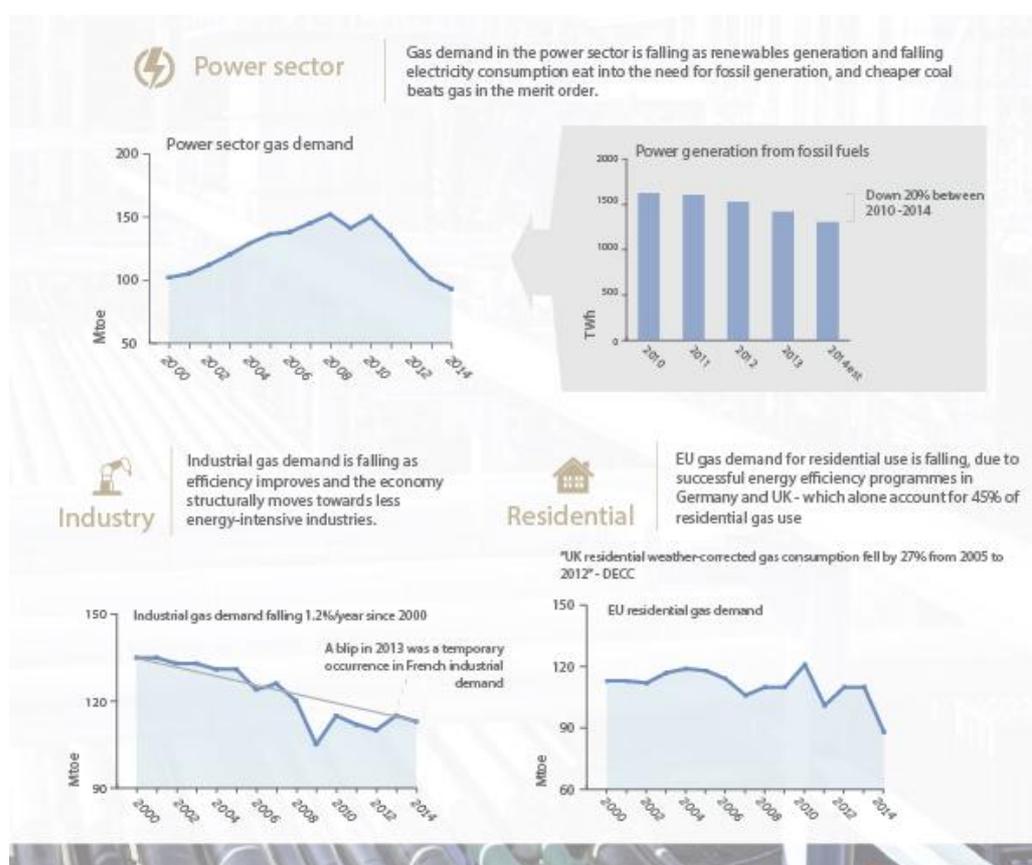
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80% of gas demand comes from just seven European countries

Gas demand is not evenly spread across the EU. 80% comes from seven western European countries: Germany, UK, Italy, France, Netherlands, Spain and Belgium. Just 12% of gas demand comes from seven Central and Eastern European countries (Bulgaria, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia). This means that the majority of Europe's gas demand occurs in countries with strong energy efficiency and renewables deployment programmes in place, which are likely to further decrease demand in future.

Gas demand is falling across all sectors

Gas demand is falling in all three major sectors: power, industry and residential. In the power sector, EU gas demand has fallen by roughly a third since 2010. This is in the context of a reduction of total fossil generation (i.e. both coal and gas) of 20% since 2010. The main drivers have included falling electricity consumption due to increased energy efficiency and changing consumption patterns, in addition to a significant increase in renewable generation.

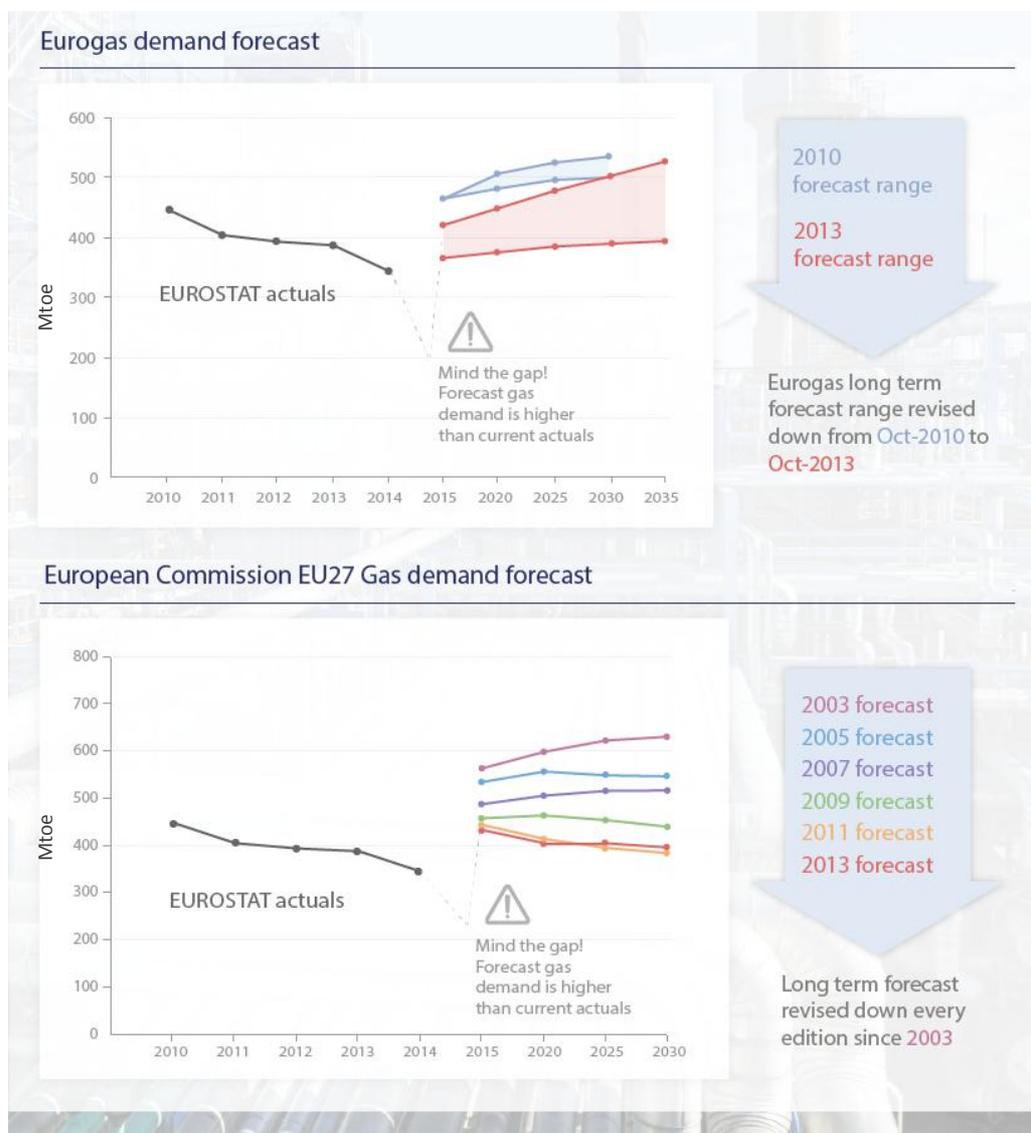


In the industrial sector, industrial energy efficiency and structural changes to Europe's economy have lowered industrial gas demand in Europe by an average of 1.2% per year since 2000. In the residential sector, energy efficiency programmes are leading to a fall in gas demand, particularly in Germany and the UK, which account for 45% of Europe's residential gas demand between them. UK residential gas demand fell by 27% from 2005 to 2012 (on a weather-corrected basis).



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Europe has a history of overestimating gas demand



The European Commission has had to lower its gas demand projections every single time it produced a new reference scenario since 2003. Projections of what gas demand will be in 2015 have decreased by 23% over the past 10 years – and the Commission is still forecasting 2015 gas demand to be more than 20% higher than the actual 2014 levels. Similarly, the upper end of the projected range produced by industry body Eurogas in 2013 is actually significantly lower than the lower end of their projections from 2010 – and their lowest projection from 2013 is still above current actual demand levels.

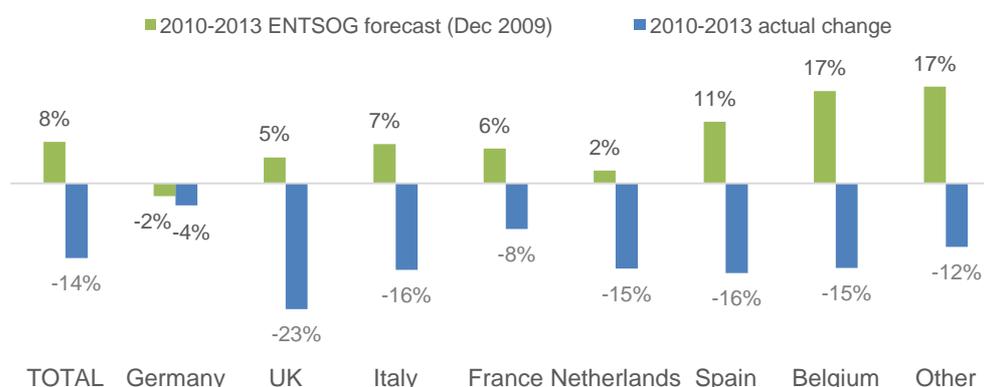
ENTSO-G, the body tasked with planning the EU gas pipeline network, has also overestimated gas demand. In its 2009 'Ten Year Network Development Plan', it foresaw an 8% increase in gas demand from 2010 to 2013. In reality, demand fell by 14%²

² The European Commission's reference scenario is available [here](#); Eurogas' forecast [here](#); ENTSO-G 2009 TYNDP [here](#).



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ENTSO-G: Forecast versus Actuals



Most current projections still show an increase of gas demand

Despite these recent trends, most current projections still show an expectation of increasing gas demand. The upper-bound projection from Eurogas is for an increase in consumption of over 50% by 2035 compared to current levels, and even their lowest estimate represents a 15% increase on 2014. ENTSO-G's latest projections, used to plan gas pipeline investment, range from a 13% increase in EU gas demand to 2030 in its lowest scenario, to a 35% increase by 2030 in its high scenario. The potential for EU gas demand to continue to fall is not assessed. The European Commission's PRIMES reference scenario does show a slight decrease in gas demand to 2030, but still shows 2015 demand to be 22% higher than demand levels in 2014. By contrast, assessments for the European Commission show that if the 2030 energy efficiency target of 27% is met, gas consumption will fall by 16% compared to the reference.

Conclusion: the risk of misevaluating future gas demand

The risk of misevaluating future gas demand in the EU has significant implications. The wrong diagnosis on EU energy security will lead to the wrong cure. An expectation of rising demand has led the EU's energy security strategy to focus on accessing new sources of gas, rather than on alternative approaches such as demand reduction or strengthening internal connections.

Inflated gas consumption projections can skew the economic evaluation of new projects. Gas infrastructure investments made in expectation of rising demand are at risk of becoming stranded assets if the increase in gas demand does not materialise. Public money (including the Connecting Europe Facility and European Fund for Strategic Investment) is at risk of being diverted to uneconomic projects as a result of unrealistic demand projections, leading to higher value projects in other sectors losing out. Overinvestment in gas infrastructure can also create 'lock in' to levels of gas consumption that are in conflict with EU decarbonisation goals.

A reality check is needed on EU gas demand and gas infrastructure investment plans. This briefing highlights the fact that energy efficiency and renewable energy deployment, changes in industrial demand and reduced electricity consumption have led to structural changes in Europe's gas demand. These changes now need to be fully incorporated into the EU's approach to energy security and to infrastructure investment.

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