

# How will the EU's dependency on imported gas impact on the future operation of EU wholesale gas markets?

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## SUMMARY

This paper describes the potential impact of the shift in the EU supply/demand balance, including the increasing dependency on gas imports on the future operation of the EU wholesale gas markets.

The conclusion is that the adequate development of new gas network infrastructure and the ability of TSOs to invest in such new infrastructure are essential prerequisites for ensuring security of supply and achieving a well-functioning internal market for gas.

## WHAT IS THE EXPECTED SUPPLY AND DEMAND BALANCE IN THE EU GAS MARKET?

### *Demand drivers:*

Natural gas is the fuel of choice for end-users. Therefore, there has been a gradual switch from other fossil fuels towards natural gas. Major underlying reasons are that natural gas is the cleanest fossil fuel and very flexible for end-users. Throughout Europe, there is increasing awareness that gas is a unique transition fuel.

Gas is able to add flexibility to power generation which enables sustainable energy forms – wind, solar – to gain share in the energy mix. Moreover, natural gas supply systems can accommodate ‘green gases,’ thus adding sustainability to the fuel itself. Because of these unique characteristics, natural gas performs an ideal bridging function between fossil fuels and renewable energy.

“...natural gas performs an ideal bridging function...”

It is generally believed that these factors will lead to the demand for gas being at least stable, with probably a slight upward trend in the coming decades. Recently, the financial crisis has prompted some demand reduction, especially in the industrial sector, but so far there is no indication that this phenomenon will have a longer term

or structural negative impact on demand.

### *Supply drivers:*

The main driver on the supply side is declining gas production in the EU. The growing gap between demand and supply will thus attract new production especially from Norway, Russia and LNG-producing countries. The price of gas (and its stability) is an important factor for supply development, since it defines the business case for any new supply project. Also, the availability of adequate infrastructure is a factor of great importance.

Forecasts on how dependent the EU is likely to become on imported gas in the next 10 years and beyond show some variations, but most of these reveal a similar trend. The EU will inevitably become more and more reliant on imported gas.

Gasunie expects that by 2020, EU NW will need approximately an additional 150 bcm/yr more imported gas compared to 2005. This increasing trend will, most likely continue but at a slower pace in the period thereafter. Beyond 2030, the uncertainty of the projections increases because demand might be shifting more to renewables. However, even then a further increase in EU dependency on imported gas might result, if the decline in indigenous gas production is faster than the increase in renewable energy supply.

## WILL EU GAS PRICES REFLECT SUFFICIENTLY FUNDAMENTAL SUPPLY AND DEMAND CONDITIONS?

Current gas prices in the EU are partly based on gas to gas competition (gtgc) and partly based on oil price indexation, with a gradual shift from the latter to the former. In the long run, even gtgc prices have the tendency

to follow oil price, not only in Europe but also in the US. As a rule of thumb, in periods of relative oversupply gtgc gas prices are slightly lower compared to oil-based gas prices (on average), while in periods of relative undersupply the opposite is the case. Furthermore, gtgc gas prices show seasonal influences and also reflect infrastructural constraints leading to relatively high price volatility.

Another factor which is expected to become increasingly important is the arbitrage impact of flexible LNG-supplies, resulting in a gradual movement towards a global market. Given these factors, it is expected that (future) EU gas prices will sufficiently reflect the supply/demand balance and be able to attract the necessary additional imports into the EU.

However, the gas price level is not the only important factor that will be decisive for supply development. Suppliers will also base their decisions for long term additional gas sales to the EU on the accessibility of the market. In this respect, well-functioning trading hubs and adequate network and storage infrastructure are of utmost importance.

The major risk to the EU is not being able to respond to the enormous need for extra infrastructure to bring (or attract) the new gas volumes to the market. This includes the whole spectrum of infrastructure: pipeline interconnectors, LNG-terminals, expansion and adaption of the current (midstream) transportation systems, seasonal and peak storage etc.).

Regulated TSO-businesses are vulnerable because regulatory pressure is used primarily to cut transportation tariffs as much as possible. The resulting outcome might well be that the necessary investment comes too late, leading to a lower security of supply than is desirable and a relatively high gas price for a longer period. With downstream gas marketing becoming more short term, and new investments in infrastructure needing to be based on long term scenarios, there is a threat of greater price volatility.

#### HOW CAN THESE RISKS BE REMOVED OR MITIGATED VIA MARKET REFORM OR POLITICAL ACTION?

One of the most important objectives for regulators is to contain transportation tariffs. It seems self-evident, but it is at the same time of paramount importance that tariffs stimulate new network investment. Logically, the process of energy market reform and liberalisation has resulted in an emphasis on reducing the cost of transportation services. The principle of market pricing of transportation services has been abandoned and the principle of cost plus pricing is now generally applied.

This shift is a major concern for Europe, because it leads (or will lead) to a transportation price level that is too low to allow for adequate investment in network expansion. Inevitably, tariff increases are necessary to stimulate the investment climate and to enable the initiation of vital infrastructure. But this is easier said than done.

For instance, in the Netherlands, we have seen that an investment related tariff increase encounters major resistance and requires intensive communication efforts to market parties. This has caused delays in new investment, and political action was needed to create a break-through. At the moment the investment projects involved, which respond to the capacity need of customers, are being executed, thus enhancing security of supply as well as market liquidity in this part of Europe. A similar process might well take place in other Member States causing delays in the development of new infrastructure. The best way to prevent such undesired developments is to adopt an accepted policy at EU level with regard to tariffs and incentives for new network investment. Such a policy should explicitly recognise that tariff setting should be based not only on cost-reflectiveness but also on the effects of the tariff level on the functioning of the market across the gas chain, and on security of supply. In fact, the Dutch example shows that independent gas infrastructure companies such as GTS/Gasunie can contribute significantly to the internal market – but only if the investment climate is adequate.

Improving gas market liquidity and efficiency at EU level is a complex and a relatively slow process. The fact that the EU is now working on the Third Energy Package is clear proof of this statement. Regional initiatives are less complex and can, therefore, accelerate the improvement process. From this perspective more emphasis should be placed on bilateral (between neighbouring Member States) improvement projects. An interesting example could be a programme to install extra cross-border capacity for bilateral interhub gas trading.

In the meantime, gas infrastructure companies are willing to create the necessary infrastructure and they are prepared to deal with all kinds of project challenges. For example, Gasunie (GTS and Gasunie Deutschland) have initiated an integrated plan for combined gas networks in Germany and The Netherlands. The response from the market has been positive and we expect that a major investment project for network expansion will result. But again, this requires a long term stable and adequate investment climate to enable the necessary infrastructure enhancements. That is what will make the EU energy market really attractive for new gas supplies.