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Nord Stream 2

Friend or enemy of energy security in Europe?

Alex Barnes

Summary

Nord Stream 2 is criticised on grounds that it undermines the functioning of the European gas market and makes European gas consumers worse off. Its critics also claim that the project has no economic rationale, would reduce security of supply, weaken European solidarity and the Energy Union, and also destabilise Ukraine. This CEPS Policy Insight, contributed by a Nord Stream 2 AG market expert, attempts to counter these criticisms by presenting recent economic analysis bearing on these matters. It explains how Nord Stream 2 cannot undermine the European gas market because of the rules already in place. It concludes that the project will be beneficial to European gas consumers by strengthening gas-to-gas competition between piped gas and LNG for supply to the EU. It also finds that fears that Nord Stream 2 will further destabilise Ukraine are exaggerated and sees a continued role of the country in gas transit to the EU.

Keywords: security of supply, Nord Stream 2, gas markets, Ukraine

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Friend or enemy of energy security in Europe?

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The discussion in Brussels and the halls of some European capitals about the planned Nord Stream 2 gas pipeline is taking some surprising new turns. Facts about how the EU gas market has evolved appear to be discarded to fit a pre-determined narrative. It may be time to inject a bit of good old common sense and economics into the discussion.

Critics of Nord Stream 2 continue to allege that the project contradicts the EU's Energy Union policy and therefore will not benefit Europe. Such critics ignore the measures that the EU has taken to ensure its security of supply and its success in establishing a competitive European gas market. Their narrative seems to reflect a lack of understanding of how markets work, particularly the EU's own gas market rules.

Critics claim that Nord Stream 2 has no economic rationale. There is agreement that there will be a decline in EU indigenous production. This, coupled with the EU's own[1] forecasts of flat gas demand to 2035 would mean that European markets would require roughly an additional 120 bcm/year by 2035.[2] Other sources of imports to the EU, such as from North Africa[3] and Norway[4] are expected to be flat or decline. Gas via the EU Southern Corridor using the TANAP/TAP project is only going to be 10 bcm/year. This means that this import gap needs to be filled either by gas from Russia and/or global LNG markets, as these are the only sources capable of increasing supplies. The 120 bcm/year is in addition to current imports, so Gazprom will need to ensure that it has sufficient reliable capacity in addition to the capacity it currently uses, if it is to gain a share of this additional demand for imports. Without such capacity, Russian gas will not be able to compete effectively with LNG to supply the European market. Nord Stream 2's economic rationale is to ensure that Europe receives sufficient competitively priced gas.

Pipelines do not automatically translate into market power. Critics voice the concern that Nord Stream 2 will undermine the internal EU gas market. They allege that Nord Stream 2 will enable Gazprom to "saturate" pipelines that carry gas from West to East within the EU, thereby preventing Eastern European customers from buying gas from companies other than Gazprom. But this fundamentally misunderstands how the EU internal gas market works, based on rules

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[1] EU reference scenario 2016: energy, transport and GHG emissions trends to 2050.

[2] Jens Hobohm, Hanno Falkenberg, Sylvie Koziel and Stefan Mellahn, "Current Status and Perspectives of the European Gas Balance. Analysis of EU 28 and Switzerland", Prognos, Berlin, January 2017.

[3] Ali Aissaoui, "Algerian Gas: Troubling Trends, Troubled Policies", OIES Paper NG 108, Oxford Institute of Energy Studies, Oxford, May 2016.

[4] Norwegian Petroleum Directorate, Expected volumes of sales gas from Norwegian fields, 2016-2035, 2016.

designed and approved by the EU to ensure that gas can flow freely within the EU, allowing European consumers to buy gas from whomever they wish. There is plenty of physical capacity to enable gas that arrives in Germany to flow elsewhere in the EU. Congestion Management Procedures (CMP)devised by the EU ensure that pipeline capacity that has been booked but not used by one company can then be used by others. This means that if a company books capacity to supply customers who subsequently choose another supplier, the customers and their new suppliers know that there is capacity they can access if required. ACER notes that "long-term (capacity) contracts" of the sort that the critics worry about "are generally not considered as an issue for market competition, provided that effective CMP market-based measures are in place."[5] If there is going to be a problem, therefore, it will be one caused by inadequate implementation of the rules by EU member states, not one caused by Nord Stream 2.

Furthermore, it is EU pipeline network operators that determine physical flows of gas to ensure that gas reaches customers in the most efficient way. For example, if companies wish to flow gas in opposite directions to supply their customers, the pipeline operators 'net out' these desired flows to make the best use of the physical infrastructure and avoid the need for parallel pipelines to ship gas in opposite directions. In practice this means that once gas enters the EU, it is part of one 'pool' of gas and it is no longer possible to identify the physical source of the gas. In the event that additional physical capacity is required, however, transparent and non-discriminatory mechanisms ensure that new capacity will be built – these mechanisms are already in play –the most recent example being the auctions for capacity on the Baltic Pipe between Denmark and Poland. A resilient EU internal gas infrastructure is now in place, along with the EU's market rules, ensuring that all European customers can choose their suppliers independent of their location. And as both ACER (Agency for Cooperation of Energy Regulators)[6] and DG Competition[7] have noted, this has already ensured competition in Eastern Europe.

Gazprom's market share will be determined by competition for European buyers. Critics often cite the plentiful LNG import capacity as a means of meeting Europe's needs. By having both Nord Stream 2 and LNG import capacity, European buyers will have a choice concerning from whom they buy gas. If they choose to buy LNG instead of pipeline gas, then Gazprom's market share will go down; if the LNG is not available or Gazprom offers better conditions, Gazprom's market share may go up. The Market Monitoring Report by ACER shows how Gazprom has already had to ensure that its gas pricing is competitive with other sources of gas if it wants

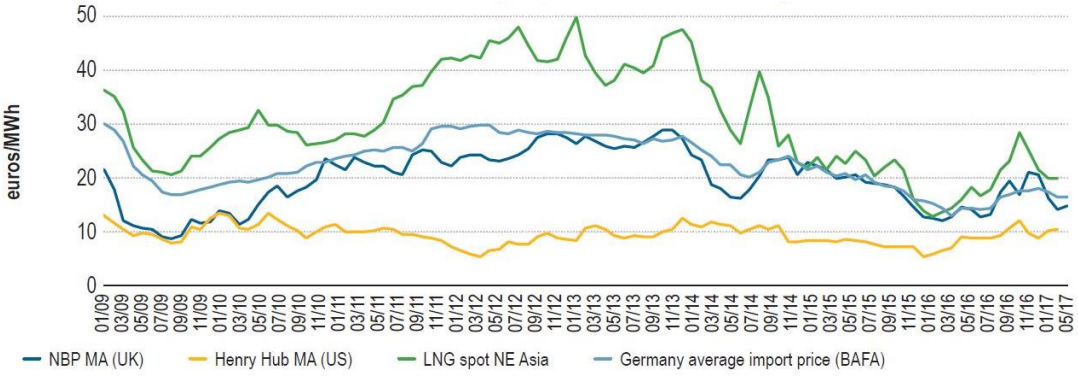
[5] ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2016 – Gas Wholesale Market Volume, October 2017, Paragraph 160, p. 47.

[6] ACER Market Monitoring Reports 2015 and 2016.

[7] For example: European Commission Fact Sheet Antitrust: Commission invites comments on Gazprom commitments concerning Central and Eastern European gas markets – Benefits for the Czech gas market. 13th March 2017. http://europa.eu/rapid/press-release_MEMO-17-554_en.htm

customers.[8] According to ACER, Gazprom has had to adjust to the "new market reality" of gas-to-gas competition and hub pricing for gas as a result of enhanced upstream competition (for example, from LNG) and the development of hubs themselves as part of the EU liberalisation process. By contrast, ACER blames rising LNG prices and a lack of LNG supply to Europe in the 4th quarter of 2016 as a reason why European hub prices increased, as illustrated by National Balancing Point (NBP) (the UK hub) in the chart below.

Figure 1. Evolution of international wholesale gas prices, January 2009-May 2017



Source: ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2016 – Gas Wholesale Market Volume, October 2017.

Some critics also accuse Gazprom of taking advantage of its better cost structure to increase its market share. But this is exactly how competitive markets work. Lower prices will benefit European gas consumers, which is precisely what the EU intended to be the result of the EU internal market. Competition between suppliers helps keep prices down; European buyers are choosing to buy gas as cheaply as they can, while still being assured of alternative supply potential.

Given Europe's dependence on energy imports, the availability of, and competition between, imports will greatly affect how much is spent on importing fuels. The more gas that is available at a lower cost, the lower the overall import price will be. By giving European buyers access to additional Russian gas, Nord Stream 2 will benefit, European gas consumers, according to some calculations, by up to €35 billion per year in 2025,[9] as a result of lower average EU gas prices than if Europe depended more on imported LNG. This is because the European gas price will be determined by global LNG prices, as LNG will be the marginal cost supplier to the EU market. But if Gazprom then gains more market share as a result, this will not give the company market power because of Europe's ability to switch from pipeline gas to LNG by increasing the use of its large underutilised LNG import capacity. In other words, Gazprom can only gain market

[8] ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity and Gas Markets in 2016 – Gas Wholesale Market Volume October 2017.

[9] Weiser Hecking (2017), "Impacts of the Realization of Nord Stream on European Natural Gas Markets", EWI Energy Research and Scenarios, 2017.

share if it sells its gas at prices lower than LNG, but if it tries to raise prices or withhold volumes it will lose business.

This also raises another key point, namely that Gazprom cannot simply pass on the costs of Nord Stream 2 to European gas consumers. Much of Gazprom's gas is currently sold under long-term contracts with set delivery points and a degree of oil-indexed pricing. European hub prices will be set by the price of LNG delivered to Europe, not the cost of Russian gas plus transportation costs. If Gazprom's gas is too expensive compared to the hub price, European buyers will switch to alternative suppliers. This explains another part of the economic rationale for Nord Stream 2, namely that as Gazprom cannot set the final selling price for gas, it must control its costs to ensure profitability. The distance from the new fields in the Yamal peninsula via Nord Stream 2 to EU gas markets is one-third shorter (2,100 km) than from the older Nadym Pur Taz fields via the Central Russian route through Ukraine. The new route, both within Russia and via Nord Stream 2, is also much more efficient, able to operate at higher pressure and with inner pipeline coating which reduces friction and lowers the amount of compression needed to push the gas through.[10] All this means that transporting gas from the new large Yamal fields to Europe costs less via Nord Stream 2. And if these calculations proved wrong, Gazprom cannot pass the alleged higher costs of Nord Stream 2 onto European consumers.

Critics also argue that it would make more sense to use existing Ukraine capacity, rather than build Nord Stream 2, but there are several problems with this stance. It assumes that there will be sufficient and reliable Ukrainian transit capacity in the coming decades to meet Europe's increased needs. The Ukraine system is being partially refurbished thanks to loans of $300 million from the European Bank of Reconstruction and Development and the European Investment Bank. But the NAK Naftogaz Emergency Pipeline Upgrade and Modernisation Project[11] is only refurbishing 30 bcm/year of capacity, which is much lower than the theoretical capacity of Ukrainian transit or indeed current transit flows. Other parts of the Ukrainian system are of a similar age (entering their fifth decade of operation by the time Nord Stream 2 comes onstream) as the part that is being refurbished, and therefore are also in need of modernisation. It is not clear why Ukraine has not spent some of the billions of dollars it has received in transit fees to maintain its system, and it remains to be seen whether the country invests in further refurbishment, emergency or otherwise. Mario Mehren, CEO of Wintershall, has noted that "for decades European consumers have paid billions in transit fees. The money was used for all kinds of purposes in the Ukraine, but not for the maintenance of pipelines "[12].

All of this makes Ukraine less future-proof as a transit route to anyone who wants to ensure that gas gets to where it is needed. It is not clear why some in Brussels think it is acceptable to

[10] Alexey Miller, Speech to St. Petersburg International Economic Forum, 16 June 2016.

[11] http://www.ebrd.com/work-with-us/projects/psd/nak-naftogaz-emergency-pipeline-upgrade-and-modernisation.html

[12] Mario Mehren, "Worum es im Gasstreit wirklich geht", Spiegel Online, 17 June.

force European consumers to depend on a poorly-maintained and less-efficient transit route for their gas supplies.

Ultimately, the utilisation of the Ukraine system will be determined by how well it is managed and EU gas demand. Gazprom needs additional capacity if it is to supply some of Russia's 120 bcm/year import gap. Recent modelling by Weiser Hecking[13] shows that if European buyers make the rational economic choice to buy Russian gas instead of more expensive LNG, then significant transit flows via Ukraine would continue. The report shows that up to 30 bcm/year would be utilised even with Nord Stream 2 in place. If the Ukrainian operator can ensure that its system is reliable with competitive tariffs, and if European buyers decide to buy lots of gas from Gazprom, there is no reason why significant flows of gas should not continue via Ukraine.

But the current issues with the Ukraine system illustrate how Nord Stream 2 works in ensuring access to the market for a key supplier and in strengthening European security of supply and competition. Gazprom can only make money from its gas if it can get it to the market. This requires reliable and cost-effective transit. If the Ukraine system proves unreliable, then Gazprom has alternatives in place. European security of supply enjoys the same benefit of knowing that there are alternative routes for Russian gas to reach European consumers in the event of problems. It appears quite evident that an additional pipeline improves security of supply. It is not realistic to assume that additional capacities would increase the EU's dependence on individual external suppliers because of the ability to switch between them. Moreover, Nord Stream 2 is a separate system from the existing Nord Stream pipeline. Although they follow a similar route, there is a safe distance between the two systems so that problems in one pipeline will not affect the other. Thus, to say the least, it seems odd to assert that Nord Stream 2 does not advance European security of supply.

In summary, Nord Stream 2 will help meet the growing import gap for gas supplies as existing indigenous supplies decline. It both helps competition between different suppliers to Europe and improves security of supply, thereby improving the welfare of European citizens.

[13] Hecking (2017), op. cit.

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