

**Global Energy Center Working Paper**  
**Nord Stream 2: Understanding the Potential Consequences**

**Alan Riley**

## Working Paper:

# Nord Stream 2: Understanding the Potential Consequences

**If built, Nord Stream 2 would not only undermine the EU's supply security, but also its coherence and integrity.**

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### 1.0. Introduction: A Troublesome Pipeline

At first sight, it is difficult to understand why there is so much controversy about Nord Stream 2. The Nord Stream 1 pipeline, constructed and put into operation between 2011–2012, did not generate anything like the current level of controversy. Thus, why should the reaction to Nord Stream 2 be so different? Why should one more natural-gas pipeline running through the Baltic Sea, along the route of the existing Nord Stream 1 pipeline, be a source of such controversy?

This difference in reaction stems, in part, from the radically different context in the early 2000s, when Nord Stream 1 was being planned. Politically, there were broad hopes that modernization and liberalization would take root in Russia. In contrast, the Russian Federation under middle-to-late Putinism has shown no interest in reform. In 2014, Russia invaded and annexed Crimea, and currently funds and directs occupying forces in eastern Ukraine.<sup>2</sup> This changing context reinforces the view held

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<sup>1</sup> In the interest of full disclosure, Dr. Alan Riley advises PGNIG and Naftogaz.

<sup>2</sup> There is substantial evidence of Russian control, funding, and direction of the occupying forces in eastern Ukraine. See, for instance, Maksymilian Czapurski, John Herbst, Eliot Higgins, Alina Polyakova, and Damon Wilson, *Hiding in Plain Sight: Putin's War in Eastern Ukraine* (Washington, DC: Atlantic Council, 2015), <http://www.atlanticcouncil.org/publications/reports/hiding-in-plain-sight-putin-s-war-in-ukraine-and-boris-nemtsov-s-putin-war>.

in much of Central and Eastern Europe, and in the Baltic States, as to Russia's intentions and willingness to use gas supplies as a political lever against them.<sup>3</sup>

This concern is compounded by the fact that Nord Stream 2 will result in a significant reduction in route diversity, making European Union (EU) states dependent on one narrow channel in the Baltic Sea for much of their Russian gas supply. By contrast, Nord Stream 1 at least enhanced route diversity.<sup>4</sup> Hence, one could argue that the effect of the Nord Stream 1 pipeline coming into operation at least added a degree of route security for Russian gas deliveries to the European Union.

From a Russian perspective, the pipeline also acts as an effective wedge dividing the Central and Eastern European (CEE) states from Western Europe. What seems overlooked in some Western European states, particularly in Germany and among supporters of Nord Stream 2, is that they are supporting a project that will undermine three major EU objectives: the liberalization of energy markets, the integration of the CEE states into the European Union, and economic and political reform in Ukraine.

This paper argues that, taking into consideration the broad range of negative impacts from bringing Nord Stream 2 into operation, it becomes clear how damaging Nord Stream 2 is to European energy and security interests.

This paper outlines the negative consequences Nord Stream 2 could have for European supply security, as well as the integrity and coherence of the European Union, and critically examines the three principal defenses raised by advocates to

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<sup>3</sup> This is also not a new phenomenon. R. L. Larsson provides evidence of more than forty politically motivated energy cutoffs initiated by the Russian state and its state-controlled energy companies between 1991 and 2004. R. L. Larsson, *Russian Energy Policy: Security Dimensions and Russia's Reliability as an Energy Supplier* (Stockholm: Swedish Defence Research Agency, 2006), <https://ntrl.ntis.gov/NTRL/dashboard/searchResults/titleDetail/PB2007106453.xhtml>.

<sup>4</sup> Nord Stream 1 at least provided a new route to the European market, adding to the routes provided by the Yamal and Brotherhood pipelines. As Nord Stream 2 follows the same route as Nord Stream 1, it does not add to route diversity. Furthermore, as explained in more detail below, a built and operated Nord Stream 2 pipeline is likely to lead to the loss of all, or most, of the Brotherhood pipeline network capacity, further undermining route diversity.

justify the pipeline. This paper concludes that the Nord Stream 2 project should be reconsidered. It also examines the additional legislative and sanctions measures that may be levied against the pipeline.

## **2.0. The Damage That Will Flow from Nord Stream 2**

Much of the commentary and discussion on Nord Stream 2, even when critical, only focuses on one or two points of concern, such as the impact on Ukrainian transit or the supply-security risk to the CEE states. As a consequence, it is not immediately apparent how truly damaging Nord Stream 2 is to the EU's supply security, and to the integrity and coherence of the European Union, until one looks at the impact of Nord Stream 2 on Europe's energy market as a whole.

The main negative effects likely to occur if Nord Stream 2 comes into operation are:

### **2.1 Undermining Transit Security**

The states of Central and Eastern Europe currently have a degree of transit security. To access markets in Western Europe, most Russian natural gas needs to pass through the Yamal pipeline running through Belarus and Poland, and the Brotherhood pipeline network running through Ukraine and Slovakia. This makes it difficult to cut off states in Central and Eastern Europe without also cutting off states in Western Europe.

However, if Nord Stream 2 comes into operation, the current natural gas flow through the Brotherhood pipeline will largely cease. Various Nord Stream 2 advocates have argued that this is not necessarily the case.<sup>5</sup> However, if 55–60 billion cubic meters (bcm) are removed from the flows through Ukraine and dispatched via Nord Stream 2, very little gas supply will be available to flow through the Brotherhood pipeline network. There is also precedent for the loss of transit

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<sup>5</sup> See, for instance, Alex Barnes, *Nord Stream 2: Friend or Enemy of Energy Security in Europe* (Brussels: Centre for European Policy Studies, 2017), p. 5, <https://www.ceps.eu/publications/nord-stream-2-friend-or-enemy-energy-security-europe>.

flows. Once the Nord Stream 1 pipeline became operational, gas flows through Brotherhood pipeline network declined, while they rose in Nord Stream 1.<sup>6</sup> Unlike Nord Stream 1, whose two pipelines were built sequentially, Nord Stream 2 pipes are to be constructed at the same time. This simultaneous approach to pipeline construction will ensure Gazprom does not need to enter any significant transit-contract negotiations with Ukraine in 2019, as long as those pipelines are up and running by the beginning of the 2019–2020 winter-heating season. In other words, Gazprom is positioning itself so that, by the end of 2019, it does not need the Brotherhood pipeline network for any of the substantial gas flows that currently flow into Central Europe.<sup>7</sup> Given that Russia and Ukraine are locked in armed conflict in eastern Ukraine, it seems reasonable to assume that Russia would take advantage of Nord Stream 2 coming online to further undermine the Ukrainian economy, by removing as much transit revenue from Kyiv as possible. The impact on Ukraine of Nord Stream 2 coming into operation is discussed in section 2.7.

While Ukraine may lose transit revenue, the states of Central and Eastern Europe would lose transit security. They could no longer rely on the fact that the supply of gas to the Western European market prevents them from being cut off.

One response to this argument is to say that CEE states can be guaranteed secure flows via Nord Stream 1 and 2, as supplies can be guaranteed by gas flowing across the west-to-east interconnectors. However, CEE governments are less than enthusiastic when it comes to this “guarantee.” Whereas transit security was a very solid guarantee of delivery, that cannot be said of west-to-east gas flows. The fundamental concern of CEE governments is that the gas flows can be reduced by

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<sup>6</sup> There is also a more recent precedent. In October 2016, the European Commission permitted Gazprom to make greater use of the OPAL pipeline (one of the connecting pipelines for Nord Stream 1). As soon as Gazprom got the green light for Brussels, gas flows fell through the Brotherhood pipeline, and rose through Nord Stream 1 and the OPAL connector. The legality of the commission’s decision in this case is under legal challenge before the EU General Court in Luxembourg. See Cases T-849/16, T-883/16, and T-130/17, *PGNIG Supply & Trading and Others v. Commission*.

<sup>7</sup> There may be some gas flowing into Ukraine to bring natural gas into the West Balkan pipeline network down through Moldova, Romania, and Bulgaria may continue. However, if Gazprom manages to construct and operate the second string of Turkish Stream with a further 15 bcm of capacity, the West Balkan gas flows will also cease.

Gazprom, and that—while there may be enough gas for Germany—there may not be enough for CEE states. This is not a theoretical problem. In 2014, CEE states started sending gas by reverse flow to Ukraine.<sup>8</sup> In response, Gazprom threatened to reduce gas flows to some CEE states in an attempt to stop reverse-flow gas from entering Ukraine—and then actually did so.<sup>9</sup>

## 2.2. Reducing Route Diversity

A positive feature of Nord Stream 1 was that it diversified the number of delivery routes for Russian gas to Europe. However, Nord Stream 2 does the opposite. Europe will be left with the Yamal pipeline carrying about 30 bcm of Russian gas into Poland and onward into Western Europe, and the Nord Stream pipelines with approximately 110–120 bcm of capacity. Nord Stream 2 concentrates the available supply routes, creating one supply route, which would carry approximately 70 percent of Russian gas imports into the EU.

It is also important to recognize that removing gas flows from the Brotherhood pipeline network will likely result in a significant degradation of the pipeline network. Its current maximum carrying capacity is around 140 bcm; with much smaller gas-transit flows, much of the network will no longer be able to be maintained, and will quickly degrade.<sup>10</sup> Once gas-transit flows to Ukraine are lost, it will be difficult to resurrect them, leaving the EU with a significantly more concentrated delivery system.

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<sup>8</sup> “Reverse flow” is classically where gas in transit sees legal title passing upon entering the home state of the customer; it is then the customer’s gas. One option to using the gas is to instead sell it to a third party. This can be done physically where the capacity exists, including selling back on reverse flow to the transit country from which direction the gas originally came. It may be possible to arrange virtual reverse flows through swaps.

<sup>9</sup> “Hungary Suspends Gas Flows to Ukraine Under Pressure from Moscow,” *AFP*, September 26, 2014, <https://www.theguardian.com/world/2014/sep/26/hungary-suspends-gas-supplies-ukraine-pressure-moscow>; and Agata Loskot-Strachota, *Central European Problems with Russian Gas Supplies* (Warsaw: OSW, 2014), <https://www.osw.waw.pl/en/publikacje/analyses/2014-09-17/central-european-problems-russian-gas-supplies>.

<sup>10</sup> In order to sustain a significant capacity of the Brotherhood pipeline network, substantial transit flows need to be able to move through the network. Without such flows, degradation will soon begin to disable the network.

The dangers of route concentration were underlined in December 2017, when there was an accidental explosion at the Baumgarten gas hub. Natural gas flowing from Nord Stream 1 was unable to flow downstream of Baumgarten. Though this temporary disruption only lasted for a day, it still led to electricity prices increasing to €118 per megawatt hour and the Italian government declaring a state of emergency.<sup>11</sup> With more gas flowing in the same direction as soon as late 2019, as a result of Nord Stream 2 and the loss of much of the Brotherhood pipeline network, any disruption to gas flows at Baumgarten—or anywhere else along that supply route—would create a much greater supply risk for EU member states.<sup>12</sup>

### **2.3. Creating a Straits of Hormuz Risk for Europe**

Nord Stream 1 and 2 will run parallel for most of the route, with serious implications for the supply security of the European Union. There will be four pipelines five hundred meters apart, in a two-kilometer channel. The Baltic Sea is also shallow, with the water depth less than fifty meters at some points.

The argument that Nord Stream 2 not only reduces route diversity, but actually creates a major supply-security risk, is compelling. If built and operated, one two-kilometer channel in a shallow sea will be the transit point for flows amounting to 70 percent of the EU's total Russian natural gas imports.

The security threat here is not about Russian cutoffs, but the less politically dramatic—though still very serious risk—of putting all energy supply-security eggs in one basket. Risks could include: a collision at sea near the pipelines; munitions being

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<sup>11</sup> Italy generates 44 percent of its electricity from natural-gas CCGT (combined cycle gas turbine) power plants. It is also a net importer of electricity from other EU countries, which were affected by the price impact of the Baumgarten supply disruption. For an analysis of the state of the Italian energy market, see Deloitte, "European Energy Market Reform, Country Profile: Italy," 2015, <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Energy-and-Resources/gx-er-market-reform-italy.pdf>.

<sup>12</sup> "Energy Markets Left Reeling After Baumgarten Explosion," *ICIS*, December 12, 2017, <https://www.icis.com/resources/news/2017/12/12/10173356/energy-markets-left-reeling-after-baumgarten-explosion/?redirect=english>.

set off by local fishing vessels (Nord Stream 1 does, and Nord Stream 2 will, run through two munitions dumps from World War II); or a terrorist attack.<sup>13</sup>

It is disturbing that the clear energy-security threat that such route concentration represents has been allowed to proceed without being the subject of intense debate from any of the states along the route. It remains a puzzling question as to why regulatory agencies, and the states themselves, have not questioned the prospect of routing so much of Europe's gas supply down one narrow route.<sup>14</sup>

## 2.4 Undermining the Single Market

Since 1998, the European Union has worked through three iterations of its energy-liberalization legislation, to open the gas and electricity markets. Additionally, the European Commission's antitrust arm, DG Competition, has brought a number of key cases against European energy majors, including an ongoing case against Gazprom. Slowly but surely, a more liberalized European gas market has emerged. North Western Europe has already developed a significant degree of supply diversity and market liquidity upon which a number of gas trading hubs with significant liquidity have been developed. The European Commission seeks to ensure EU liberalization rules are applied, interconnectors are constructed, and competition, liquidity, and gas trading are introduced across the whole continent. However, a lack of interconnectors and the lack of alternative gas sources still limit the effectiveness of energy liberalization in CEE states.<sup>15</sup>

Nord Stream 2 threatens to undermine the last twenty years of work establishing a European single market in natural gas. By connecting to the proposed EUGAL

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<sup>13</sup> These dumps are Bornholm Deep and the Central Baltic near the island of Gotland. During the Soviet period, a significant number of munitions were also dumped in the Gulf of Finland.

<sup>14</sup> One alternative to actually blocking Nord Stream 2 entirely would be to insist that it at least take a different route from Nord Stream 1. As far as the author is aware, this option has not been considered in any of the permitting processes yet underway with respect to the pipeline.

<sup>15</sup> For example, see the latest report from ENTSOG, *Central Eastern Europe-Gas Regional Investment Plan* (Brussels: ENTSOG, 2017), <https://www.entsog.eu/publications/gas-regional-investment-plan-grips/2017>. Clearly, if all the interconnectors listed in the report were built, the supply-security position of the CEE states would be strengthened. However, these interconnectors do not exist, and the volumes of natural gas that Nord Stream 2 will provide to the CEE states is likely to make it more difficult to incentivize private investors to provide the funds to build the proposed interconnectors.



pipeline, the entire Nord Stream 2 capacity will be brought through eastern Germany, the Czech Republic, and Poland, flooding the west-to-east interconnectors. These interconnectors were supposed to bring alternative sources of natural gas into the CEE states. However, once Nord Stream 2 becomes operational, these interconnectors will be utilized by Gazprom on such a scale that it will be much more difficult for competing gas supplies to reach CEE customers. The combined gas flows of EUGAL at 55–60 bcm of supply, plus the additional OPAL supply from Nord Stream 1, which follows the same route as EUGAL, will bring in around 90 bcm of Gazprom supply into CEE states. This significant gas flow is likely to deter investors from financing any new infrastructure or alternative sources of supply, representing a significant follow-on consequence.

The likely consequence of the establishment and operation of Nord Stream 2 and EUGAL is to undermine the development of a single, liberalized, and open European market, by consolidating source of supply in the Nord Stream system and deterring investment in alternatives. If Nord Stream 2 is built, it will dampen progress toward a single market in gas, instead creating two markets—an increasingly liberalized gas market in Northwestern Europe, and a less-liquid market in CEE states, with one dominant supplier: Gazprom.<sup>16</sup>

## **2.5. Increasing German Supply Vulnerability**

After the states of Central and Eastern Europe, Germany is likely to suffer damaging effects from Nord Stream 2. At first sight, this might be a surprising conclusion, as Germany appears to be a significant beneficiary. Germany will become a hub for the importation of Russian gas into the EU, its market will obtain a much greater degree of liquidity, and, as a consequence, gas prices will be lower.<sup>17</sup>

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<sup>16</sup> Georg Zachmann also makes a compelling case that the pricing impact in CEE states will be significant, with the region facing higher prices. Germany, by contrast, with additional liquidity from Nord Stream 1 and 2, will see lower prices—which will subsequently be recouped in the CEE states, as those states will have far less supply diversity and will be subject to market dominance by Gazprom. Georg Zachmann, *Nord Stream 2 Means Gains for Germany but Pain for Europe* (Brussels: Bruegel, 2017), <http://bruegel.org/2017/06/nord-stream-2-means-gains-for-germany-but-pain-for-europe/>.

<sup>17</sup> Ibid.

However, this view does not consider the impact of reducing route diversity on German supply security. Germany received approximately 35 percent of its gas imports from Russia in 2016, while Nord Stream 2 will reduce the route diversity of Russian gas.<sup>18</sup> Instead of having gas flowing via Nord Stream 1, the Yamal pipeline, and the Brotherhood pipeline network, there would only be two routes: the Nord Stream pipelines and Yamal. Germany is undermining its own energy security by reducing the number of routes through which more than one-third of its imports flow.

This loss of route diversity is no small matter. As indicated above, running Nord Stream 2 alongside Nord Stream 1 creates a Strait of Hormuz-like supply-security risk. For Germany, any failure of the Nord Stream routes would result in a scramble for supply, at a scale that would be difficult to replace. This risk was illustrated by the September 2017 maintenance work on Nord Stream 1, which took place over two weeks.<sup>19</sup> As the Brotherhood pipeline network remained operational, gas flows could be increased via Brotherhood to maintain supply into Germany. However, that option is unlikely to be available after Nord Stream 2 comes into operation, as the increased capacity of the Nord Stream pipeline network will negatively impact the ability to maintain the full capacity of the Brotherhood network.<sup>20</sup>

## **2.6. Undermining the European Union**

Aside from the geostrategic benefits of undermining EU energy liberalization and reinforcing Gazprom's energy leverage across the CEE states, Nord Stream 2 also assists Russia in undermining the integrity of the EU itself. The controversy over the

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<sup>18</sup> Aurelie Bros, Tatiana Mitrova, and Kirsten Westphal, *German-Russian Gas Relations: A Special Relationship in Troubled Waters* (Berlin: SWP, 2017), p. 10, [https://www.swp-berlin.org/fileadmin/contents/products/research\\_papers/2017RP13\\_wep\\_EtAl.pdf](https://www.swp-berlin.org/fileadmin/contents/products/research_papers/2017RP13_wep_EtAl.pdf).

<sup>19</sup> "Nord Stream Shuts for Planned Maintenance Until September 22," *Interfax-Ukraine*, September 11, 2017, <http://en.interfax.com.ua/news/economic/447503.html>. Nord Stream can, of course, argue that it will now have four pipelines with Nord Stream 2 and, therefore, significant flows can be maintained while each pipe is undergoing maintenance. However, this avoids consideration of the choke-point issue—that all four pipes are in the same narrow channel, and the substantial capacity of the Brotherhood pipeline is unlikely to be available in the future.

<sup>20</sup> A further concern here is that repairs and maintenance to underwater pipelines are always likely to take more time, and require the loss of use of the entire length of the pipeline, compared to land-based pipelines, in which problems can be located and fixed much more quickly.

pipeline operates as a wedge, splitting the CEE states from their Western Europe partners, principally Germany.

German support for Nord Stream 2 is acidic in its impact on intra-EU relationships. Berlin appears to be unaware of, or unconcerned about, the impact its decision to support Nord Stream 2 has on the supply security of its EU and NATO partners in Central and Eastern Europe. From a CEE perspective, the pipeline is a route to greater Russian leverage and influence, while also undermining CEE states' access to alternative natural-gas supplies and the liquid trading hubs of the European market.

The consequences of German support for Nord Stream 2 are likely to last a long time, making it harder to bring the EU together to develop other projects in the common interest, from refugee policy to defense initiatives.

## **2.7. The Negative Impact on Ukraine**

The most obvious impact of Nord Stream 2 on Ukraine is the loss of annual transit revenues of approximately \$2 billion.<sup>21</sup> The United States and the EU—principally via funding from the International Monetary Fund (IMF), the European Bank for Reconstruction and Development (EBRD), and the World Bank—are seeking to financially support reform in the Ukrainian economy. Removing transit fees, which represent more than 2 percent of gross domestic product (GDP), is unlikely to help the functioning of the economy, or its reform.

The less-obvious, but potentially much more serious, impact is the danger of Ukraine's isolation. Currently, Ukraine is particularly important to the EU because of the significance of the transit route. Once Ukraine is no longer a transit country, it becomes far less important to Brussels, Berlin, and Paris. The risk here is of the effective abandonment of, or weakening of support for, Ukraine by some EU member states.

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<sup>21</sup> This may be an underestimate, as *Interfax* reports the transit-revenue figure for 2017 as \$3 billion. Andreas Walstad, "Ukraine Eyes \$3 Billion for Transit Revenues in 2017," *Interfax Global Energy*, November 28, 2017, <http://interfaxenergy.com/gasdaily/article/28581/ukraine-eyes-3-blm-for-russian-gas-transit-in-2017>.

There is also a significant risk of energy isolation. Once the Brotherhood pipeline network is no longer transferring substantial gas flows into the EU, the capacity of CEE states to deliver gas by reverse flow—which largely uses the Brotherhood network— will become problematic. Any future reverse flows will be undertaken in a context of increased Gazprom market dominance and influence over the pipeline networks. The reverse flows that have provided Ukraine with alternative sources of gas, and reduced supply dependence, will be much more difficult to sustain.

### **3.0. Defending Nord Stream 2**

To counter arguments deployed against the pipeline, Gazprom and Nord Stream 2, its wholly owned subsidiary, offer three principal lines of defense.

#### **3.1. Argument 1: Nord Stream 2 is a Commercial Project**

The first argument is that Nord Stream 2 is a commercial project, claiming Gazprom and its Western corporate allies support the project because it is in their legitimate commercial interest. Support from Gazprom’s corporate allies is deployed as evidence that the project is a purely commercial operation.<sup>22</sup>

The difficulty with this argument is that it amounts to no more than an assertion underpinned by vocal support from various Western energy companies, and fails to stand up to close examination.

For example, it is far from clear why any energy company would seek to build an entirely new transmission pipeline to deliver gas to its customers when one already

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<sup>22</sup> Originally, Gazprom planned to have a series of close Western corporate allies as shareholders in Nord Stream 2. After a Polish antitrust investigation was initiated, Gazprom became the sole shareholder of Nord Stream 2. However, those corporate allies—Shell, Engie, Wintershall, OMV, and Uniper—are now assisting Gazprom in financing the project. There is also a degree of opacity in the financing arrangements, and in the benefits that the corporate allies may receive from the deal. Rafal Bajczuk, Szymon Kardas, and Agata Loskot-Strachota, *The Nord Stream 2 Financing Arrangements* (Warsaw: OSW, 2017), <https://www.osw.waw.pl/en/publikacje/analyses/2017-04-26/nord-stream-2-financing-agreements>.

exists. Furthermore, the existing Brotherhood pipeline network (which Gazprom intends to displace) is substantially amortized, and the owner has indicated that the post-2019 tariffs will be extremely competitive.<sup>23</sup> In addition, the gas market in Ukraine is being reformed, ensuring that the owner now has the revenue streams to undertake any necessary network maintenance and repair.<sup>24</sup> However, Gazprom is proposing to spend €9.8 billion on building an entirely new pipeline, to provide an alternative supply route.

Furthermore, the €9.8 billion price tag only includes the cost of the 1,200-kilometer pipeline from the Russian Baltic coast, through the Baltic Sea to Greifswald on the German Baltic coast. It does not include the cost of the 3,100-kilometer overland pipeline from the gas fields on the Yamal Peninsula to the Russian entry point of Nord Stream 2.<sup>25</sup> In commercial energy projects, investors usually include the whole cost of the investment—including the delivery pipeline and any new field expenses—when calculating costs, not just the transmission pipeline.

The only argument that can be deployed to justify Nord Stream 2 in commercial terms is to argue that the Ukrainian pipeline network is unreliable. This is difficult to do, as gas-market reforms have put Ukrainian energy firms and regulators in a position to fund, repair, and maintain the network.<sup>26</sup> Ukraine has also agreed to comply with modern European energy regulation, by committing to the Energy

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<sup>23</sup> Naftogaz, press release, “Delivery of Russian Gas to the EU Will Cost 3-4 Times Less Via Ukraine than Via Nord Stream 2,” June 17, 2016, <http://www.naftogaz.com/www/3/nakweben.nsf/0/EC3471DEE32B7266C2257FD50020AFAC?OpenDocument&year=2016&month=06&nt=News&>. See also “Minimum Annual Investment to Support Stable Operation of Ukraine’s GTS is \$200-300—Kobolev,” *Interfax-Ukraine*, November 27, 2017, <http://en.interfax.com.ua/news/economic/464680.html>.

<sup>24</sup> A considerable amount of reform has already taken place in the gas sector, including price liberalization and institutional reform. More is clearly needed, but it is difficult to argue that there has not been significant progress over the last three years. Maria Shagina, “Gas Sector Reform in Ukraine: Unfinished Business,” *Global Risk Insights*, January 17, 2018, <https://globalriskinsights.com/2018/01/gas-sector-reform-ukraine/>.

<sup>25</sup> Frank Umbach, *The Myth of Cheap Russian Gas* (Vaduz, Liechtenstein: Geopolitical Intelligence Services, 2017), <https://www.gisreportsonline.com/the-myth-of-cheap-russian-gas,energy,2323,report.html>.

<sup>26</sup> “Minimum Annual Investment to Support Stable Operation of Ukraine’s GTS is \$200-300—Kobolev,” *Interfax-Ukraine*.

Community Treaty in 2011.<sup>27</sup> Despite war, revolution, annexation, and invasion, the Ukrainian transit system has continued to ensure natural gas has flowed uninterrupted across the Brotherhood pipeline network.<sup>28</sup>

### **3.2 Argument 2: Falling EU Domestic Production Requires More Russian Gas**

A second argument deployed in defense of Nord Stream 2 is that the pipeline is required because of falling natural-gas production within the EU. North Sea gas production is dwindling, particularly in the giant onshore Groningen field.<sup>29</sup> However, Nord Stream 2 is not going to remedy any falls in gas production, as it is only a diversionary pipeline, shifting natural gas from the Brotherhood pipeline network without adding additional gas supply to the European market. As explained above, shifting gas flows from the Brotherhood network to Nord Stream 2 will undermine the Brotherhood's ability to transfer significant quantities of gas to the European Union, as the pipeline network needs a minimum transit flow to maintain the capacity to flow gas through the network.<sup>30</sup> As the Brotherhood pipeline's capacity is larger than that of Nord Stream 2, at approximately 140 bcm, the actual impact of Nord Stream 2 is to make it more difficult to export more Russian gas into the European Union.

The underlying tenet of the Gazprom argument is that there is no choice but to rely on Russian gas as the EU's domestic production declines. However, while this

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<sup>27</sup> For the state of Ukrainian Energy Community Treaty regulatory implementation, see Energy Community, "Implementation: Ukraine," <https://www.energy-community.org/implementation/Ukraine.html>. See also Shagina, "Gas Sector Reform in Ukraine: Unfinished Business." It is also worth noting that, as a result of its reforms in the gas sector, Ukraine is already much more compliant with EU norms than the Russian Federation.

<sup>28</sup> As pointed out above, Gazprom has been willing to threaten, and actually reduce, supplies to EU member states, Rafal Bajczuk, Szymon Kardas, and Agata Loskot-Strachota, *The Nord Stream 2 Financing Arrangements*.

<sup>29</sup> Extractions from the Groningen field have been identified as a source of earthquakes. As a consequence, the Dutch government has capped the level of production from Groningen, which has exacerbated the Dutch supergiant field's depletion problems.

<sup>30</sup> The minimum amount necessary to maintain transit is unclear. Some studies suggest that it could be approximately 25 bcm. Simon Pirani and Katja Yafimava, *Russian Gas Transit Across Ukraine Post-2019* (Oxford, UK: OIES, 2016), p. 56, <https://www.oxfordenergy.org/publications/russian-gas-transit-across-ukraine-post-2019-pipeline-scenarios-gas-flow-consequences-and-regulatory-constraints/>. However, given the complexity of the Brotherhood pipeline network, these minimum figures should be taken with some caution.

argument may have had some credibility in 2006, prior to the development of shale gas and the growth in liquefied natural gas (LNG) production, that is not the case in 2018. The world is awash with natural gas from diverse sources of supply, and there are several pipeline developments that, if undertaken, could provide significant new supplies into the EU.<sup>31</sup> One example would be to expand the capacity of the pipeline carrying gas between France and Spain, which currently has a carrying capacity of only 7.5 bcm.<sup>32</sup> Spain has 61 bcm of LNG-gasification capacity and 20 bcm of pipeline capacity from Algerian fields.<sup>33</sup> Given the low utilization rate of both the LNG terminals and the Algerian pipelines, it would be possible to provide the EU with significant additional supply by increasing the capacity of the Franco-Spanish interconnectors.<sup>34</sup> This would cost significantly less than Nord Stream 2 and, unlike that pipeline, would provide additional supply for the European Union.

### **3.3 Argument 3: Nord Stream 2 is No Threat Because of the Single European Gas Market**

The last major line of defense is to argue that Nord Stream 2 works with the functioning of the single European gas market. This line of argument maintains the project is not a threat, because customers for gas supplies within the European market have a diverse range of supply options as the market has been liberalized,

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<sup>31</sup> Gazprom is caught in a developing cost vice as the cost of production and transportation from the new Yamal fields raises costs. Meanwhile, LNG prices have lowered through cheaper feedstock and cost reductions in transportation and liquefaction. For now, as long as the existing Nadym-Pur-Taz fields produce significant gas flows, then Gazprom can undercut LNG prices if it sacrifices a considerable loss of profit. However, even in current circumstances, Gazprom will be deeply reluctant to make such a sacrifice, because it makes a significant contribution to federal tax revenues. As a consequence, there is a considerable disincentive to lose profitability by undercutting LNG imports, even before production costs rise.

<sup>32</sup> Juan Vila, "The Elusive Gas Connection Between Spain and France," *EnergyPost*, August 23, 2016, <http://energypost.eu/elusive-gas-connection-spain-france/>.

<sup>33</sup> *Spanish Energy Regulator Report to the European Commission* (Madrid: CNE, 2015), p. 82, [https://www.ceer.eu/documents/104400/3739509/C11\\_NR\\_Spain-EN.pdf/e4456fa8-4a02-4ab0-9cb3-26043918c851](https://www.ceer.eu/documents/104400/3739509/C11_NR_Spain-EN.pdf/e4456fa8-4a02-4ab0-9cb3-26043918c851).

<sup>34</sup> Even with existing infrastructure, if the Franco-Spanish interconnector's capacity increased, gas flows could reach as far east as the Czech Republic. Swaps and additional interconnectors would provide the means to bring such gas supplies further east. Swaps are a market mechanism, and any additional interconnectors would be far less expensive than the cost of Nord Stream 2.

opened, and is sufficiently deep and liquid. If customers do not want to take gas from Nord Stream 2, the argument goes, they have other options.<sup>35</sup>

While there has been significant liberalization of the European gas market over the last twenty years, it is far from complete. The European market that Nord Stream 2 advocates describe does exist, but it is largely confined to Northwestern Europe, where there is significant supply diversity, deeply liquid trading hubs, and plentiful interconnections, which provide customers with a range of options.

That situation is, unfortunately, not the case in the states of Central and Eastern Europe. In large part, that is because of the postwar division of Europe. The Western European states began liberalizing their energy markets while the CEE states were still under Soviet occupation. The process gathered pace in the 1990s and early 2000s, before any of the CEE states actually joined the European Union. Furthermore, both when newly liberated and then as new member states, the CEE states were still grappling with the Soviet legacy of a single east-to-west pipeline network, which gave Gazprom significant market power. These legacy issues make it much more difficult to put in place new sources of supply, pipelines, and interconnectors that will provide the CEE states with alternatives.<sup>36</sup>

Hence, while it is true that the EU's liberalization rules have been adopted as required under EU law in the CEE states, effective liberalization requires more interconnections to ensure a coherent, single gas market permitting gas to flow, and the development of alternative sources of supply. However, for the reasons discussed above, only a limited number of interconnections and new supply sources—such as Swinoujscie on the Polish Baltic coast—have been put in place.

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<sup>35</sup> Alex Barnes, *Nord Stream 2: Friend or Enemy of Energy Security in Europe*.

<sup>36</sup> For an illustration of the lack of interconnection in CEE states compared with Northwestern Europe, see ENTSOG, *Central Eastern Europe-Gas Regional Investment Plan*. The EU is providing some funding for interconnectors and new facilities, such as LNG-gasification terminals. However, there is still a pressing need for market capital to enter CEE energy markets to provide the substantial funding to match EU funds. Given the Soviet legacy pipeline networks, long-term supply contracts, and capacity for Gazprom to price discriminate, capital can be disincentivised from entering this market.



In the current nascent state of energy liberalization in the CEE states, Nord Stream 2 effectively divides the European gas market. The liberalized Northwest European market remains liberalized, while the CEE states face the prospect of draining forces of market liberalization and a re-energization of Gazprom's market dominance. The interconnectors that have been developed will be flooded by Nord Stream gas, making it difficult for competitors to provide an alternative source of supply. Furthermore, the scale of gas flows from west to east could undermine investor incentives to either build new interconnectors or establish new sources of supply.

#### **4.0. The Threat Posed by Nord Stream 2 and Potential Challenges to the Pipeline**

Viewed in this context, the scale of damage that an operational Nord Stream 2 would inflict on the EU and the CEE states will likely be substantial. The project would simultaneously undermine the political and supply security of the CEE states, as well as the supply security of Western European states, such as Germany, and roll back the twenty-year campaign to create a single European gas market. Nord Stream 2 is also wielded by Moscow as a wedge. It powerfully assists Russia in dividing and weakening the European Union, one of its long-term strategic aims: *divide et impera*.

Given the scale of the potential damage to the European Union, and Western support for the Ukrainian reform and independence project, it should be clear that Nord Stream 2 should be abandoned. A number of moves now in play may result in the abandonment of the pipeline.

First, in November, the European Commission published proposals to formally extend the application of the 2009 gas directive to import pipelines. The consequence of such a formal extension would make it extremely difficult for Nord Stream 2 to come into operation, as the pipeline would need to fully comply with EU liberalization rules, including ownership unbundling and Article 11 of the 2009 Gas

Directive—the energy-security assessment for any new transmission-system operator, which Gazprom would be likely to fail.<sup>373839</sup>

EU law has already been applied to import pipelines like Yamal and South Stream.<sup>40</sup> Hence, even if the gas-directive amendment is not enacted, there may well be legal challenges to the pipeline, in which the argument will be made that EU law already applies to Nord Stream 2 (and Nord Stream 1). Some EU states or energy companies may seek to challenge Nord Stream 2 in the courts, with the case ultimately heard in the European Court of Justice in Luxembourg.<sup>41</sup>

Second, in November 2017, steps were taken in the Danish Parliament to enhance Denmark's sovereignty over its territorial sea. The Danish Parliament enacted legislation granting the foreign minister the power to prohibit pipelines within Danish territorial seas, and the foreign minister is now considering applying his new powers to Nord Stream 2 to block the construction of the pipeline within Danish territorial waters. Application of this power to Nord Stream 2 would at least delay the pipeline from coming into operation.<sup>42</sup>

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<sup>37</sup> European Union, *Proposal for a Directive of the European Parliament and Council Amending Directive 2009/73/EC Concerning Common Rules for the Internal Market in Natural Gas*, November 8, 2017, <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52017PC0660>.

<sup>38</sup> Ownership unbundling requires the separation of the person supplying the natural gas from the person running the pipeline. As Gazprom would both own the Nord Stream 2 pipeline and provide the natural gas flowing through the pipeline, ownership unbundling is a significant barrier to the pipeline's operation. This is reinforced by the Gazprom-pipeline export monopoly, which only permits Gazprom to export pipeline natural gas from Russia.

<sup>39</sup> Article 11 of the Gas Directive 2009 imposes an obligation on national regulators to assess whether a non-EU owner would pose a risk to the supply security of the member state or the EU as a whole. The argument is that it would be extremely challenging for Gazprom to ever survive an assessment under Article 11, given all the supply-security issues discussed above.

<sup>40</sup> For a discussion of the legal issues surrounding the application of EU law to the Yamal and Southstream pipelines, see Riley, *A Pipeline Too Far: EU Law Obstacles to Nord Stream 2* (Washington, DC: IELR, forthcoming).

<sup>41</sup> For example, the German energy regulator could be challenged for failing to certify Nord Stream 1 and 2 before the German administrative courts, and that issue would then make its way by reference to the European Court of Justice. An alternative approach would be for another member state to bring a case against Germany for failure to comply with EU law directly, before the EU courts.

<sup>42</sup> Erik Matzen and Stine Jacobsen, "Denmark Passes Law that Could Ban Nord Stream 2 Going Through its Waters," *Reuters*, November 30, 2017, <https://www.reuters.com/article/us-denmark-pipeline/denmark-passes-law-that-could-ban-russian-pipeline-from-going-through-its-waters-idUSKBN1DU19L>. It may, in fact, kill the pipeline. There is some doubt as to whether it is possible to construct the pipeline north of Danish territorial waters—where Nord Stream 2 pipelines are currently due to be laid—due to the scale of shipping flows in that very narrow part of the Baltic Sea.

Third, there is the prospect of more sanctions being imposed upon the Russian Federation for interfering in democratic elections in the West, most notably in the 2016 US presidential election.<sup>43</sup> As more and more evidence of Russian interference enters the public domain throughout 2018, it makes it likely that the United States and its allies will seek a greater range of sanctions on the Russian Federation. Nord Stream 2 is an obvious and immediate target.<sup>44</sup>

As the ultimate guarantor of European security, the United States has clear interest in ensuring the EU's supply security, and—more fundamentally—the integrity and coherence of the European Union. It is also in the US interest to ensure that Nord Stream 2 does not undermine the work the EU and United States have undertaken to underpin Ukrainian independence and encourage Ukrainian economic reform.

The United States has sought to gain recognition among its European allies of the broader danger that Nord Stream 2 poses to all Europeans, and to the coherence and integrity of the EU itself.

One immediate option for Washington would be to seek a broad European consensus to at least reassess the Nord Stream 2 pipeline, through a common process involving all the affected states. Currently, the project is only subject to assessment in those states where Moscow believes there will be limited

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<sup>43</sup> US Department of Justice, press release, "Grand Jury Indicts Thirteen Russian Individuals and Three Russian Companies for Scheme to Interfere in the United States Political System," February 16, 2018, <https://www.justice.gov/opa/pr/grand-jury-indicts-thirteen-russian-individuals-and-three-russian-companies-scheme-interfere>.

<sup>44</sup> The provision that would most likely apply is Section 232 of CAATSA 2017, which expressly grants power to the president to impose sanctions on import pipelines, in coordination and consultation with US allies. In October, the State Department provided guidance that appeared to limit the scope of the application of Section 232. However, a significant range of action could still be taken within the guidance against the pipeline, and the guidance can be amended. The broader objection is that US allies, notably Germany, will not countenance any sanctions against Nord Stream 2. However, this view takes a static picture of European—and, particularly, German—public and political opinion before much more evidence of Russian interference in US and European elections entered the public domain. As more evidence enters the public domain, public and elite political opinion in both the United States and Germany is likely to shift in the direction of imposing further sanctions.

objections.<sup>45</sup> It has deliberately avoided going through the exclusive economic zones of states that may be substantially affected by the pipeline. Such an “all affected states” process would involve examining questions about the environment, security, supply security, and the corporate governance of the proposed pipeline, according to common European and international standards. The United States and the CEE states have a legitimate and compelling argument that an assessment is being undertaken that significantly affects the CEE states, and in which they have limited input.<sup>46</sup>

It is to be hoped that this mix of legislative action, legal process, and the prospect of further sanctions will force a reassessment of a project that will otherwise significantly damage the EU’s supply security and the integrity of the European Union itself.

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<sup>45</sup> Although, in the case of Denmark, this Russian assessment may turn out to be mistaken.

<sup>46</sup> The current permitting and planning process runs solely through the states whose territorial seas and exclusive economic zones the pipeline is proposed to run through—despite the fact that the Baltic Sea is a fragile sea with shallow waters, and the pipeline is close to the exclusive economic zones of several other Baltic littoral states. This is in addition to the broader economic and security impact of Nord Stream 2 on the unrepresented CEE states.