Analyses OSW

CENTRE FOR EASTERN STUDIES 29.09.2022 www.osw.waw.pl

Sabotage of the Nord Stream 1 and Nord Stream 2 pipelines

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On 26 September Gascade, a gas network operator in eastern Germany, reported that there had been a large drop in pressure in the Nord Stream 2 (NS2) pipeline, from 105 to 7 bar. In the late afternoon, Denmark confirmed a leak from one of NS2's pipelines in the Danish exclusive economic zone south-east of Bornholm. Then, on the evening of 26 September, the operator of Nord Stream 1 (NS1) reported a pressure drop in both pipelines. On the morning of 27 September, the Danish and Swedish marine services identified two further leaks on both lines of NS1 (see map). On 28 September, news emerged that a fourth leak (the second on NS2) had been discovered by the Swedish Border Guard, this time in Sweden's exclusive economic zone. Due to the scale of the spills and their unprecedented nature, Denmark raised its emergency readiness level in both the electricity and gas sectors. The Danish and Swedish maritime administrations have now established a prohibitive no-sail zone in an area of five nautical miles around the damage site. Restrictions were also imposed on air transport (up to 1000 metres above sea level). On the afternoon of 27 September, the Swedish TV channel SVT reported that the previous day measuring stations in Sweden had recorded two strong underwater explosions in the vicinity of the leaks from the two pipelines (one at 2.03am and the other at 7.04pm). Danish, Swedish and German vessels and helicopters were dispatched to the site of the incidents. According to the Danish armed forces, the leaks can be seen from a distance, and the largest is more than 1 km in diameter.

Denmark and Sweden consider sabotage and deliberate actions as the cause of the damage to the pipelines. However, neither country's government wants to enter into further speculation (for more international reactions, see Appendix). It will not be possible to inspect the damaged pipes until about a week from now, when the gas leak will end (according to the Danish energy agency, the pipelines should empty themselves by next Sunday). According to Danish estimates, the three lines contained a total of 778 million m^3 of gas. It is not known whether the advanced monitoring systems installed on NS1 and NS2 recorded any information that could help in determining the cause of the damage of the pipelines, or whether and under what conditions Gazprom would make such data available. At the same time, the prevailing belief is that the damage to both pipelines was a deliberate act of sabotage. Indeed, it is unlikely that such random incidents would occur simultaneously, on one day, on three lines and in several different locations.

The scale of the damage to all three lines is extensive; it is still unclear whether it can be repaired and, if so, within what time frame. According to media reports, there is an increasing likelihood that the damage to NS1 will put this pipeline permanently out of service, although one of the two NS2 pipelines is expected to remain in good condition.

Under the current circumstances, however, it is difficult to imagine that it could be put into operation, even if it were technically possible.

Who was behind it?

The Nord Stream sabotage must be seen in the broader context of the ongoing war in Ukraine, Putin's determination to succeed, the pseudo-referendums in and annexations of the occupied territories, and the broad conflict between Russia and the West. This latter is also being clearly felt in the gas sphere: the trade in energy resources has become a battleground in the energy war, and the growing crisis on the gas and energy markets in Europe is due in large part to Moscow's hostile actions. Finally, the coincidence of the leaks in NS1 and NS2 with the inauguration of Baltic Pipe on 27 September (the route itself will start operating on 1 October) is of particular note. Although the incidents do not appear to threaten the Polish-Danish-Norwegian gas pipeline directly, they did occur close to its route in Danish waters.

According to the most likely version, the damage to the pipelines was caused by a deliberate Russian act. Of the options available to the Russian Federation in the Baltic Sea, the action of Russian military intelligence units is probable. This thesis is made more plausible by the fact that certain rescue units equipped with specialised underwater equipment which could be used for sabotage actions participated in the pipelines' construction. In 2021, the facilities were inspected by specialists from the Russian Ministry of Defence's Main Directorate of Deep Sea Research (GUGI military unit no. 45707) and soldiers from the underwater sabotage subunit from the base at Baltiysk. Their participation in the work demonstrates that Moscow considers the pipelines to be objects of military importance that are subject to special protection, and has ensured that they can be destroyed (e.g. by pre-positioned explosive charges), not least to worsen the economic situation in Europe.

The damage to NS1 and NS2 could indicate that Russia is already not only using its supply of energy resources instrumentally, but is also sending a signal about the risk to the security of Europe's critical energy infrastructure. The explosions on both pipelines could be part of Moscow's strategy of escalating tensions in its gas relations with Europe. It has been consistently pursued such a strategy for many months, with the aim of deepening the energy crisis and increasing uncertainty and chaos on the market. This plan has included decisions to cut off or significantly reduce gas supplies to a number of European customers (including Poland, Bulgaria, Denmark, the Netherlands, Germany, France and Italy), as well as halting or limiting transport via particular routes. Damaging its own export infrastructure in the exclusive economic zones of EU and NATO countries would represent a serious raising of the stakes, demonstrating Moscow's ability and readiness to attack similar facilities (such as Baltic Pipe) belonging to European countries which the Kremlin classes as so-called 'hostile states'.

This interpretation has been reinforced by the propaganda message created in the Russian media, which has called the damage to NS1 and NS2 an act of sabotage and a *de facto* terrorist act to be blamed on hostile states. The idea that Russia was responsible is also being supported by media reports suggesting that in the summer the US warned Germany about possible attacks on energy infrastructure in the Baltic. More recently, Ukrainian intelligence also suggested the risk of Russia launching cyber-attacks on the critical energy infrastructures of Ukraine and countries supporting Kyiv. Gazprom could also use any long-

term damage to both pipelines as an excuse to justify (by *force majeure*) any failure to meet its contractual obligations to supply gas to its European counterparties, and thus to limit the risk and size of any compensation it might have to pay out.

If Russia is truly ready to undertake such radial action as attacking its own critical energy infrastructure, that would also demonstrate its far-reaching determination to use the gas issue as a political instrument. The Kremlin would then be most likely hoping that, by sending a signal about its readiness and ability to carry out such acts, it will increase concern in EU states and thus influence a reduction (or, in the optimal scenario for Moscow, even a suspension) of political and military support for Ukraine.

Suggestions that the damage to the two pipelines targets Russian interests are presently much more rarely heard. It is also difficult to identify who the potential alternative perpetrators might be. Accusations against the US, for example, have mainly been coming from traditionally pro-Russian circles (such as Germany's AfD). In this context, there are doubts linked to the fact that the explosions and damage to the gas pipelines will bring financial losses to the Russia in addition to the possible political gains. The damage to the pipelines does not change the actual situation with regard to the supply of Russian gas to Europe: NS2 has never been put into operation, and transmission through NS1 had already been completely halted a few weeks earlier. The damage also makes it impossible for Russia to use the option of resuming its gas exports instrumentally in its relationships with individual European countries, to divide the EU and achieve the easing of sanctions and/or the reduction of military support for Ukraine.

Possible consequences

The damage to the pipeline will not have any immediate major impact on the availability of gas on the European market, although (along with other Russian actions) it has affected the price of gas at the hubs. Russian gas has not been flowing to Europe via NS1 since the end of August, and there was no indication that it would flow anytime soon, and NS2 was never even put into operation. At the same time, the damage to the Baltic routes definitively rules out the prospect of increased supplies from Russia (at least via these routes) at the time of peak gas demand in the winter season. If Moscow decides not to increase the volume of supplies via Ukrainian pipelines – and there are many indications that it may even decrease it – this will cause definite difficulties in meeting the gas needs of many EU countries (including Germany), especially in the event of severe and/or prolonged frost. This could deepen the already serious crisis in the gas market and affect discussions on any further packages of sanctions affecting the broadly understood energy markets (for example, it is likely to be even more difficult for EU countries to agree on sanctioning imports of Russian LNG).

Shutting down the operation of both pipelines for an extended period of time deprives Russia of an important instrument in its external energy policy. The NS1 and NS2 pipelines were constructed not only to increase the capacity to react flexibly to changes in demand on the European gas market, but above all to make it possible to divert transit from the gas pipelines which had hitherto been used, in particular from the route through Ukraine. There are many indications that Moscow may further escalate its use of gas supplies as a policy instrument in the near future. On 27 September, Gazprom announced that Russia may sanction Ukraine's Naftohaz if the latter continues to pursue claims against the Russian

side in the arbitration procedure it initiated; Naftohaz has accused Gazprom of violating its transit obligations under the Russian-Ukrainian agreements of December 2019. If Russia includes Naftohaz on its sanctions list, that would mean that Russian entities would be banned from all business dealings with the Ukrainian company – including financial settlements – and this would in turn result in the suspension of the transit of Russian gas via Ukraine.

The likelihood that Russia caused the damage will significantly postpone the possibility of rebuilding gas and energy relations between Russia and the EU. The damage to the pipelines will increase the determination of European countries to become completely independent of Russian gas supplies, accelerating and sealing the diversification process which began after the invasion of Ukraine. The reduction in Russian gas exports to Europe will not be compensated by increased sales to non-European countries in the coming years. Indeed, due to infrastructural constraints, Russia cannot currently redirect its gas exports to other markets (in particular Asia).

The damage to the strategic gas pipelines, the explosions off the coasts of NATO countries and EU territories, and the growing perception that Russia is behind these acts will also have political and security consequences. This will undoubtedly contribute to an increased sense of insecurity in the Baltic Sea region and throughout Europe. This will translate, among other things, into an increased level of monitoring and protection of critical European infrastructure and a deepening focus on the physical security of the EU gas and energy markets, and possibly into increased NATO activity in this area.

APPENDIX

International reactions

Denmark was the first country to respond to the gas leaks from the NS1 and NS2 pipelines, as the first incident occurred in the Danish exclusive economic zone south-east of Bornholm on NS2, and another on NS1 north-east of the island. F-16 fighter jets, a missile frigate, a patrol ship and an environmental monitoring vessel were sent to the site of the incident; the Danish Maritime Administration imposed restrictions on navigation and air traffic. On the evening of 27 September, Prime Minister Mette Frederiksen held a press conference with the ministers of foreign affairs, defence and energy. Earlier in the day, the Danish foreign minister consulted his counterparts from Sweden, Germany, Norway, the US, Finland, Poland and the Baltic states, while the following day the defence minister discussed the gas pipeline damage situation with the NATO secretary general. According to the Danish prime minister, the damage to the gas pipelines was not an accident but a deliberate act; however she refused to speculate on who the perpetrators might be, emphasising the need for international cooperation to find those responsible for the explosions. Denmark does not regard the explosions, which took place in its exclusive economic zone, as an attack on Danish territory. An official investigation has been launched by the Copenhagen police into the damage. According to Danish military intelligence, there is no increase in the threat to Denmark's security for the time being.

Sweden, in whose economic zone (north-east of Bornholm) two of the gas pipeline leaks occurred (one on NS1 and one on NS2), responded to the leaks by sending a patrol aircraft

to the area, followed by a Coast Guard patrol vessel. Stockholm identified two explosions as having caused the damage. According to the Swedish National Seismographic Network (SNSN), one of the explosions had a magnitude of 2.3, equivalent to a noticeable earthquake. At a press conference on 27 September, Prime Minister Magdalena Andersson, together with the foreign and defence ministers, addressed the public, reassuring the Swedish people while warning them against hostile disinformation. According to her, the explosions were an act of sabotage and deliberate actions, albeit not in Swedish territorial waters. The government did not want to speculate on the possible causes of the explosions. The Swedish Security Police (Säpo) is investigating suspected sabotage, which may have been directed against Swedish interests. Stockholm appears to be closely coordinating the narrative on the issue with Copenhagen, and has also consulted with the governments of Norway, Germany, Finland, the US and the NATO secretary general.

Norway responded to the damage to the NS1 and NS2 gas pipelines by raising the level of security readiness at all its oil and gas platforms on the continental shelf. The decision followed a warning issued the day before by the Norwegian Petroleum Safety Authority (*Petroleumstilsynet*) regarding sightings of unidentified drones near oil and gas platforms on the Norwegian continental shelf, and called for increased vigilance. Previously, the Norwegian newspaper *Stavanger Aftenblad* reported that unidentified drones had been spotted six times in the vicinity of various drilling platforms owned by Equinor ASA in the second half of September. Equinor reported all these incidents to the Norwegian Petroleum Safety Authority. The use of drones in the safety zones of oil platforms (500 metres around and above the platform) without prior permits is punishable in Norway.

Germany's vice chancellor and minister for the economy & climate protection Robert Habeck said that, according to the information available to him, the gas pipelines' failures were not the result of 'natural events' but of deliberate sabotage. He also acknowledged that critical energy infrastructure in Europe is a potential target for attacks, adding that the German services have been aware of this for months. *Der Spiegel* reported that the CIA warned Berlin over the summer of the possibility of sabotage against Baltic gas pipelines. The German missile frigate *Sachsen* (F219) was the first large vessel to arrive at the site of the accident; the ship investigated all three leak sites. In the German media, behind-the-scenes statements from government and service representatives have been quoted indicating that such failures could not have been a coincidence, but were most likely the result of a deliberate attack; they said that only state actors would have been capable of sabotaging undersea infrastructure due to the complex nature of the operation. In the public debate, Russia is most often identified as the potential perpetrator. It has been suggested that Moscow's potential motive may have been a desire to demonstrate its ability to attack critical energy infrastructure, and an attempt to intimidate the West with the possibility of similar operations against other transmission networks, the security of the gas pipelines in the North Sea being of greatest concern. Germany is therefore expected to cooperate with the Danish and Swedish services in their investigation into the causes of the accident.

Russia. There has still been no official statement from Gazprom on the NS1 and NS2 damage. Nord Stream AG, in a statement issued on 27 September, said that the damage was unprecedented. On the other hand, a Kremlin spokesperson stated that it was necessary to wait for the results of investigations into the causes of the failure, but did not rule out that the damage could have been the result of sabotage. Russian Foreign Ministry

spokeswoman Maria Zakharova stated that the damage occurred in an area under the supervision of US intelligence. Some media outlets considered that the failure could have been the result of Polish actions. The damage to the gas pipelines was one of the main topics of the day on Russian news programmes. According to the propaganda narrative, it was the result of sabotage, the responsibility for which lies with those countries that will benefit most from the outage of the gas pipelines, namely the US, the UK, Poland and Ukraine. A special meeting of the UN Security Council on the damage to NS1 and NS2 was convened for 30 September at Russia's initiative.

Map. Locations of damage to Nord Stream 1 and Nord Stream 2 pipelines

