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NORD STREAM PIPELINE ATTACKS

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War is not black and white; it's grey. If you don't fight in the grey area, you're going to lose.

-Marcus Luttrell

(Retired United States Navy SEAL)

What are the Nord Stream pipelines?

Nord Stream is a network of offshore natural gas pipelines in Europe which run under the Baltic Sea from Russia to Germany. It comprises two separate projects, Nord Stream 1 and 2.¹ It crosses the Exclusive Economic Zones (EEZs) of several countries and can together transport a combined total of 110 billion cubic meters (bcm) of gas a year to Europe for at least 50 years. It crosses Russia, Finland, Sweden, Denmark, and Germany, and the territorial waters of Russia, Denmark, and Germany. In Germany, the pipeline connects to the OPAL (Baltic Sea Pipeline) and NEL (North European Pipeline) which further connects to the European grid.

Nord Stream 1, which runs from Vyborg in Northwest Russia to Lubmin in Northeastern Germany, was announced when the relations between Russia and the West were relatively calm in 1997. After becoming operational in 2011, it has been a key artery carrying Russia's vast gas supplies to Europe and flows directly into Germany, the biggest European importer of Russian gas.²

Nord Stream 2, which was announced in 2015 and completed last year was supposed to run from Ust-Luga in Russia to Greifswald in Germany and was intended to deliver 55 billion cubic meters of gas per year. This time, however, the international scene has changed from what it was when its sister project was in progress. Fearing the increasing dependency of Europe on Russia, several countries like the United States, the United Kingdom, Ukraine, and several EU countries opposed

¹ The Nord Stream Project Website (2022) <https://www.nord-stream.com/the-project/pipeline/>

²C. Cooney (2022) Germany nationalises gas giant amid energy crisis. BBC. <https://www.bbc.com/news/world-europe-62980158>

the development of Nord Stream 2. While on one hand, Germany has always welcomed Russian natural gas due to its reliable supply, the United States and some other European countries viewed the pipelines as more of a geopolitical statement rather than an energy project.³

The Accident

On September 26, Nord Stream operators reported a significant pressure drop on both lines of the pipeline. Three separate leaks were recorded from the Nord Stream 1 and Nord Stream 2 pipelines near the Danish Island of Bornholm. Later, a fourth leak was also discovered by Sweden's coast guard in the two damaged offshore pipelines. Seismologists based in both Denmark and Sweden suggest that sizable explosions on the order of 100 kilograms of TNT occurred in both incidents which damaged both the lines of the Nord Stream 1 pipeline and one line of Nord Stream 2.⁴

The attacks occurred in the Exclusive Economic Zones of Denmark and Sweden and demonstrate the risks that Europe's subsea infrastructure is facing. This raises the question of the vulnerabilities of European pipelines, electricity and internet cables, and other maritime infrastructure.⁵

While Nord Stream 1 had been operating at between 10 percent and 20 percent of its capacity earlier, Nord Stream 2 never went into service. The incident had no bearing on Europe's gas supplies (so far) since Russia had completely stopped the supply from Nord Stream 1, citing

³N. Pahwa. (2022) The Real Dangers of the Nord Stream Pipeline Leaks. The Slate. <https://slate.com/technology/2022/09/nord-stream-pipeline-explosion-possible-sabotage-russia-germany-denmark.html>

⁴ S. Vakulenko (2022) Shock and Awe: Who Attacked the Nord Stream Pipelines? Carnegie Endowment for International Peace. <https://carnegieendowment.org/politika/88062>

⁵C. Burger (2022) Nord Stream pipeline sabotage: how an attack could have been carried out and why Europe was defenceless. The Conversation. <https://theconversation.com/nord-stream-pipeline-sabotage-how-an-attack-could-have-been-carried-out-and-why-europe-was-defenceless-191895>

malfunctions on a key turbine along the pipeline as reasons.⁶ Both the pipelines, however, were filled with natural gas, ready to be transported.

Nord Stream pipelines from Russia

Leaks detected on both pipelines near Bornholm



The Blame Game

It is widely thought that the explosions that led to the major leaks in the 2 pipelines were not accidents. Every stakeholder claims that this was a deliberate act of sabotage since the Nord Stream

⁶N.Pahwa (2022) The Real Dangers of the Nord Stream Pipeline Leaks. The Slate. <https://slate.com/technology/2022/09/nord-stream-pipeline-explosion-possible-sabotage-russia-germany-denmark.html>

pipelines have been at the center of an energy clash between Europe and Russia since the invasion of Ukraine in February 2022 and before that.

Undersea pipelines are designed in a manner so they cannot be damaged accidentally and leaks are very rare. However, analysts say that there are two likely scenarios. *First*, attacks could have been carried out as an underwater operation using advanced submarine technology. This points towards the involvement of the official State Navy, which would then make the attack an act of war. *Second*, the operation was launched from a privately owned surface vessel, such as a fishing boat, which was used by divers to manually place explosives. This method comes under the umbrella of **grey-zone tactics**.⁷

The perpetrator's identities and the motives behind such intentional sabotage remain a mystery and while on one hand, the investigators have been scanning through electronic communications, shipping logs, and satellite images⁸, both Moscow and Western nations have pointed fingers at one another over what some have described as intentional "sabotage".⁹ The Danish Prime Minister and the Swedish Prime Minister alleged that the leaks were caused by deliberate action and were not accidents and specified that explosions had been recorded. Many European Union officials and the NATO General also hold similar views.¹⁰ Putin has been calling this incident an "unprecedented act of international terrorism."

⁷ C. Burger (2022) Nord Stream pipeline sabotage: how an attack could have been carried out and why Europe was defenceless. The Conversation. <https://theconversation.com/nord-stream-pipeline-sabotage-how-an-attack-could-have-been-carried-out-and-why-europe-was-defenceless-191895>

⁸ B. Pancevski. (2022) Nord Stream Pipeline probe adds weight to sabotage suspicions. Wall Street Journal. <https://www.wsj.com/articles/nord-stream-pipelines-were-likely-deliberately-blown-up-investigators-say-11665067943>

⁹ C. McFall. (2022) Swedish investigative team finds 'detonations' damaged Nord Stream pipeline. Fox News. <https://www.foxnews.com/world/swedish-investigative-team-finds-detonations-damaged-nord-stream-pipeline>

¹⁰ Pederson, Jacobson, Skydsgaard. (2022). Nord Stream leaks caused by deliberate actions, Denmark's prime minister says. Reuters. <https://www.reuters.com/business/energy/nord-stream-leaks-caused-by-deliberate-actions-denmarks-prime-minister-says-2022-09-27/>

The European Union seems to be an unlikely source of this attack since they would not seek to willingly lose out on their energy source. While it was working towards transitioning to green energy and reducing its Russian dependence, immediately cutting all sources of energy seems like a bad idea. At the same time, Russia is also under the scanner because of its games with energy supply in the wake of the Ukraine war and subsequent sanctions. While one could assume that Russia might be involved in such a conspiracy, at the same time, by severing the pipelines, Russia could be signalling to Europe that it is Russia, and not Europe, that has decided to cut energy ties.¹¹ These leaks also come a day before the launch of the Baltic pipeline, which is an alternative to the Nord Stream, running through Denmark and bringing in gas from the North Sea rather than from Russia to lessen Poland's dependence on Russian energy¹². It is quite counterintuitive for Russia, even with its behavioural records to bomb its own pipelines and damage its own distribution system in a long term. Unless Russia decided to prevent its own exports to drive up the gas prices in Europe to show them how vulnerable their energy infrastructure is, hoping that the West would drop the sanctions in fear of its energy security, it still seems like a bizarre step to damage one's own transmission lines, when you can just stop the supply. It is unclear why Moscow would damage the infrastructure it has spent billions constructing and also has a majority stake in it. Europe remains heavily dependent on Russia for its energy security and such an act could lead to it losing its bargaining chip against the West.

A very likely culprit could come out of either the United States or Ukraine and its supporters – the United Kingdom, Poland, and the Baltics. These countries have been vocally against Nord Stream 2 since the very beginning and have been pressurizing Germany to stop importing gas from Russia. It could be believed that these damaged pipelines would be the most beneficial to this group of countries. Recently, Russia has accused the United Kingdom to be the key culprit in the pipeline

¹¹J.Majkut (2022). Security Implications of Nord Stream Sabotage. Centre for Strategic and International Studies. <https://www.csis.org/analysis/security-implications-nord-stream-sabotage>

¹² M. Strzelecki. (2022) Nord Stream leaks will not delay Oct 1 Baltic Pipe start-up. Reuters. <https://www.reuters.com/business/energy/nord-stream-leaks-will-not-delay-oct-1-baltic-pipe-start-up-2022-09-29/>

attacks.¹³ While the Western countries are not allowing Russia to become an equal party in the investigations, Russia also has not put any proof on the table while making this accusation. This allegation might have some skin since UK-Russia relations have been at a historic low. With this logic, there are a variety of countries, including the United States, Poland, Estonia, and Latvia whose relations are at an all-time low with Russia and which also have been opposing the Russian energy flow to Germany. Any of these countries (not excluding Russia yet) or maybe more than one, could be behind this act.

Grey Zone Warfare

Grey zone warfare simply involves attacks by a group acting indirectly on behalf of state interests. The purpose of such aggression is to cause similar damage as to a conventional attack but without any of the consequences.¹⁴

In such cases, the involvement of any government or other state actors is very difficult to track and verify since hybrid aggressors dodge reprisal by staying below the known thresholds of response. They create enough doubt and ambiguity that prevents quick and decisive counteraction. Grey-zone tactics are increasingly common at sea and have been associated with the Iranian Revolutionary Guards seizing ships or the Chinese fishing fleet advancing territorial claims. If this is what happened in the Baltic Sea, the Nord Stream attack was likely to have been the first ever recorded grey-zone activity in the European subsea.¹⁵

¹³ Al Jazeera (2022) Russia accuses UK of 'directing' Nord Stream blasts. <https://www.aljazeera.com/news/2022/11/1/russia-accuses-uk-of-directing-nord-stream-blasts>

¹⁴S. Monaghan. (2022) Five steps Nato should take after the Nord Stream pipeline attack. Centre for Strategic and International Studies. <https://www.csis.org/analysis/five-steps-nato-should-take-after-nord-stream-pipeline-attack>

¹⁵ C. Burger (2022) Nord Stream pipeline sabotage: how an attack could have been carried out and why Europe was defenceless. The Conversation. <https://theconversation.com/nord-stream-pipeline-sabotage-how-an-attack-could-have-been-carried-out-and-why-europe-was-defenceless-191895>

Environmental Impact

Unlike an oil spill, gas leaks are relatively harmless for the surrounding area. However, the amount of methane being released from the damaged pipelines could have a significant climate change impact. According to initial estimates, a total of 500 million cubic meters of gas was lost, which is the equivalent of 8 million tons of carbon dioxide.¹⁶ Methane is 84 times more potent than carbon and doesn't last as long in the atmosphere before it breaks down. The two Nord Stream pipelines were estimated to have contained enough gas to release 300,000 tons of methane.¹⁷ Experts are warning that the Nord Stream leaks could cause the biggest single release of methane ever recorded.¹⁸

Way Forward

The sea bed is a massive space and very vital at the same time. It has pipelines and cables that run thousands of kilometres. Pipelines ensure the flow of gas and oil, electricity cables promise a green revolution and underwater data cables transport 95% of data and ensure digital connectivity. Even after being so resourceful and important, Europe has no policy in place that would provide for the surveillance and protection of this massive underwater infrastructure.

The attack on the Nord Stream pipelines vividly demonstrates the vulnerability of critical infrastructure and the potency of hybrid attacks. Massive measures need to be taken to prepare,

¹⁶ S. Vakulenko (2022) Shock and Awe: Who Attacked the Nord Stream Pipelines? Carnegie Endowment for International Peace <https://carnegieendowment.org/politika/88062>

¹⁷ S. Meredith. (2022) All you need to know about the Nord Stream gas leaks — and why Europe suspects ‘gross sabotage’. CNBC. <https://www.cnbc.com/2022/10/11/nord-stream-gas-leaks-what-happened-and-why-europe-suspects-sabotage.html>

¹⁸ N. Reimann. (2022), Pipeline Sabotage: Some Leaking Stops As Russians And West Point Fingers Over Nord Stream Attack. Forbes. <https://www.forbes.com/sites/nicholasreimann/2022/10/01/pipeline-sabotage-some-leaking-stops-as-russians-and-west-point-fingers-over-nord-stream-attack/?sh=723173143a7b>

deter and defend against further attacks. ¹⁹Addressing some of these vulnerabilities will require significant investment and cross-Atlantic cooperation on the cyber and physical security of energy infrastructure.²⁰

Work needs to be done to increase the protection of subsea infrastructure by mandating an explicit underwater policy and installing surveillance devices on the surface in the vicinity of infrastructures and ensuring patrols. Navies and coastguards need to develop better collaboration with the private industry that operates and maintains underwater infrastructure.²¹ This could help deter perpetrators and prevent future grey-zone attacks.

¹⁹ S. Monaghan. (2022) Five steps Nato should take after the Nord Stream pipeline attack. Centre for Strategic and International Studies. <https://www.csis.org/analysis/five-steps-nato-should-take-after-nord-stream-pipeline-attack>

²⁰ J. Majkut. (2022). Security Implications of Nord Stream Sabotage. Centre for Strategic and International Studies. <https://www.csis.org/analysis/security-implications-nord-stream-sabotage>

²¹ C. Burger (2022) Nord Stream pipeline sabotage: how an attack could have been carried out and why Europe was defenceless. The Conversation. <https://theconversation.com/nord-stream-pipeline-sabotage-how-an-attack-could-have-been-carried-out-and-why-europe-was-defenceless-191895>

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