

## **ENERGY SECURITY RISKS AND RUSSIAN ECONOMIC INFLUENCE IN GERMANY: TOWARDS ECONOMIC DECOUPLING**

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The Russian invasion of Ukraine has put the European energy and climate security through its most difficult test so far. The energy crisis, that began well before the war, was precipitated by Russia as a way to pressure Europe or some of its members to abandon the common EU energy security and foreign policy. The spike in energy prices aggravated by the slow pace of energy transition in Europe and the excessive overreliance on Russian fossil fuel imports have demonstrated the need for a new European energy and climate security strategy and governance mechanisms. Germany has emerged as one of the most vulnerable countries in terms of security of supply risks and geopolitical exposure to Russia.<sup>1</sup> Germany together with Italy have been the key drivers behind the EU's growing dependence on Russian gas imports over the past decade (see Figure 1).

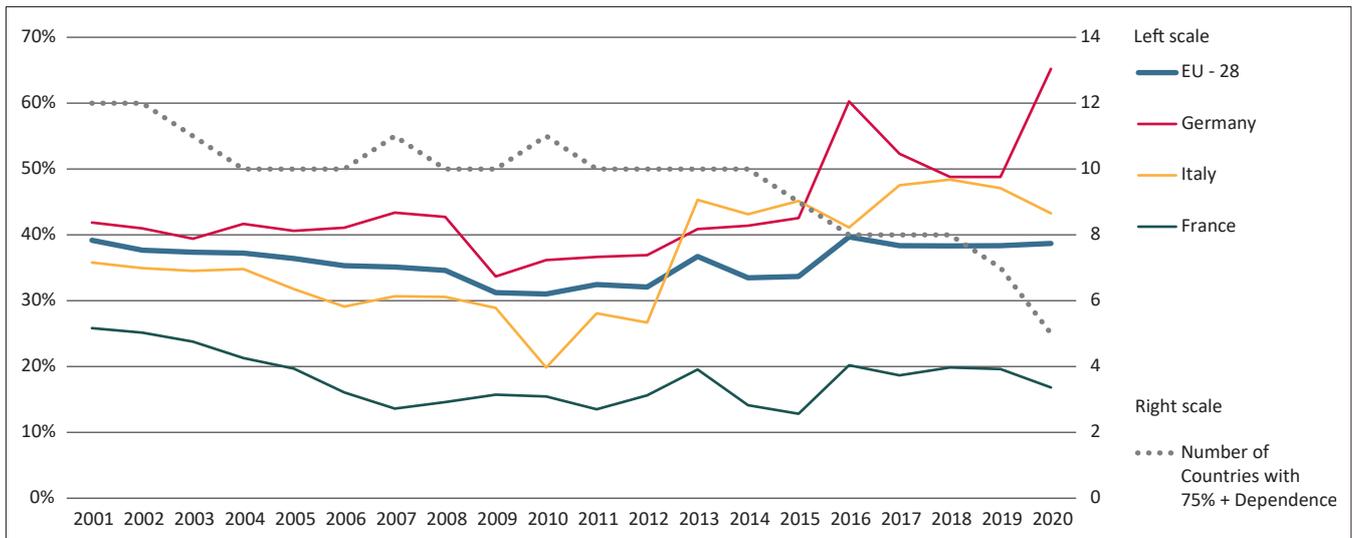
For Germany, the share of Russian gas has increased to 49% of total gas imports by 2019, compared to 34% in 2009. In light of Russia's increasingly aggressive rhetoric towards Ukraine in recent years, Germany failed to recognise the warning signs and instead continued to follow the "Wandel durch Handel" (change through trade) doctrine under the assumption that economic interdependences would be sufficient to quell any Russian plans for military aggression. The effort to maintain a strong political and economic connection to Russia was buttressed by influential informal networks of German and Russian politicians and businessmen that consistently promoted Kremlin-initiated strategic energy projects, most notably Nord Stream. The latter has directly benefitted from the financial support of Germany's Uniper, Wintershall Dea and E.ON among other European energy majors.

<sup>1</sup> Shentov, O., Stefanov, R., and Vladimirov, M. (eds.), *The Kremlin Playbook in Europe*, Center for the Study of Democracy, 2020.

### **KEY POINTS**

- The current geopolitical crisis has demonstrated that Germany needs to put **energy security and its governance** back at the top of its policy priorities.
- The geopolitical risks to **energy and climate security** in Germany have markedly increased since Russia's annexation of Crimea in 2014.
- The main drivers of Germany's **reliability risks** have been high energy intensity, empty gas storages, the still heavily oil-dependent transport sector and the **low capacity-diversity** of the power sector.
- Germany has seen an improvement of its sustainability risk subindex since 2015, implying that **the pace of energy transition has been picking up**.
- Germany should seek to avoid a **gas lock-in based on new long-term LNG supply contracts**. Hence, they should be limited to five years at most and preference should be given to floating instead of fixed LNG terminals.
- Germany needs to reduce its overall gas demand with an **accelerated energy efficiency** investment strategy, focusing on **energy poor households** and via deep renovation programs.
- The Russian aggression in Ukraine has shown that Germany, specifically, and Europe, more generally, needs to **improve its energy sector governance** so as to decouple from the malign **Russian economic and political influence** and dismantle and prevent its networks across the continent.

**Figure 1. Share of Russian Gas in Total Gas Imports in Selected Countries**



Source: CSD calculations based on Eurostat data.

Russia has cultivated an opaque network of patronage to influence the decision-making in Germany through joint projects, strategic business partnerships and access to the Russian market. Some of the largest Russian companies have expanded their footprint in Germany and have often sought to promote Russian political goals. They have acquired strategic assets in exchange for lucrative deals for German business majors in Russia.

The Russian aggression in Eastern Europe has clearly shown that Germany, specifically, and Europe, more generally, needs to improve its energy sector governance as to 1) decouple from the malignant Russian economic and political influence, and 2) to put energy security at the top of its policy priorities and make sure that it stays there even after the peak of the crisis.

The process of achieving the common European goals has been plagued by energy sector governance deficits, which have allowed Russian corporate and oligarchic networks to enhance Kremlin’s political

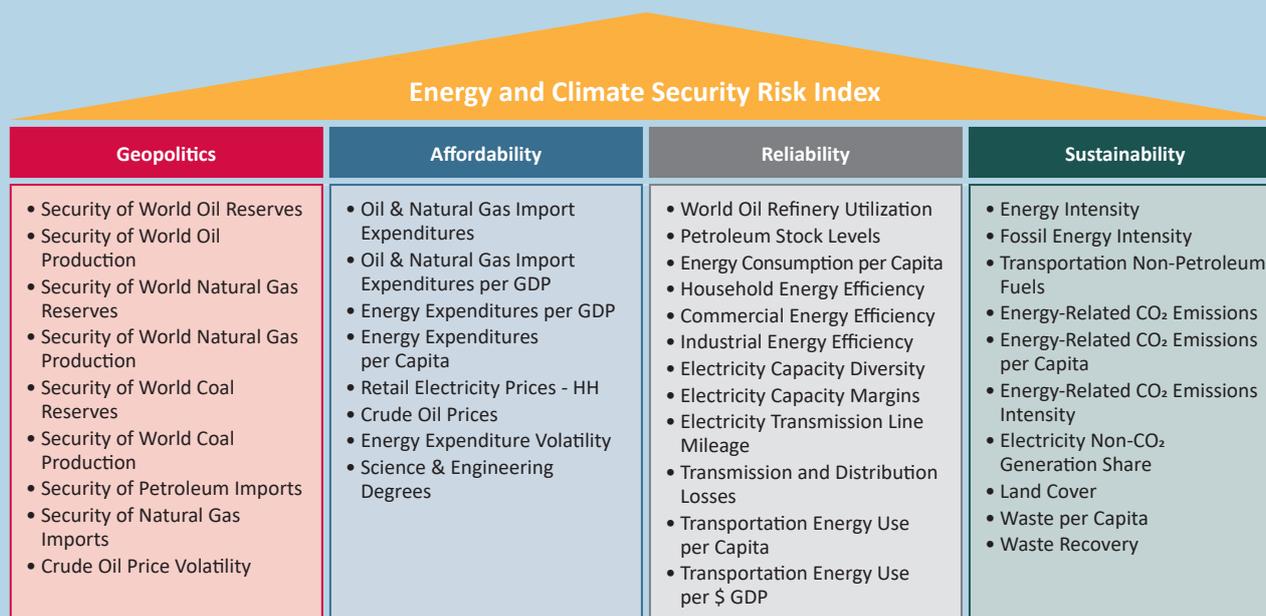
and economic interests in Germany. Hence, Germany now needs to work hard to counterbalance the energy security risks of its overreliance on Kremlin-controlled energy, synchronising energy security priorities with European decarbonisation and market integration and liberalisation policies. As the leading economy in the European Union, Germany would be expected to lead, but also take into account the changing energy security risks of other EU members, in particular those in Central and Eastern Europe, closest to the war in Ukraine.

This calls for the introduction of near real time evidence-based policy instruments to monitor the evolution of energy and climate risks in member states and to ensure an objective, comparative assessment of their progress towards achieving the evolving common EU energy transition objectives. Such an instrument would enable the deepening of the coordination of national policies across sectors and policy areas on the back of a long-term political, financial and social commitment.

## The Energy and Climate Security Risk Index (ECSRI)

The ECSRI is an evidence-based policy instrument that can help track the most important energy security and climate vulnerabilities faced by EU Member States based on data-driven policy assessment. The Index has four pillars,<sup>2</sup> reflecting the four dimensions of energy security: geopolitics, affordability, reliability, and sustainability.

<sup>2</sup> Modelled after the [Index of U.S. Energy Security Risk](#) developed by the Global Energy Institute.

**Figure 2. The Pillars of the Energy and Climate Security Risks Index**

Source: CSD.

The ECSRI covers 42 individual risk indicators, based on thousands of data points, all of them interpreted through the prism of strengthening Europe's energy independence and transition potential. While these factors apply to different elements of energy and climate security, they are often interdependent allowing for a systemic analysis of energy and climate policy trends. For instance, there is a strong link between the movement of crude oil prices, energy expenditures and the fossil-fuel energy intensity of the economy, which provides for an in-depth understanding of the decarbonisation/energy poverty nexus. Similarly, the level of oil and gas consumption on the national level impacts energy import expenditures, especially for countries with a high security of imports risk (reflected in the Geopolitical pillar). Meanwhile, oil and gas consumption patterns also directly impact the carbon intensity of the economy and its level of greenhouse gas (GHG) emissions, a key indicator in the Sustainability pillar.

To transform them into comparable indicators that use a common unit and can be assembled into an index, each risk metric is normalised by setting the value for the EU-27 in 2015 as 100.<sup>3</sup> Hence, the index reflects the relative risk compared to the average for the EU-27 and the change of the metric's value over time.<sup>4</sup>

The choice of 2015 to be the base year reflects the immediate aftermath of the Russian annexation of Crimea, which is a key turning point in the geopolitics of European energy and represents a missed opportunity for improving the continent's energy security. The decline in oil and gas prices in 2015 created favourable conditions for the diversification of energy supply, while the Kremlin aggression in Eastern Europe should have incentivised European countries to reconsider their structural energy dependence on Russia.

<sup>3</sup> Some data trajectories undergo a normalisation procedure to ensure that all individual risk indicators are designed so that a higher value reflects a higher level of risk for energy and climate security. For most risk metrics, this is also their own internal logic (e.g. higher fossil energy intensity leads to higher energy and climate security risks). For some other metrics, however, such as the energy efficiency-related indicators, an upwards trend improves national energy and climate security.

<sup>4</sup> The weights applied to the individual risk indicators are determined as fixed values that remain unchanged over the 2008-2021 period. The weights are assigned to reflect the relative importance and relevance of each risk indicator for the respective sub-index (Geopolitics, Affordability, Reliability, and Sustainability) and the overall ECSRI. The assignment of the weights also ensures that the relative weight of the four sub-indexes is balanced. The Geopolitical and Affordability risk will be given slightly higher weights, to reflect the idea that they have a greater priority for national security and macroeconomic stability.

## Assessing Energy and Climate Security Risk in Germany

Germany has emerged as one of the most vulnerable EU countries in terms of security of supply and overall energy and climate security vis-à-vis Russia, according to the Index results. The ECSRI has demonstrated that the growing dependence on imports of Russian natural gas has contributed to an abrupt increase in geopolitical risks with the start of the war in Ukraine. Moreover, Gazprom’s ownership of gas storage infrastructure in the country has also undermined the reliability of gas supply on the eve of the war in Ukraine as Russia took advantage of its position to keep storage levels below the normal average for the winter season.

Meanwhile, the ECSRI confirms that the fossil fuel prices continue to be the leading factor driving the rise in national energy expenditures although the uptake of renewable energy sources has weakened this interdependence. The spike in fossil fuel prices since the fall of 2021 has contributed to a steep increase in the affordability risks. A return to higher coal and natural gas-based power generation has reversed some of the decline in the sustainability risks, leading to a rebound in energy-related emissions. Without a significant acceleration of the uptake of renewable energy, the slow-down of decarbonization efforts is bound to continue even though Germany has been among the leaders in Europe in this domain. To fulfil the country’s ambitious low-carbon transition

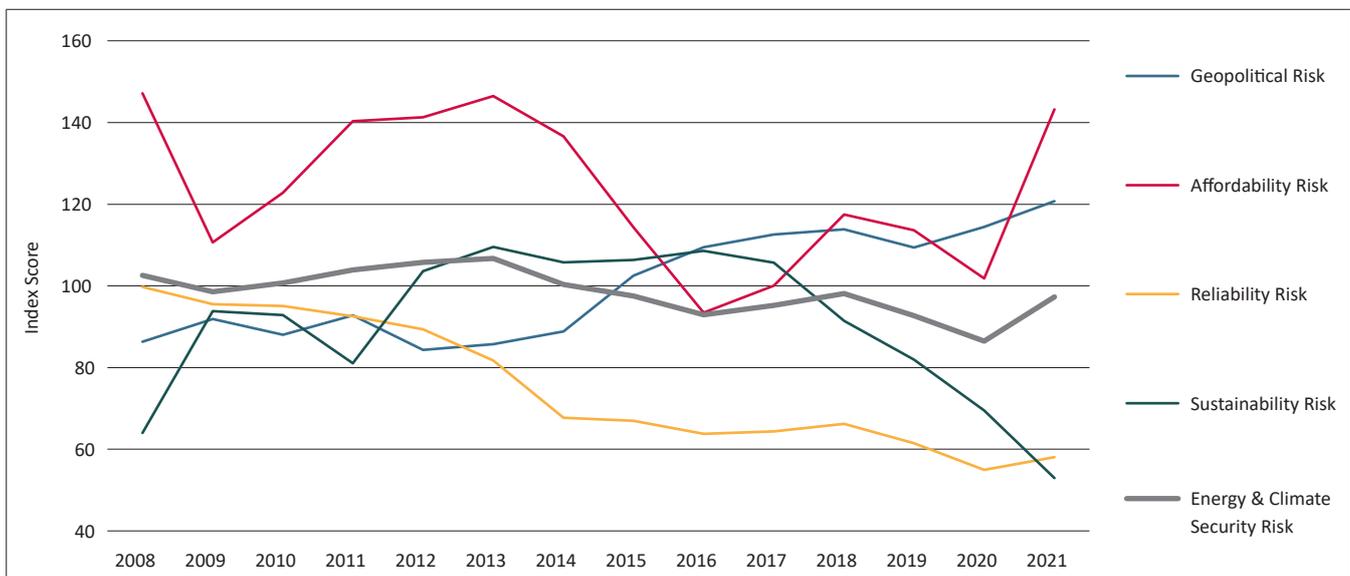
targets, there is a need for a comprehensive long-term energy and climate security strategy that steps on an accelerated fossil fuel phase out that would decouple the economy from the inherent volatility of fossil fuel prices and the affordability risks associated with that.

### Geopolitical Risk

The geopolitical risk indicators mainly reflect global energy market trends and the level of energy import dependence. Hence, individual countries have little control over these factors and can only focus on ensuring a more diverse energy mix that can diminish the reliance on supply from authoritarian states controlling a large share of the available energy resources in the vicinity of European markets. Finding alternative deliveries can also somewhat shield countries from the volatility of global oil and gas prices and can optimize the costs of energy.

Global fossil fuel production and reserves are largely concentrated in the hands of a few authoritarian states, contributing to higher geopolitical risks for most EU member states that are net energy importers. Germany has been one of the most exposed European countries to these risks as it has seen an increase in its overall energy import dependence sub-index

**Figure 3. The Energy and Climate Security Risk Profile for Germany\***



Source: CSD. \*The higher the Index score, the higher the energy and climate security risk level.

indicator without much diversification of the supply sources. As a result, the geopolitical risk factors in the ECSRI have markedly increased since the annexation of Crimea in 2014. Ultimately, Germany and Europe's dependence on gas as a transition fuel for energy transition and on Gazprom for gas supplies led to the situation, which have allowed the Kremlin gas monopoly to blackmail its European customers, most notably since the beginning of June, 2022, by reducing unilaterally gas supplies while keeping the level of revenues as prices soared in mid-2022. These revenues then flow directly into Kremlin's war machine in Ukraine.

The import share in Germany's total gas consumption has increased from 87.9% in 2015 to almost 100% in 2021 and the share of Russian gas in total imports has increased from 41.7% to 48.8%. While import volumes of Russian gas have only increased by 24% compared to 46% for the entire EU, Germany alone is responsible for 17% of the increase in the EU.

The results of the ECSRI reveal that Germany's security of natural gas supply has worsened by 75% since 2014 and is the main driver behind the deterioration of the country's geopolitical risk profile. Germany has become increasingly more vulnerable by deepening its reliance on Russia while simultaneously failing to develop alternative supply sources. Over the past three decades, many European energy champions have dragged their feet on diversifying their natural gas supply and have instead decided to work exclusively with Gazprom. The German energy shareholders in both phases of the Nord Stream pipeline project have unsurprisingly opposed the idea for an EU embargo against Russian gas while they have simultaneously demanded compensation for the suspension of the project.<sup>5</sup>

The reliance on Russian gas was also welcomed by the German industrial sector, which makes up 37% of the country's total gas consumption and has strongly benefitted from the comparatively lower prices of Russian pipeline gas.<sup>6</sup> Therefore, it comes as no surprise that the CEO of BASF, among others, has recently warned of the destruction of Germany's economy if Russian gas imports were to stop abruptly. Many German industrial majors have cooperated with Gazprom time and again since the 1990s in numerous projects and joint ventures and have unwittingly

increased their dependence on Russian gas for their manufacturing processes, despite the mounting signs of ever worsening business environment in Russia, on the back of tightening state control over the private sector. Since 2014, Russian gas imports have averaged at around 52% of Germany's annual gas imports which is reflected in Germany's below-average gas supply diversity and freedom scores.

Unlike the security of natural gas imports, Germany's oil import risk level in the ECSRI Index has remained stable since the annexation of Crimea as oil imports from Russia have actually declined by 7% since then, compared to a 10% reduction for the entire EU. However, Germany remains the biggest importer of Russian oil in the EU by volume and the share of Russian oil in its total imports is above the EU average. A more sensitive aspect of the oil supply security is the ownership of the oil refinery in Schwedt, which Rosneft took over from Shell in November 2021 and is now holding 91.67% of the shares. Not only is the refinery a crucial supplier of gasoline, diesel and heating oil for Eastern Germany, but it is also the endpoint of the Druzhba pipeline through which 25% of Germany's oil demand is satisfied.<sup>7</sup> Allowing Rosneft to acquire this piece of critical infrastructure at a time when Russia was already amassing troops at the Ukrainian border has now left the German government fighting an uphill battle to take back control, while the refinery has been pushing to keep processing Russian oil in defiance of the EU's oil embargo.

The energy crisis since the Fall of 2021 has revealed how the oil and natural gas dependence can easily be used as a geopolitical tool when suppliers like Russia leverage their market power to artificially drive-up prices in order to force political concessions on strategic policy objectives. In some countries, such as Hungary, gas prices have been used to influence the outcome of national elections, which the EU has not been able to prevent through its rule of law and other internal governance mechanisms. Oil and gas prices are also by definition volatile (also vividly revealed by the fluctuating sub-index indicator of oil and gas price volatility) due to their sensitivity to geopolitical and other external shocks, meaning that Europe's carbon-intensive economies, which do not manage to make sufficiently swift progress in decarbonisation, are very vulnerable to sudden changes in market trends.

<sup>5</sup> Financial Times, "Nord Stream 2 backer Wintershall Dea says it expects compensation for investment," February 24, 2022.

<sup>6</sup> BDEW, Gasfluss, May 12, 2022.

<sup>7</sup> Spiegel, "Wirtschaftsministerium prüft Anteilskauf an deutscher Raffinerie durch Rosneft," February 25, 2022.

**Figure 4. Natural Gas Supply Security Risk in Germany and the EU (A) and Russian Gas Import Development in 2014 vs. 2020 (B)\***



**Source:** CSD based on Eurostat data. \*The higher the Index score in the natural gas import security, the bigger the risk.

It is high time that Germany acknowledges its dependence on oil and gas imports from Russia as the biggest energy and climate security risk in the country’s long-term energy strategy. This would mean by definition that all long-term gas supply contracts with Gazprom are discontinued after 2024 at the latest and the government takes operational control over the Russia-owned oil and gas infrastructure in the country. The latter should be part of a wider strategy to stop all strategic investment and trade deals with Russian companies in sensitive sectors such as energy, telecommunications and finance, among others. To avoid the risk of potential sanctions evasions, Germany needs to introduce strict investment screening mechanisms that prevent Russian illicit financial flows from entering the country’s financial system, and by extension, the European economy.

### Reliability Risk

The Reliability pillar reflects the exposure of the national economy and different sectors to potential energy supply disruptions. This includes a wide variety of factors, such as national petroleum/gas stocks, the spare capacity of the global oil refining industry, the resilience of the national electricity system, the energy intensity of the national industrial, commercial, and household sectors, as well as the role of the transport sector in the national economy. The risks for the electricity and natural gas system are of particular importance amid the process of growing electrification, on the one hand, and the mounting challenges linked to the excessive dependence on Russian supply.

The risk indicators in the ECSRI to Germany’s reliability of supply have been steadily declining over the last five years and are below the EU average levels although there has been a slight uptick in 2021. According to the results of the Index, the main drivers of Germany’s reliability risk profile are its high energy intensity, empty gas storages (before the winter of 2021), the still heavily oil-dependent transport sector and the low capacity-diversity of the electricity sector, which is below the EU average.

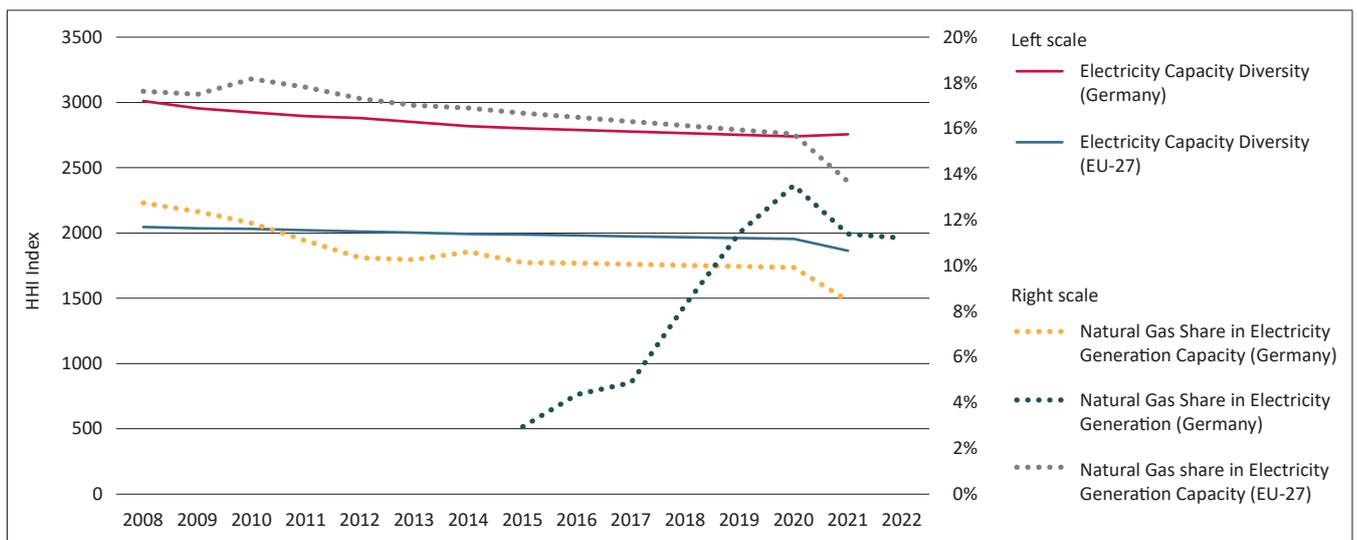
The low capacity-diversity has worsened partly due to the government’s decision to phase out all nuclear power plants by 2022. The missing baseload capacity has to be replaced by alternative energy sources. Since the expansion of the renewable energy-based power plants has not been fast enough, Germany has increased its reliance on fossil fuels including (Russian) coal and natural gas to cover the gap. Respectively, before the Russian invasion of Ukraine, there was also a strong push by a number of European policy-makers and businesses to accelerate the European energy transition strategy on the back of the development of blue hydrogen, which would utilise the existing gas infrastructure (and by extension Russian gas supplies).

Electricity generation by burning natural gas has increased from 3% in 2015 to 11% in 2022, all while the share of the installed capacity has actually dropped slightly from 10.1% to 8.5%, staying below the EU average. Hence, natural gas still plays a subordinate role in Germany’s power mix and likewise power

production makes up only a small fraction of Germany’s total gas consumption (12%).<sup>8</sup> Still, natural gas plants are often the generation units that are clearing the wholesale market at peak demand, as their relatively high marginal cost place them at the end of the merit order, and come online often in the case of a sudden drop of RES-based generation. A stronger focus on demand response and power storage are necessary to reduce the role played by natural gas in the system. There is a crucial need to implement demand response measures that include tertiary sector tenders that will compensate and incentivise large industrial gas consumers to reduce their gas consumption or optimise production profiles as to reduce Germany’s overall gas demand in the winter.

Most recently in 2021, the management of Germany’s natural gas storage facilities has emerged as a key risk to the reliability of energy supply. Average filling levels of all storages across Germany have been strikingly low ever since the Fall of 2021 and especially after the 2021/2022 winter season. In 2021, natural gas stocks could have lasted for 43.40 days of normal daily consumption compared to 51.63 days in 2015. Gazprom-owned storages have been the main culprit. At the end of May 2022, filling levels in the Jemgum/Rehden and Peissen facilities stood at 7% and 19%, respectively, while the average filling level in Germany was 49% and even in October 2021, the two storages were already disproportionately empty (19% and 44% compared to a 68% average).<sup>9</sup> This was not a coincidence. Russia has effectively utilized its control over German gas

**Figure 5. Electricity Capacity Diversity and the Role of Natural Gas in the German Power Mix**

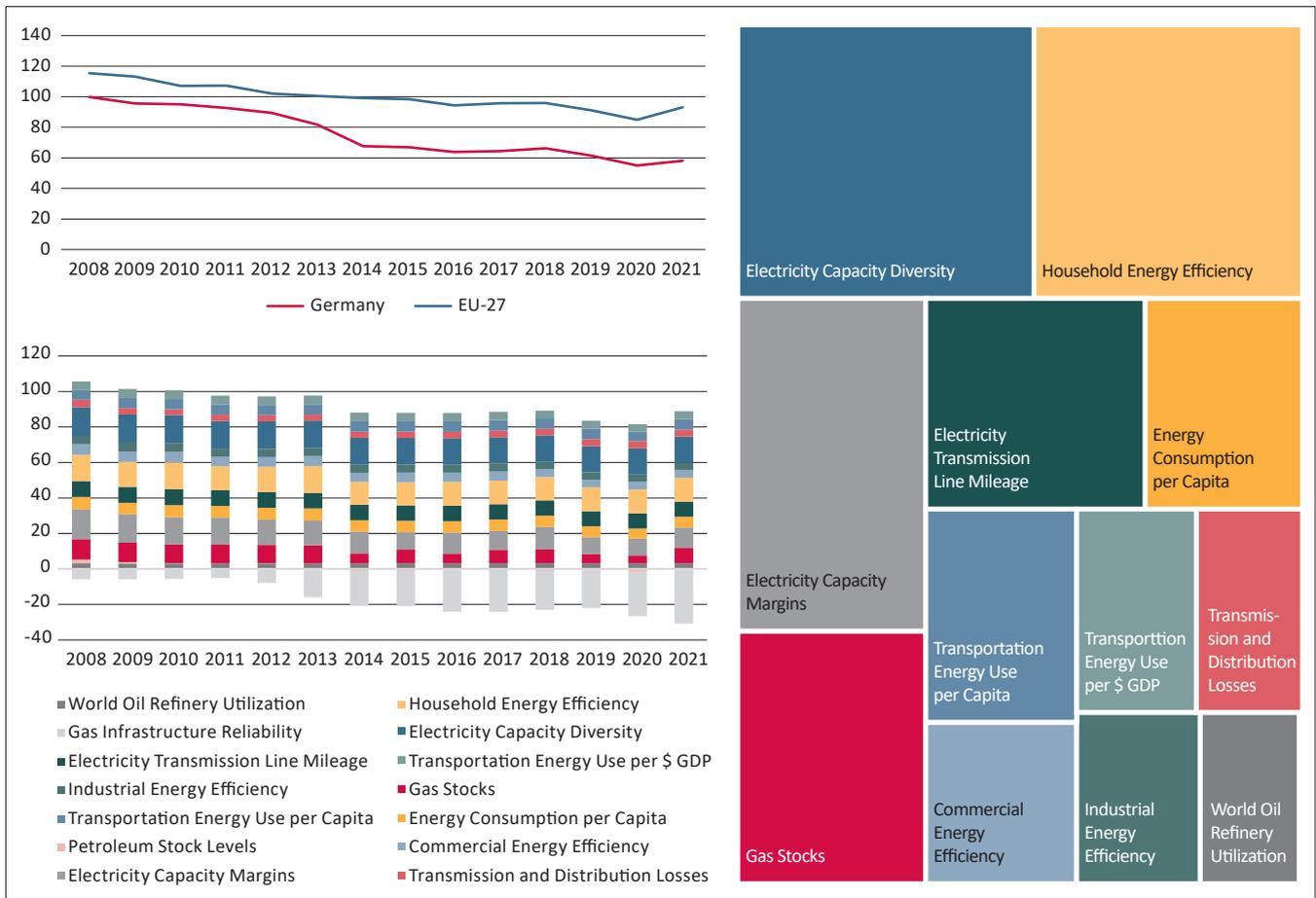


Source: CSD based on data from ENTSO-E.

<sup>8</sup> BDEW, Gasfluss, May 12, 2022.

<sup>9</sup> Gas Infrastructure Europe, AGSI+, 2022.

**Figure 6. The Structure of the Reliability Risk Subindex – Indicators and their Share in the Overall Score**



Source: CSD.

storages to artificially drive-up gas prices ahead of the invasion in Ukraine. The vulnerability is the result of self-inflicted damage by Germany, which has allowed private companies to strike strategic deals with Gazprom, in which the Russian supplier had taken hold of strategic gas infrastructure, despite the growing evidence that the Kremlin controls both state-owned and private energy companies and is ready to weaponise them in times of crisis.

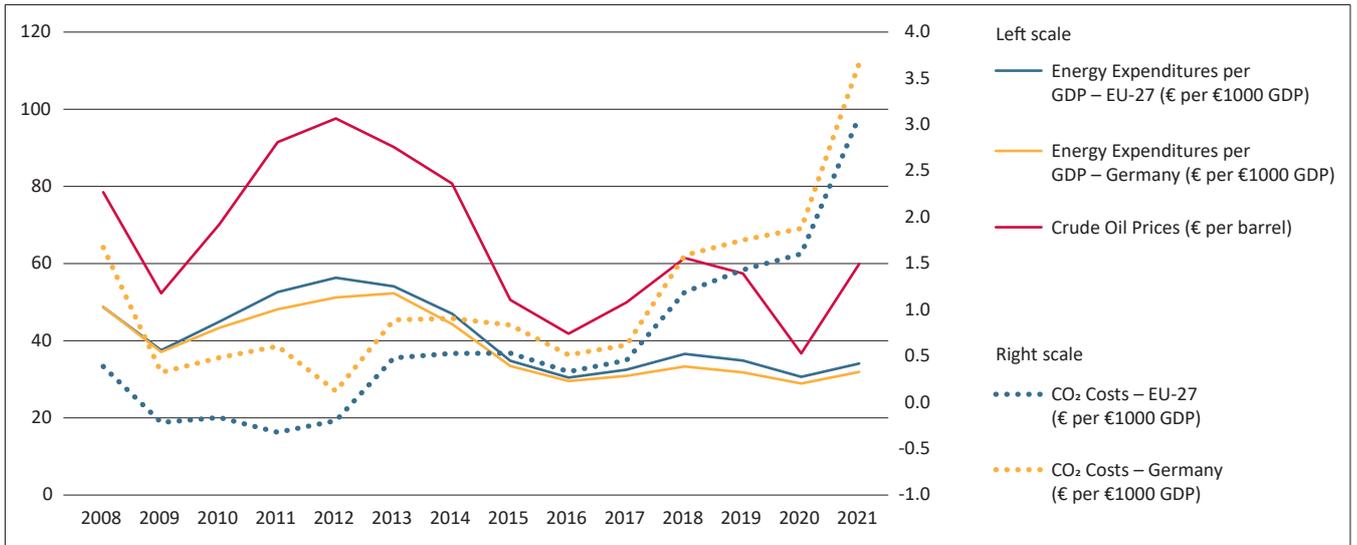
national expenditures on oil and gas imports and their weight relative to national GDP. Additionally, overall energy expenditures are considered as major risk factors. They are strongly affected not only by the price level of different energy sources, but also by the fuel mix, consumer choices, and energy efficiency. In this sense, high energy consumption and the use of more expensive fuels influence strongly affordability risks.

**Affordability Risk**

The Affordability pillar assesses the impact of energy prices and energy imports on macroeconomic stability, as well as the household level energy poverty. Some of the indicators directly show the effect of energy prices, in particular crude oil, natural gas and electricity prices for household and business consumers. Furthermore, the Affordability sub-index considers

Germany’s Affordability risk profile as indicated by the ECSRI follows the wider European trend with its three main drivers being energy expenditures, CO<sub>2</sub> costs and retail electricity prices. After a period of relatively low energy expenditures, affordability risk levels have skyrocketed in 2021, driven by the surge in fossil fuel prices and the country’s above-average CO<sub>2</sub> costs, retail electricity prices, and energy expenditures per capita. The high CO<sub>2</sub> costs reveal that despite the success in its energy transition, Germany remains a highly carbon intensive economy.

Figure 7. The Main Drivers of Affordability Risks in Germany



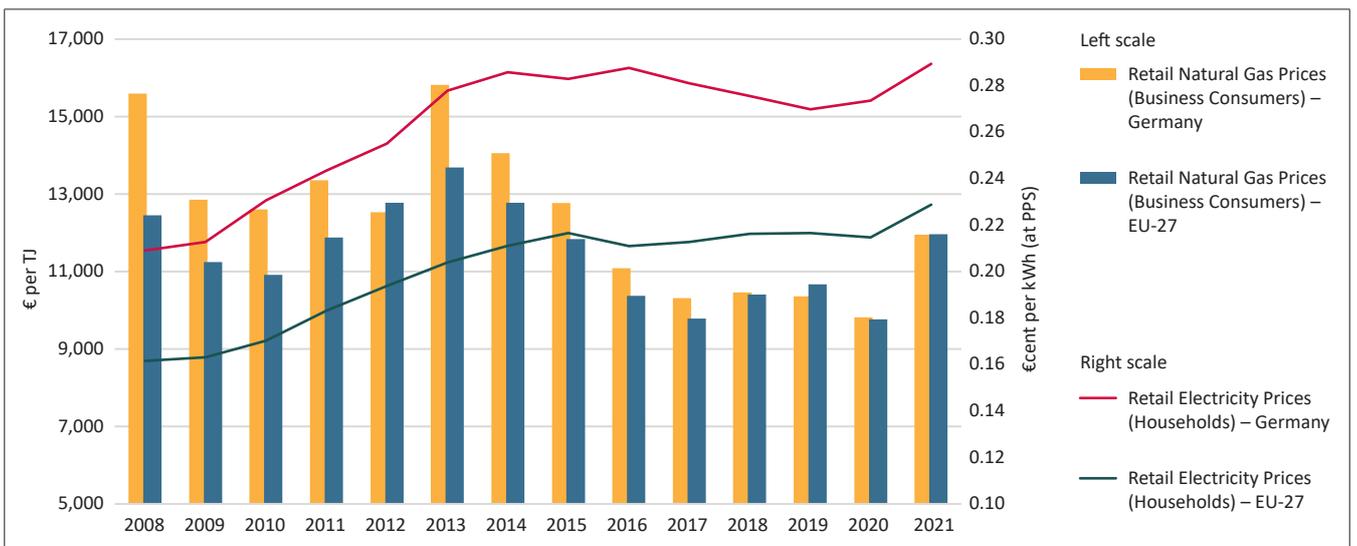
Source: CSD based on Eurostat data.

Retail electricity prices in Germany were 27% higher than the EU average in 2021 and amongst the highest on the continent which has led to the gradual increase in energy poverty levels, as energy efficiency has not caught up with rising costs. The comparatively higher tariffs in Germany are mainly caused by taxes, levies and surcharges, that make up 51% of retail prices. Transmission through and access to the grid cost an additional 25%.<sup>10</sup> While this feature of the German system has been conducive and necessary for incentivising faster energy transition, it has come under

scrutiny and pressure, as wholesale prices of electricity have risen across Europe. Popular demands for the German government to reduce price pressures by cutting back on regulated price components have increased.

CO<sub>2</sub> costs per €1000 GDP, a key indicator in the Affordability sub-index, were 23% above the EU average in 2021 and have increased by 378% since 2015. The CO<sub>2</sub> costs are high because of the higher carbon intensity of the economy (CO<sub>2</sub> prices are the

Figure 8. Retail Electricity and Natural Gas Prices for Business and Household Consumers



Source: CSD based on Eurostat data.

<sup>10</sup> Tagesschau, "Europa-Vergleich: Deutsche zahlen am meisten für Strom," June 7, 2021.

same for all European countries, so higher CO<sub>2</sub> costs are linked to the higher carbon emissions of the Germany economy). While CO<sub>2</sub> costs are the most influential driver of Germany’s affordability risk indicators, they are also crucial for incentivizing the decarbonisation process. The significant structural changes in the EU Emission Trading System (ETS) since 2016 have helped speed up the energy transition by raising the price per ton of CO<sub>2</sub> from just under EUR 10 on average in 2015 to EUR 60 in 2021.

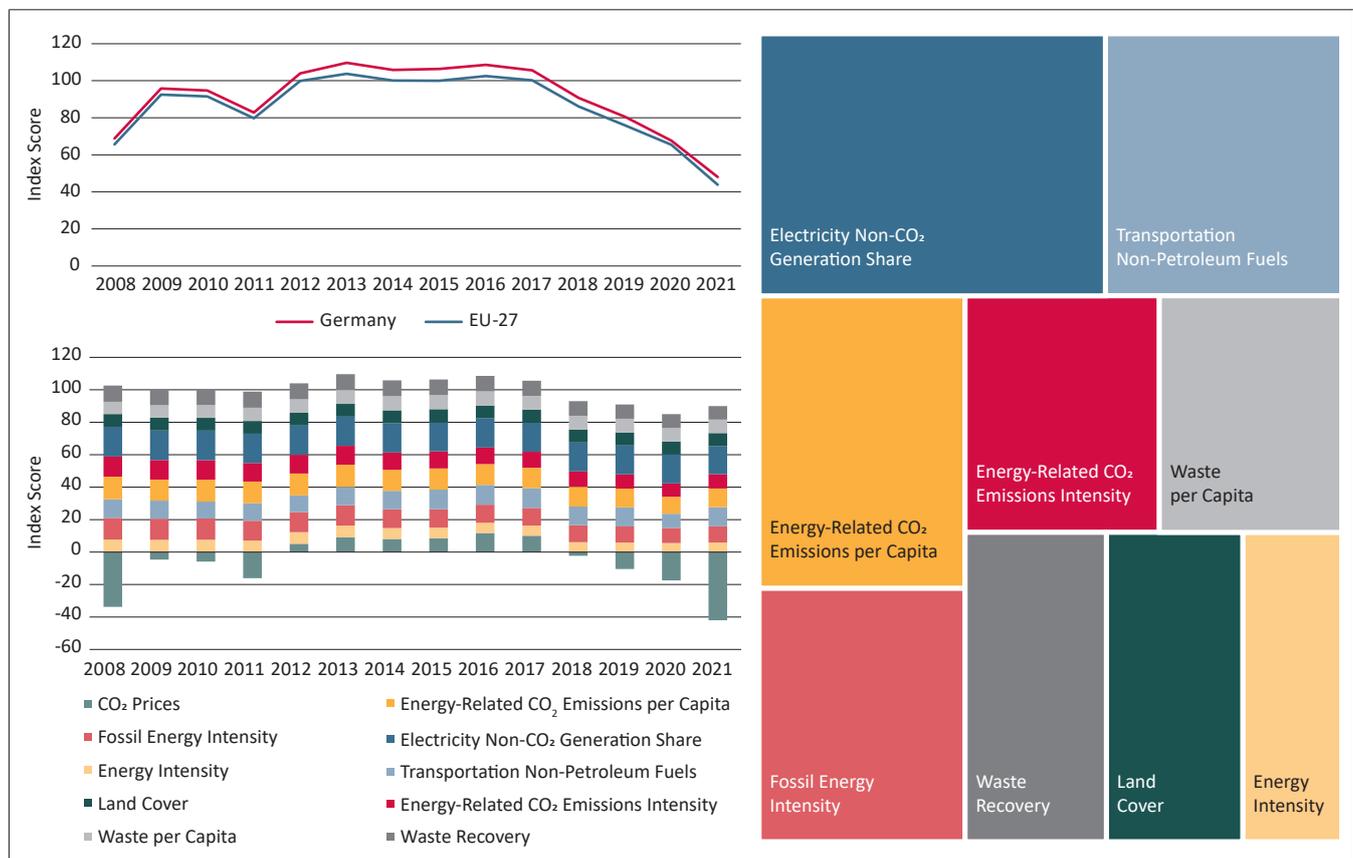
While this price increase has led to higher CO<sub>2</sub> costs in all European countries, the above-average costs in Germany indicated by the Index results show that its economic output is comparatively more carbon intensive. This means that at the current CO<sub>2</sub> prices, manufacturers will face rising production costs and deteriorating competitiveness unless they invest heavily in the decarbonisation of their business processes. A faster low-carbon transition will also be crucial in heating and transportation where the volatility of oil and gas prices represent a long-term obstacle to overcoming energy poverty and preserving the backbone of Germany’s industrial might.

In addition, it would be critical to aid vulnerable consumers via emergency spending packages that are financed by national ETS revenues and other EU and national investment schemes. Support programs for both households and businesses would be best linked to energy savings measures and optimization processes in energy-intensive sectors as to make sure subsidies are not just financing higher energy consumption.

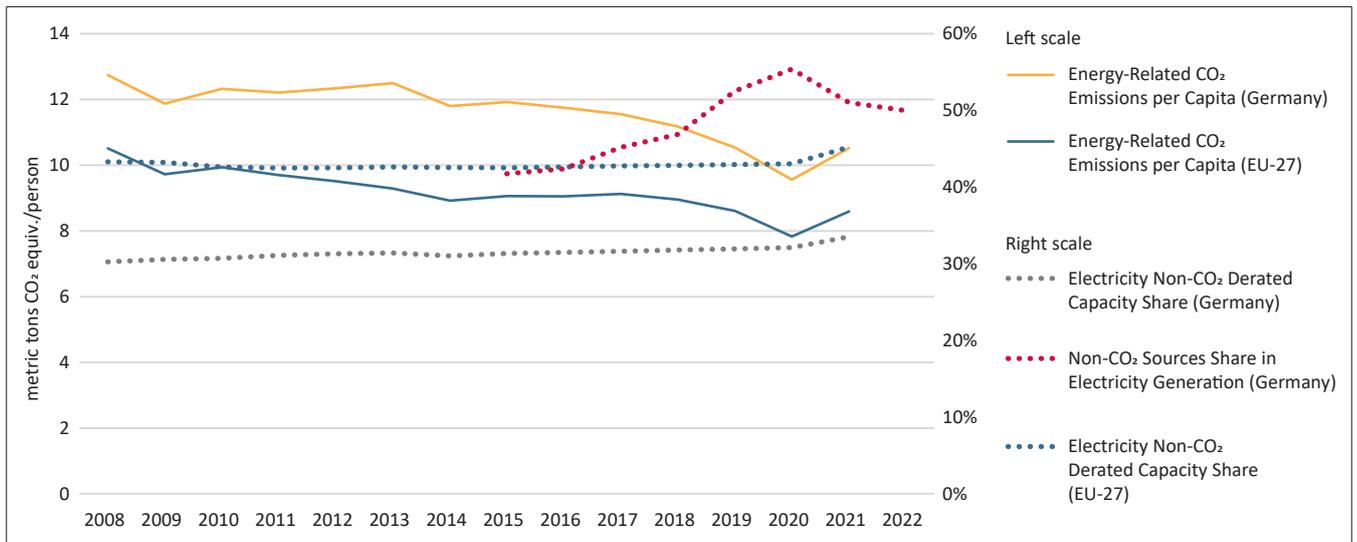
### Sustainability Risk

The Sustainability pillar includes the climate and environmental factors that affect the sustainability of the national economy and its alignment with key EU climate objectives. Key risk factors include the emission intensity of the energy sector and the share of fossil fuels in key sectors such as electricity generation and transport, as well as in the overall national economy. It also includes a risk metric that evaluates the level of circularity of the national economy and the sustainability of land use.

**Figure 9. The Structure of the Sustainability Risk Subindex – Indicators and their Share in the Overall Score**



Source: CSD.

**Figure 10. The Development of Key Indicators in the Sustainability Subindex for Germany**

Source: CSD based on data from Eurostat and ENTSO-E.

A return to higher coal and gas power generation has reversed some of the reductions in the level of Germany's sustainability risks, contributing to a rebound of energy-related emissions. Germany risks a long-term lock-in in stranded fossil fuel assets without a significant acceleration of the uptake of renewable energy sources as a key measure to counter the energy crisis.

Germany has seen an improvement, akin to the one of the EU, of its sustainability risk subindex of the ECSRI since 2015 (around 21%). Although Germany has above-average energy-related CO<sub>2</sub> emissions per capita, this risk metric has improved much faster since 2015 (down 11.8%) compared to a 5.2% decline of the EU average, implying that the pace of energy transition has accelerated. Ambitious decarbonisation goals are also reflected in the share of non-CO<sub>2</sub> sources in electricity generation which has been going up steadily until 2020, thanks to the expansion of renewables. However, this positive trend reversed into a slight downturn in 2021 and 2022, as the newly added capacity by renewables did not entirely replace the capacity lost by the phasing out of several nuclear power plants. Between January and May 2022, nuclear power generation was on average operating at 3.8 GW compared to 6.9 GW in 2020. Natural gas has so far played a negligible role for the decarbonization of Germany's electricity generation as its share remains marginal compared to non-CO<sub>2</sub> sources, despite a significant increase in the use of gas after 2015.

As natural gas dependence is strongest in the industrial sector, it would be imperative for the German

government to accelerate the uptake of green hydrogen technologies and foster the deeper penetration of renewable energy technologies in the energy consumption of large manufacturers. In that respect, the natural gas phase out could also prevent a blue hydrogen lock-in that would have likely been promoted by German and European policy-makers and businesses had there been no war in Ukraine. To enable the green hydrogen transformation, there is a need for a stronger priority placed on R&D and innovation in the energy sector that would phase in the uptake of cutting-edge technologies on a commercial basis.

## Understanding the Geopolitical Risks to Energy and Climate Security: The Kremlin Playbook in Germany

Germany has seen the biggest influx in Europe of politically-driven Russian capital over the last decade with the largest Russian companies forming successful cooperation with German firms. They have jointly developed the Russian geopolitical gas pipeline projects Nord Stream 1 and 2, which circumvented the Ukrainian gas transit and impacted negatively the security of supply and transit revenues of other Central European countries. German companies have invested more than EUR 19 billion in terms of total stocks at the end of 2021, making the country the third biggest investor in Russia

following Cyprus and the Netherlands.<sup>11</sup> A number of German energy companies have long-term gas import contracts and have jointly developed exploration and production projects with Gazprom in Siberia. Large German companies, including Siemens, Bayer, Henkel, BMW, Mercedes-Benz, Volkswagen and UNIPRO all have major manufacturing and sales operations in Russia. According to the Russian-German Chamber of Commerce, around 4,500 German companies operated in Russia in 2021 with total revenues hovering between USD 60 to 70 billion per annum over the last decade, and employing around 200,000 employees.<sup>12</sup>

Germany is Russia's second largest trading partner, exporting machinery, vehicles and vehicle parts to Russia.<sup>13</sup> Russia's share in Germany's total imports differs significantly between the energy sector, where Russia is Germany's main supplier, and other sectors of the economy where it plays a negligible role. Russian foreign direct investment (FDI) in Germany has never amounted to more than 1.1% of total inward FDI in the country and 2.1% of total outward Russian FDI in the past few years.<sup>14</sup> However, a closer look at Russian investments on regional level within Germany paint a more complicated picture of the Russian potential for leveraging economic ties for geopolitical objectives.

### Box 1. Russian Politically-Driven Investments in German Regions

Russia seems to have concentrated its activities in the federal state of Mecklenburg-Vorpommern. As the landing point of the two Nord Stream pipelines, the federal state has received special attention by the Kremlin in recent years and is a prime example of Russia-linked state capture risks in the energy sector in Europe.

Over the last two decades, Russian companies have increased their presence in the state sometimes via non-transparent deals. For example, in 2008,

Russian investors bought several shipyards that filed for bankruptcy a year later only to be bought then by another Russian investor who used to be the head of Nord Stream's office in Moscow and whose father is a member of Gazprom's supervisory board and a former Minister of Energy.<sup>15</sup> The shipyards were eventually sold to a Malaysian company in 2016 through several business transactions marred in money laundering allegations.

Another example is the development of the production facility of Deutsche Großwäzlager GmbH in Rostock's fishing port, which was opened in May 2016 by the-then Prime Minister Erwin Sellering (SPD) and Russia's Minister of Industry Denis Manturow. The majority shareholder of the company that became the owners, is the Russian investor Georgi Semenenko (55%), who is also the Chairman of the Board of the engineering conglomerate Kirovsky Zavod in St. Petersburg. Sellering sold the settlement as a success of his Russia-friendly course.<sup>16</sup>

Another major investment in Mecklenburg-Vorpommern came from Russia's largest timber company Ilim Timber when it bought a sawmill in Wismar in 2009, a company with direct links to the Kremlin, as Dmitry Medvedev is a co-founder of its predecessor company and used to be its Director of Legal Affairs before going into politics.<sup>17</sup> Therefore, it comes as no surprise that Ilim Timber, as well as Kirovsky Zavod, have sponsored the controversial Russia Days, a central propaganda format of the Kremlin in support of Nord Stream 2.<sup>18</sup>

This apparent focus of Russian investments in Mecklenburg-Vorpommern raises the question whether the vehement support on both federal and state level in Germany for Nord Stream 2 against all odds could be an indication of corresponding politically-driven business agreements: hundreds of millions of euros and the creation of local jobs for the ailing economy in the Northeast in exchange for the assurance of a permanent green light for the pipeline project that is so important to the Kremlin? These connections have taken on

<sup>11</sup> Investments from Cyprus and the Netherlands have very often been essentially Russian investments, as Russian companies have used the two countries' laxer corporate registration and tax regimes to park profits. This makes Germany actually the likely number one European investor in Russia. For more detailed analysis, see Shentov, O., Stefanov, R., and Vladimirov, M. (eds.), *The Kremlin Playbook in Europe*, Center for the Study of Democracy, 2020.

<sup>12</sup> CSD based on international corporate databases and the Russian-German Chamber of Commerce.

<sup>13</sup> German Ministry of Foreign Affairs, "Germany and Russian Federation: Bilateral Relations Russian Federation," 2021.

<sup>14</sup> CSD based on data from the Russian central bank.

<sup>15</sup> HAZ, "Wismar im Schatten der Russenmafia," March 19, 2018.

<sup>16</sup> NNN, "Russien investieren in Rostocker Werk," June 30, 2015.

<sup>17</sup> Treisman, D., *The return: Russia's journey from Gorbachev to Medvedev*, New York: Free Press, 2011.

<sup>18</sup> Russlandtag-MV, *Sponsoren*, 2021.

a different meaning following Russia's invasion in Ukraine in February 2022, as they have made Europe and its leading economy, Germany, more vulnerable to Russian energy extortion.

Since the early 2000s, Germany has steadily deepened its ties with Russia in the energy sector in spite of the warnings from its allies and the continuing Russian violations of international law and human rights at home and abroad. Germany thus created an environment in which pro-Kremlin networks and narratives could thrive. The German political establishment has tirelessly defended and promoted the importance of Nord Stream 2 for Germany's energy security and its green transition. Many of the supporters of the project though turned out to be personally connected through an intricate network of forums, organisations and lobby groups to the success of the project and leverage their political and economic influence to make their voices heard.

One of the most influential and best-connected organisations is the German-Russian Forum whose initial purpose was the intercultural dialogue between civil society organisations. However, over the years the board of directors and the board of trustees of the Forum was increasingly populated by representatives of German and Russian gas companies and people with close ties to the Kremlin. These changes in the board were reflected in the Forum's activities in recent years which included conferences with the pro-Kremlin think tank Dialogue of Civilizations (DOC) and earned the forum its reputation as one of the key Russian "trojan horses" in Germany.<sup>19</sup>

### Box 2. Informal Oligarchic Networks Enabling Nord Stream 2

In 2009, two years before Nord Stream 1 first started pumping gas from Russia to Germany, the former SPD Prime Minister of North Rhine-Westphalia, Wolfgang Clement, founded the Ostinstitut together with Andrey Zverev (at the time Chief Trade Representative at the Russian Embassy) and Peter W. Schulze (co-founder of the DOC) amongst others.<sup>20</sup> In 2014, the Ostinstitut organised the first Russia Day attended by the Prime Minister of Mecklenburg-Vorpommern

Erwin Sellering, Wolfgang Clement, Gerhard Schröder, and the Russian Ambassador Grinin.

In subsequent years the Russia Day gained in importance as other influential politicians and representatives of businesses and civil society organisations made an appearance such as the German Minister of Economy Sigmar Gabriel, Russian Industry Minister Manturov and representatives of Nord Stream 2, the Russian Duma and the Russian embassy in Germany. The Russia Day was sponsored by Nord Stream 2, Gazprom and Gascade. After resigning as the Prime Minister of Mecklenburg-Vorpommern in 2016, Erwin Sellering continued his unwavering support for Nord Stream 2 by joining the board of the Ostinstitut,<sup>21</sup> by founding his own organisation "German-Russian Partnership" and by becoming the chairman of the newly established "Climate Foundation" in 2021.

The Climate Foundation was established by a democratic mandate of the regional parliament with its main objectives being the promotion of climate research and climate protection. However, the mandate also includes "contribution to the advance of the works on the Nord Stream 2 pipeline".<sup>22</sup> Thus, in the final stages of the pipeline's construction, the foundation was effectively used to circumvent U.S. sanctions targeting companies involved in the construction of the pipeline. Additionally, the Nord Stream 2 AG made sure to have a say in the decision-making process of the foundation by securing the rights to propose the chairman of the foundation's commercial activities and to approve or disapprove any commercial activities, while at the same time it was also granted two of the 18 seats on the board of trustees.<sup>23</sup> In return, the Nord Stream 2 AG pledged to grant at least 10 million euros to the foundation. The effectiveness of this "business model" was eventually proven when the foundation bought a ship for Nord Stream 2 to finish the construction of the pipeline.<sup>24</sup>

<sup>19</sup> Atlantic Council, *The Kremlin's Trojan Horses 3.0*, December 4, 2018.

<sup>20</sup> Ostinstitut, *Gründungsmitglieder*, 2011.

<sup>21</sup> Ostinstitut, *Vorstand*, 2011.

<sup>22</sup> Landtag Mecklenburg-Vorpommern, *Zustimmung Des Landtages Gemäß § 63 Absatz 1 LHO - Hier: Errichtung Der „Stiftung Klima- Und Umweltschutz MV*, 2021.

<sup>23</sup> Ibid.

<sup>24</sup> Altrogge, G. Et al., "Das Geheimnis um den Schattenmann der Schweriner Gazprom-Stiftung ist gelüftet," May 13, 2022.

# What's Next: A New Vision for Germany's Energy and Climate Security

## Decoupling from Russia

Since the invasion of Ukraine, the German government has implemented a number of measures to lessen the country's dependence on Russian oil and gas. On the demand side, newly installed heating systems are to be powered by 65% renewable energy-based electricity from 2024 and the replacement of gas heating units with heat pumps is proposed to be financed on a considerable scale.

On the supply side, the speed and ease at which full independence from Russian suppliers can be achieved varies widely. In the case of coal, the transition has been fairly successful already, as the share of Russian imports has declined from 50% to 8% and new sales contracts are banned since 9 April 2022. Oil imports from Russia have been reduced from 35% to 12% since the start of the war with the two refineries Leuna and Schwedt being the only remaining importers of Russian crude.<sup>25</sup> The refinery in Leuna has already halved its imports from Russia, whereas a voluntary reduction of Russian imports is unlikely at the Rosneft-owned refinery in Schwedt, albeit a complete stop is technically feasible by using alternative supply lines from Poland and the German North Sea ports.

The transition away from Russian gas is likely to be the most challenging aspect of Germany's new energy security strategy due to the excessive dependence on Russian gas imports and the lack of LNG regasification terminals on German territory. Although the share of Russian gas imports has dropped from 55% to 35% since the start of the war, the German government estimates that at the end of 2022, 30% of gas imports will still come from Russia with a full Russian gas phase out by the end of 2024 if there is significant progress in facilitating diversification projects, energy efficiency and the use of hydrogen and renewables. The key issue for the success of this deep diversification strategy would be the ability of German Russian gas companies to rid themselves from the take-or-pay clauses in the existing contracts that go beyond 2024.

As part of its short-term measures, the German government has procured 950 million m<sup>3</sup> of natural gas that is currently used to fill up the empty gas storages

across the country. The German Parliament also passed a Gas Storage Act that requires gas storages to adhere to certain filling levels over the winter. The unusually empty storages have been a major concern since the start of the last winter and the fact that the storages owned by a Gazprom subsidiary were even emptier than the national average gave rise to the suspicion that Gazprom was using its power over the German gas supply to artificially drive-up gas prices and deter German support for Ukraine.

To counter this, the government appointed the Federal Network Agency as temporary trustee for the Gazprom Germania Group which is now examining how the Rehden gas storage can be filled as quickly as possible in accordance with the Gas Storage Act. In an attempt to tackle Germany's lack of supply options, the German government has acquired the option to hire four floating LNG terminals, the first of which is expected to start operating at the end of 2022 already while the second one is estimated to follow in early 2023 and the third and fourth one until the summer 2024. Once all four of these LNG floating units are connected to the gas grid, they are estimated to replace approx. 72% of current gas imports from Russia.

## A Roadmap to a new energy and climate security strategy

The overall Index score reveals that the energy policy trilemma of achieving affordability, reliability of supply and environmental sustainability, is far from solved for Germany and by extension for the EU. Geopolitical and affordability risks have worsened for the EU and most of its Member States, while affordability and reliability risks have seen a steady, but overall small, improvement. Moreover, the geopolitical and economic crisis is threatening to slow the low-carbon transition with a pivot towards higher coal use.

The planned decision by the government to partially restart coal power plants amid gas supply cuts by Gazprom in mid-June, 2022, would be a severe blow to the country's long-term decarbonization strategy. This will also have a severe impact on the policy thinking of many other European countries especially in Central and Eastern Europe that are mulling a delay in the coal phase out.

The growing dependence on Russian fossil fuel exports has also contributed to the entrenching of powerful state capture networks that influence the country's strategic energy policy. In light of Russia's aggression

<sup>25</sup> BMWK, *Zweiter Fortschrittsbericht*, May 1, 2022.

in Ukraine, Germany needs to end its dependence on Russian fossil fuel imports as soon as possible in order to boost its energy and national security and to deplete Russia's war chest. As Russia's biggest customer in terms of oil and gas sales, Germany's dependency is especially strong. But it also means that decisive action by the German government can deal a severe blow to Russia's revenues and thus weaken both its war efforts and its political and economic influence on the EU. Furthermore, policymakers need to recognise that such emergency measures have been made necessary by the failure of national governments and the EU as a whole to design and implement a coherent long-term energy and climate security strategy.

The German government has started to act. To reduce its gas dependence on Russia, it announced a plan to stop all gas imports from Russia by 2024 and end Russian oil imports by the end of 2022. Just before the start of the war, Berlin halted the certification of the Nord Stream 2 undersea pipeline, which would have doubled the volume of Russian gas exported directly to Germany. In the first days of the war, the pipeline project was canceled indefinitely.

Germany has also taken steps to find alternatives to Russian imports. The German Chancellor, Olaf Scholz, signed an agreement for LNG imports from Qatar noting that the Persian Gulf state would play a vital role for the diversification of Germany's gas supply.<sup>26</sup> Germany has also announced the restart of the construction of several LNG regasification plants including in Brunsbüttel with capacity of 8 billion cubic metres (bcm) per year, in Stade at the inland Elbe river port with 12 bcm/yr capacity and at the Wilhelmshaven deep-sea port with capacity of up to 7.5 bcm/yr. The new LNG facilities would be able to cover around a quarter of Germany's gas demand from 2026-2027 replacing roughly half of the current Russian gas imports. Dutch regasification facilities would be able to cover some of the regional demand in Western Germany but it is unlikely that Germany would be able to ensure the security of supply without deep cuts in domestic consumption. Germany is also mulling an expansion of gas production in the North Sea in a joint effort with the Netherlands.

More importantly, Germany has also pledged to speed up the shift to renewables in a bid to become more independent from energy imports.<sup>27</sup> The focus will

be on accelerating the role of on and offshore wind energy, as well as solar.<sup>28</sup> Germany's efforts to diminish the role of fossil fuels in its economy have been accelerated in April 2022, when the German economic and climate ministry put forward a comprehensive package of goals and policies in the form of the "Easter Package".<sup>29</sup> The initiative envisages that green energy accounts for 80% of the power mix in Europe's biggest economy by 2030, up from about 40% now and a previous target of 65%.<sup>30</sup> The government makes a big bet on the electrification of demand (rapid growth of electric vehicles and renewables-based electrification of industry and heating). The objective is that by 2035, nearly 100% of the electricity demand should be covered by renewables.<sup>31</sup>

As highlighted by the Index results, Germany faces structural energy and climate security risks that can be overcome only by a long-term policy effort that will enable the achievement of the ambitious security of supply and decarbonization targets set up by the government. Below is a list of key policy measures that could help bridge the policy implementation gap:

- Clearly establish the dependence on oil and gas imports from Russia as a primary long-term energy and climate security risk in the country's long-term energy and national security strategies.
- Mandate that all German companies to discontinue their long-term natural gas supply contracts with Gazprom after their expiration after 2024.
- Ensure direct management control over all Russia-owned natural gas storage facilities in the country.
- Set up a strategic natural gas reserve stock following the example of the strategic oil reserve and implement strictly a mandatory 90% target for natural gas storage injection by 1 December of each year.
- There is an urgent need for screening and halting of all Russian strategic investments in Europe linked

<sup>26</sup> Al Jazeera, "Germany, Qatar sign energy partnership agreement," May 20, 2022.

<sup>27</sup> Amelang, S. et al., "Ukraine war: Tracking the impacts on German energy and climate policy," *Clean Energy Wire*, June 15, 2022.

<sup>28</sup> Campbell, M., "What are Europe's energy alternatives now that Russian gas is off the cards?," *Euronews*, April 27, 2022.

<sup>29</sup> BMWK, Federal Minister Robert Habeck says Easter package is accelerator for renewable energy as the Federal Cabinet adopts key amendment to accelerate the expansion of renewables, Press Release, April 6, 2022.

<sup>30</sup> Marsh, S. and Chambers, M., "Germany unveils plans to accelerate green energy expansion," *Reuters*, April 6, 2022.

<sup>31</sup> Enerdata, "Germany unveils its Easter Package to accelerate renewable development," April 8, 2022.

to Russian state-owned companies and oligarchic networks close to the Kremlin. Such screening needs to be complemented by measures for ensuring intra-EU corporate ownership transparency and the strengthening of the European anti-money laundering focus and efforts on reducing the Kremlin's hidden economic footprint in Europe.

- Prioritize the stopping of Russian illicit financial flows, the closing of glaring governance gaps that have allowed Russian companies to evade sanctions before, and the tracking and seizing of the assets of Russian oligarchs across Europe and in cooperation with the US.
- Ensure that Russian oil companies do not circumvent the oil embargo by using intermediaries with close ties to the Kremlin to resell Russian crude or oil products into Germany and the wider European market.
- Focus on the completion of floating LNG regasification units in the short-term to prevent a major security of supply crisis that would undermine the country's economic growth and could lead to a social backlash against Germany's long-term energy transition agenda.
- LNG supply contracts should be limited to five years at most and preference should be given to floating instead of fixed LNG terminals as to prevent a long-term natural gas lock-in with alternative suppliers that does not solve the key energy security risks linked to excessive import dependence.
- To protect vulnerable consumers, Germany needs to develop an emergency spending package based on the national ETS revenues and the shifting of resources in the national recovery and resilience plan. A 10% share of the national recovery and resilience plan could be redirected to the financing of energy security measures.
- Roll out demand response tenders for industrial gas consumers to urgently reduce natural gas demand

and prevent large business losses in the upcoming winter season.

- Take decisive steps to a full natural gas phase out by 2035 on the back of replacing natural gas in the power sector with a massive push to fully utilize Germany's offshore wind energy potential and in the heating sector with heat pump roll-out strategies and electrification based on decentralized renewable energy and storage systems.
- In the industrial sector, accelerate the uptake of green hydrogen transforming Germany in a European import and distribution hub by repurposing the vast gas transmission network in Central Europe by 2030.
- Avoid blue hydrogen development, linking any hydrogen project plans to renewable energy sources, such as solar and wind.
- Reduce overall gas demand with an accelerated energy efficiency investment strategy, focusing specifically on energy poor households and via deep renovation programs to reduce energy consumption faster than the current 2030 targets.
- Define energy and climate security goals for 2030 and 2050 based on a comprehensive data-driven analysis and a coherent strategic vision. Current strategic documents have unrealistic goals with poorly coordinated measures that may be in conflict with EU priorities.
- Place a strategic focus on R&D, innovation and the uptake of new technologies, as well as market capacity building in these technologies, rather than on their passive consumption.
- Prepare an adequate strategic communications response strategy, as price pressures are likely to create even better conditions for Kremlin-driven propaganda to berate the energy transition and seek to stoke social unrest in Europe to weaken its support for Ukraine and for the energy transition.