



# **The Energy Crisis Requires a Military Solution that Compels NATO to Spend like Estonia**

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**A**t the end of last year, President Volodymyr Zelenskyy stood in front of the U.S. Congress and stated: “In two days, we will celebrate Christmas. Maybe, candlelit. Not because it is more romantic. But because there will be no electricity. Millions won't have neither heating nor running water. All of this will be the result of Russian missile and drone attacks on our energy infrastructure.”<sup>1</sup>

Zelenskyy's words capture a snapshot of the increasingly intimate relationship between the Russia-Ukraine war and the energy crisis. On the one hand, the conflict has fundamentally changed the energy landscape, from how Europeans will consume it for the next few decades, to Japan's decision to restart its nuclear energy plants after they were shut down following the 2011 Fukushima disaster. On the other hand, energy will be a key determinant of who will win this war. The transatlantic community is facing a pivotal moment in this conflict. If NATO is serious about proclamations that it wants Ukraine to 'win', it will have approximately until July 2023 to significantly ramp up support for Ukraine and expand punitive measures against Russia.<sup>2</sup> The alternative option is a protracted war which may tilt the battlefield dynamics back in Russia's favour, resulting in long-term instability in Europe and beyond.

## Energy—Putin’s weapon of choice

Since coming to power, President Vladimir Putin has invested heavily in Russia’s energy sector, which eventually allowed him to weaponise oil and gas to achieve his foreign policy goals. As such, Russia controls nearly a quarter of the world’s natural gas exports, a fifth of coal exports, and a tenth of crude oil exports.<sup>3</sup>

Starting in February 2022, the strategic importance of Russia’s energy has grown in significance. Russia’s economy is deeply tied to its ability to export oil, gas and coal. In 2021, oil and gas alone made up nearly 45% of the federal budget,<sup>4</sup> while in 2022—taking into consideration that official statistics in Russia are increasingly being manipulated—the hydrocarbon sector constituted 30% to 40% of the budget.<sup>5</sup>

Energy revenue is increasingly critical, not only to expand Putin’s war efforts—he has recently announced a 30% increase in armed forces—but also to replace Russian hardware.<sup>6</sup> Between February and October 2022 alone, Russia lost nearly 9,000 pieces of military hardware on the Ukrainian battlefield,<sup>7</sup> ranging from tanks to the sinking of the Moskva—the largest military ship destroyed since World War II.<sup>8</sup> Replacing destroyed, abandoned, damaged, or captured equipment will be a costly exercise; the Moskva alone was worth \$750 million.<sup>9</sup>

Going forward, Putin will continue to squeeze Russia’s energy sector to fuel his war. In 2023, the Kremlin’s goal is to collect 1.4 trillion roubles (over \$20 billion) from taxing raw materials, such as oil. At the end of last year, Russian authorities considered a war tax of 50% for gas exports, including on liquefied natural gas (LNG).<sup>10</sup>

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## **An economic-military straitjacket**

Since September 2022, Russia has suffered major battlefield losses, coinciding with the issue of manpower deficit.<sup>11</sup> Consequently, the Kremlin has doubled down on targeting Ukraine's critical infrastructure, especially the energy sector.

By mid-December 2022, Ukraine claimed that Russia had already destroyed 50% of its power stations,<sup>12</sup> resulting in a whopping 50% drop in energy consumption.<sup>13</sup> The degradation of Ukraine's energy sector is designed to both curb Ukrainian morale at the individual level—temperatures between December and March typically range between 23 °F (-4.8 °C) and 36 °F (2 °C)—so as to provoke war fatigue, and to limit the country's warfighting capabilities.

In effect, Russia is fomenting both a humanitarian crisis and imposing a major economic-military straitjacket on Ukraine, as degradation of the country's energy sector is having a mammoth impact on the economy, which in turn, fundamentally constrains Ukraine's ability to defend itself. Already in June 2022, Ukrainian officials estimated that the economic costs of the conflict stood at \$349 billion—one-and-a-half times the country's GDP prior to the February escalation.<sup>14</sup> Moreover, that figure represents an estimate that predates the 'new phase' of the war beginning 10 October 2022,

the date which marks increased attacks on critical infrastructure.<sup>15</sup>

In 2022, Ukraine's GDP declined by 30.4%<sup>16</sup>—compared to Russia's minor decline ranging between 3% and 4%<sup>17</sup>—and is expected to contract another 9% in 2023.<sup>18</sup> The dire economic situation together with constant bombardment of energy infrastructure will sever Ukraine's ability to rebuild its economy, deliver basic services, and to defend against Russian aggression.

At the same time, Russia has occupied Ukrainian territories home to over \$12.4 trillion worth of energy deposits, metals and minerals.<sup>19</sup> The Donbas region, for example, is rich in lithium, control over which may be part of the Kremlin's overall energy strategy. Experts estimate that Ukraine has nearly 500,000 tons of lithium oxide, one of the largest deposits in Europe.<sup>20</sup>

Over the past year alone, the price of lithium has soared by 1,200% and could skyrocket anywhere between 400% and 4,000% as lithium is anticipated to rapidly grow as a source of energy.<sup>21</sup> Nearly half of all cars could be electric vehicles by 2030. Maintaining permanent control of Ukrainian territories will add to Russia's war chest, weaken Ukraine's ability to defend itself, and create deeper energy insecurity for Europe as it would effectively mitigate the supranational structure's ability to transition to alternative forms of energy.

## Transatlantic Impacts and Responses

Ukraine's ability to defend itself has been sustained by Western support. Since February 2022, the U.S. has so far provided over \$26.7 billion in military assistance alone, followed by the EU (€3.6 billion), and the UK (£2.3 billion).<sup>22</sup> Additionally, to starve the Kremlin of funds to finance its war in Ukraine, members of the transatlantic alliance imposed a series of sanctions on Russian energy exports. This has reduced the amount of energy commodities available for import globally, exacerbating a spike in energy prices across the globe which began before the February escalation. In fact, the Kremlin had started cutting back on gas supplies to the EU in the six months leading-up to the war, leaving European gas storage facilities critically low, arguably in the hope that the resulting economic hardship would divide the EU members in responding to the war.<sup>23</sup> Although the transatlantic alliance has so far shown unprecedented levels of unity in their support to Ukraine, the war-induced energy crisis could still negatively impact Europe's ability to provide assistance to Ukraine in the medium-term if the war carries through to next winter (2023/24).

In early March 2022, the U.S. banned all imports of Russian oil, LNG and coal.<sup>24</sup> The UK—which relied on Russian imports for 4% of its gas use, 9% of its oil use and 27% of its coal use in 2021—has

effectively committed to ending these imports from 1 January 2023.<sup>25</sup> Until the end of 2021, the EU relied on Russia for more than a quarter of its energy needs<sup>26</sup>—compared with 8% in the U.S.<sup>27</sup>—with high variation in dependencies between member states.<sup>28</sup> Russia was the EU's leading supplier of all the primary energy commodities: natural gas (40%),<sup>29</sup> oil (25%), and solid fossil fuels (mostly coal—55.6% in 2020).<sup>30</sup> Despite its efforts to find alternative sources of energy, the EU's ability to completely cut off Russian imports in the short-to-medium term has been a challenge. Even with the implementation of gradual import cuts from Russia, EU member states are estimated to have purchased more than €137 billion in fossil fuels from Russia since 24 February 2022, representing 46.6% of Russian revenue from such exports.<sup>31</sup> By the end of 2022, Russia still remained the EU's third largest supplier of supplier of LNG.<sup>32</sup>

Energy dependency has resulted in weaker sanctions targeting the Russian energy sector as the EU has sought to strike a balance between curbing Russian revenues from energy exports whilst limiting the hike in global energy prices and accompanying inflationary pressures that harm European industries. For example, in September 2022, the inflation rate for liquid fuels soared 79.1% in the eurozone.<sup>33</sup>

The EU agreed to ban Russian coal imports from August 2022,<sup>34</sup> and approved an embargo on Russian



seaborn oil which came into effect on 5 December 2022.<sup>35</sup> This was complemented by an EU-G7 price cap on Russian oil to stop countries from paying more than \$60 for a barrel of Russian crude oil.<sup>36</sup> The effectivity of the measure is rather limited seeing that Russian oil has been averaging between \$42 to \$71 per barrel in 2020 and 2021 respectively.<sup>37</sup> Still, the ban prohibits European shipping and insurance companies to service Russian oil cargoes bound for anywhere in the world, unless they meet the cap level.<sup>38</sup> Provided oil prices increase above the cap, this could be a blow to the Russian oil industry; more than 60% of the country's oil cargo is carried by Greek shipping firms and 95% of insurance for oil tankers is covered by European law.<sup>39</sup> Furthermore, oil sanctions have allowed Asian buyers to demand oil imports from Russia at a discount, thereby mitigating potential Russian revenues.<sup>40</sup> As a similar package of EU sanctions and G7 price cap on refined fuels takes effect from 5 February, similar trends are anticipated to affect Russia's refined fuel sales.

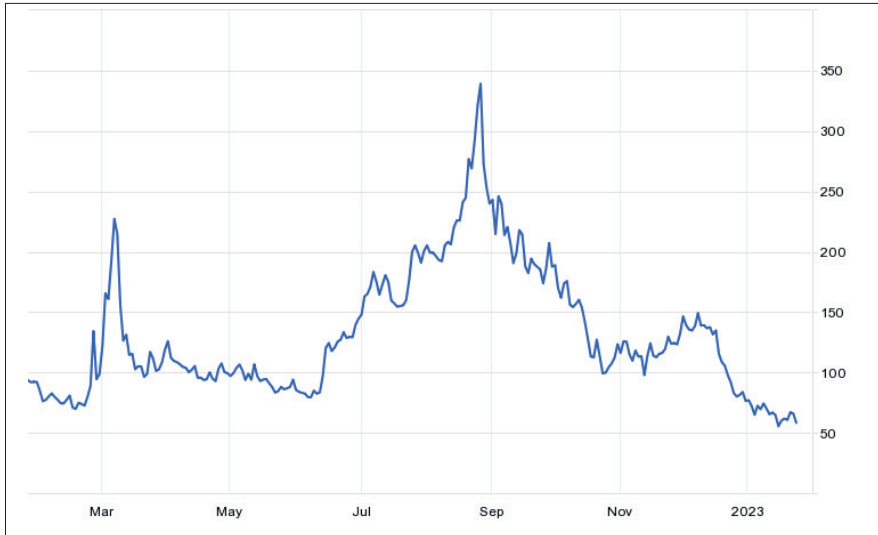
After months of debate that split the block,<sup>41</sup> the EU agreed in late December 2022 to set a price cap on natural gas, including LNG.<sup>42</sup> The measures are intended to limit Russian gains and safeguard European consumers and industries from excessive price spikes, such as the one of August 2022 triggered by the European scramble to simultaneously find alternatives to Russian gas and fill up gas storages before winter.<sup>43</sup>

From 15 February 2023 onwards, Europe's gas exchanges will be capped at 180EUR/MWh if certain conditions are met.<sup>44</sup> As of January 2023, an uncommonly mild winter and large stockpiles have led European gas prices to plunge under 70EUR/MWh (compared to the 339 EUR/MWh August peak).<sup>45</sup> Yet prices could increase exponentially again if low temperatures cause Europe to burn through

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While the “firepower” issue may limit Russia's ability to conduct a major winter-spring offensive, it still leaves very little time for NATO and its allies to support Ukrainian's battle momentum, a gap which should be fully exploited. How can this be done? NATO and its allies must spend like Estonia.

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**Figure 1.** Price of natural gas in the EU

Source: <https://tradingeconomics.com/commodity/eu-natural-gas>

its supplies, Russia shuts down its remaining supply, and competition increases dramatically for LNG as China reopens following the easing of COVID restrictions.<sup>46</sup> If triggered, there is concern that the price cap could jeopardise the EU's capacity to acquire LNG.<sup>47</sup>

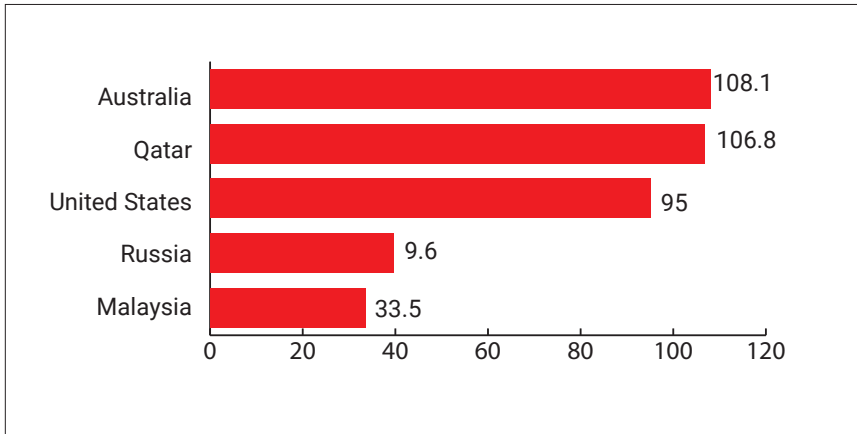
Along with increasing alternative pipeline supplies for Norway and elsewhere, growing LNG imports has been a key part of making the EU market more resilient to Russia's blackmail.<sup>48</sup> Yet, while the necessary energy infrastructure is being built, significant quantities of LNG will only become available in 2026 from suppliers such as Australia, Qatar and the U.S.<sup>49</sup>—respectively the

first, second, and third biggest LNG exporters.<sup>50</sup> As Russia cuts remaining gas flows and the LNG market tightens in 2023, the EU may also have to scrap its cap to ensure sufficient LNG supply to fill up storage facilities back to comfortable levels for next winter.

Despite €705.5 billion having been allocated and earmarked across Europe to shield consumers from rising energy costs since September 2021,<sup>51</sup> European households have already experienced a 90% increase in energy prices.<sup>52</sup> As a result, public frustration is on the rise. In Prague, nearly 70,000 protesters gathered in early September for the 'Czech Republic First' demonstration against rising energy prices.<sup>53</sup> The UK,

**Figure 2.**

The Top 5 Liquefied Natural Gas Suppliers.  
Countries exporting the most liquefied natural gas in 2021  
(in billion cubic meters)



Source: BP via <https://www.statista.com/chart/27839/biggest-liquefied-natural-gas-exporters>

Moldova, Germany, Austria, and Italy have all experienced some form of public dissatisfaction. An increase of public dissatisfaction could bifurcate NATO members and allies, leading to the weakening of the sanctions regime against Russia and a decrease of support for Ukraine.

### The Kremlin's saviours

Part of the reason why Russia's economy only contracted 3% to 4%, rather than the anticipated 8% to 10%, is because Moscow has been able to cushion sanctions by relying on a variety of partners to offset costs. For example,

NATO member Turkey's trade with Russia has doubled during the first nine months of 2022,<sup>54</sup> while that with India and China has quadrupled and soared by over a third respectively.<sup>55</sup> Indonesia, with a GDP of \$1.2 trillion, increased trade with Russia by 50% in 2022, and Jakarta and Moscow are contemplating expanding their economic cooperation in 2023, including in the energy sector.<sup>56</sup>

China and India, the world's largest and second largest importers of crude oil respectively, have proven fundamental in shielding Russia from a greater economic crisis. Shortly after the February escalation of the Russia-Ukraine war, India and China jointly

overtook the EU bloc as the largest importers of Russian oil.<sup>57</sup> By the end of March 2022, Russian oil constituted merely 0.2% of India's imports, but today represents 22% of India's overall imports, making Russia the country's largest supplier of oil.<sup>58</sup>

According to Russian officials, Russian-Chinese energy trade increased 64% in monetary terms and 10% in volume by the end of November 2022.<sup>59</sup> Beijing's relaxation of pandemic measures could further accelerate China's demand for energy, which in turn could expand Russia's ability to wage war against Ukraine. One can expect Russia to continue to shop for new export markets in 2023, but it will also be hampered by structural factors stretching from an inability to export gas through pipeline deliveries to the nonavailability of shipping containers as a result of EU measures.

## So what?

While this winter is harsh for Ukraine and the EU, experts suggest that the 2023/2024 winter could be the real catastrophe.<sup>60</sup> One can also expect Russia to exploit the energy crisis while ramping-up propaganda intended to create divisions within the transatlantic community that would weaken support for Ukraine and water down restrictive measures against Russia. Given war fatigue, combined with the fact that NATO operates on the basis

of unanimous consensus, sustained support for Ukraine should not be taken for granted.<sup>61</sup>

Clearly, the energy sector—for Russia, Ukraine, Europe and beyond—plays a pivotal role in determining the fate of the war, as well as the future of the global order. However, to defang Putin's energy weapons would require a serious expansion of existing sanctions against the Russian energy sector. As 2022 showed, while the sanctions regime against Russia was welcomed, its effects were fairly limited, especially in the context of new export markets—like China, India, Indonesia, and Turkey—for Russian energy. Moreover, experts suggest that some European countries still need two to three more years to transition to both alternative sources and forms of energy.

As for Ukraine, there are a variety of efforts to supply it with generators, along with key pieces of equipment to repair or replace energy infrastructure that was destroyed or damaged.<sup>62</sup> However, under current conditions, where Russia continues to unleash heavy bombing campaigns, it becomes hard to talk about truly 'rebuilding' or 'reconstructing' its energy infrastructure. Ultimately, Ukraine needs a drastic increase of improved military hardware and weapon systems.

As such, the best immediate response to the Putin-made energy crisis—both for Ukraine and the transatlantic alliance—is to not only deepen sanctions against

Russia and expand economic support for Ukraine, but a drastically ramped-up military solution. That said, the transatlantic alliance should use July 2023 as the key benchmark for a major surge in military and economic support for Ukraine that would make the war too costly for Russia to sustain. Should NATO and its partners make crucial moves in the first half of 2023 to set Ukraine up to win the war, a victory could help to justify the future easing of sanctions against Russia's energy sector. The operative word nonetheless remains 'easing', as that would depend on the Kremlin's actions going forward.

Moreover, given Ukraine's sizable lithium oxide deposits, and the link between lithium and the future of renewable energy, the transatlantic community must support Ukraine's victory in a manner that will guarantee that the country regains complete control of all its occupied territories.

### **Spend like Estonia**

In 2022, a key issue that haunted the Russian military was its manpower deficit, which has partially been addressed by Putin's declaration of 'partial mobilisation'.<sup>63</sup> Near the end of 2022, some analysts also began to point out that Russia is starting to run out of key weapons and equipment.<sup>64</sup> Part of the reason relates to the rate at which Russia is bombing Ukrainian targets with precision guided missiles, and the inability of Russia to manufacture at a rate prior to the imposition of sanctions.

The manpower and weapons deficits could both merely be temporary. Ukrainian officials suggest that there may be another Russian wave of mobilisation on the horizon, while countries like Iran and North Korea are supplying Russia with weapons needed to continue its brutal campaign. Such alternative supplies in turn provide companies that can navigate around the sanctions

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The combined GDP of NATO is nearly \$40 trillion, compared to Russia's nearly \$1.6 trillion.

This means that if all NATO member states contribute to Ukraine in the manner of Estonia—1.1% of GDP—then total military and economic aid will amount to approximately \$440 billion instead of a figure closer to \$100 billion (for the period January to November 2022).

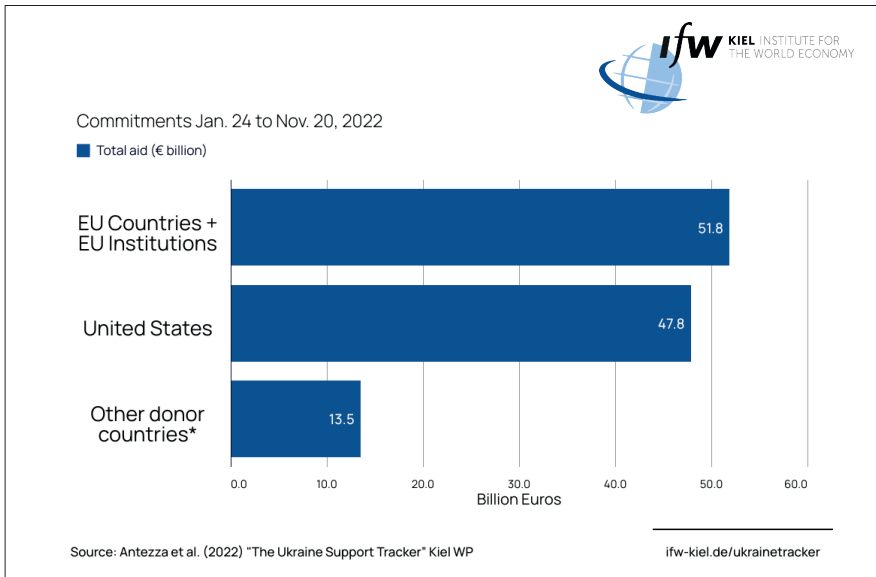
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regime.<sup>65</sup> While the ‘firepower’ issue may limit Russia’s ability to conduct a major winter-spring offensive, it still leaves very little time for NATO and its allies to support Ukrainian’s battle momentum, a gap which should be fully exploited.<sup>66</sup>

How can this be done? **NATO and its allies must spend like Estonia.**

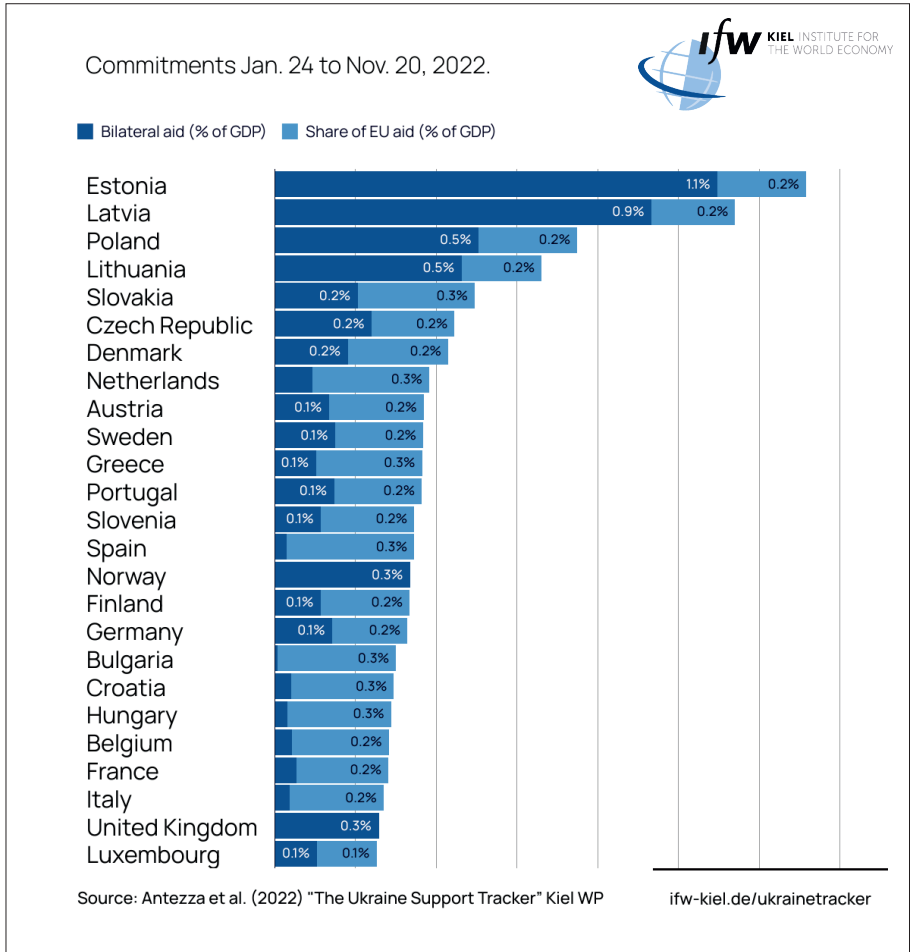
- From 24 January to 20 November 2022, the U.S. and the EU pledged \$47.9 billion and \$33.4 billion respectively in military, financial and humanitarian assistance to Ukraine—making them the largest donors.<sup>67</sup> Within the EU there are some stark variations. Germany’s bilateral aid to Ukraine amounts to a meagre 0.1% of its GDP, while Estonia, Latvia, Poland and Lithuania—the four largest donors as a percentage of GDP—committed between 1.1% and 0.5% of their GDP. By comparison, the U.S. and UK, although considered weighty supporters of Ukraine, only committed 0.2% and 0.3% respectively of their GDP.<sup>68</sup>

**Figure 3.** Government support to Ukraine: By country group, € billion



Source: <https://www.ifw-kiel.de/topics/war-against-ukraine/ukraine-support-tracker>

**Figure 4.** Government support to Ukraine:  
By donor country GDP, including and excluding EU share



Source: <https://www.ifw-kiel.de/topics/war-against-ukraine/ukraine-support-tracker>

- Based on Russia’s recently-passed three-year budget, the security sector will need approximately 9.3 trillion roubles (or \$132 billion) in 2023.<sup>69</sup> The combined GDP of NATO is nearly \$40 trillion, compared to Russia’s nearly \$1.6 trillion.<sup>70</sup> This means that if all NATO member states contribute to Ukraine in the manner of Estonia—1.1% of GDP—then total military and economic aid will amount to approximately \$440 billion instead of a figure closer to \$100 billion (for the

period January to November 2022).<sup>71</sup> Moreover, the \$440 billion contribution to Ukraine would radically increase should close NATO allies and partners with significant GDPs—Australia, Japan, Finland, New Zealand, South Korea, Sweden, and Switzerland—would do the same. While that may seem like a huge resource commitment for 2023, the cost of the Russia-Ukraine war will dramatically increase with time. For context, in terms of securing new energy supplies and cushioning consumers against energy price hikes, the cost of Russia’s aggression in Ukraine has already cost the EU over \$1trillion dollars.<sup>72</sup>

- Importantly, NATO members, allies and partners should also use the July 2023 benchmark to close the gap between commitments and disbursement. Equipment, weapons delivery, and training, should be ramped up during the first six months of 2023 instead of being left to the last minute. A ‘German-minute’ in 2022 meant that it took until the end of April for Berlin to commit to sending heavy weapons to Ukraine and a few additional months for actual delivery.<sup>73</sup>
- Russia’s ability to continue to fight this war in Ukraine will also depend on the latter’s ability to sustain punches against its energy sector. Western policy makers have to accept that Russia will continue to rely on missiles and drones targeting critical infrastructure, accompanied by cyber-attacks to achieve military

objectives. Consequently, if NATO wants Ukraine to win this war, it will have to rapidly empower the country to more adequately defend itself. That means not only equipping Ukraine to rebuild its energy sector, but to provide the country with adequate air defence systems, including those that will help to detect and destroy drones.<sup>74</sup>

- The time has come to supply Ukraine with Army Tactical Missile Systems (ATACMS), which will allow the Ukrainian military to target Russian units used for launching strikes against its energy infrastructure. Reluctance to supply Ukraine with ATACMS reflects concerns among Western policy makers that such a move would escalate the war. While it would be nearly impossible to get China to impose economic sanctions against Russia, the transatlantic community should persuade Beijing to regularly reiterate its desire to avoid nuclear war. That would limit Putin’s manoeuvrability and dampen concerns of escalation among Western governments, which in turn could justify sending ATACMS to Ukraine.
- The idea to ‘spend like Estonia’ should not only be reserved to the proportionality of resources allocated to Ukraine; it should also be applied with an approach to energy infrastructure development. Tallinn made a number of noteworthy changes in a relatively short period of time, insulating Estonia from Russian energy dependence. For example, coinciding with the February



2022 escalation, Estonian companies—Alexela and Infortar—built an LNG terminal at Paldiski in a record time of six months.<sup>75</sup>

- The EU also needs to invest more in critical infrastructure, including that which will benefit neighbouring countries. For example, Moldova experienced a 200% price hike in November 2022, and the country is particularly vulnerable as it receives its energy largely from the Cuciurgan Power Plant—owned by Russia’s RAO and located in the Russian-aligned Moldovan territory of Transnistria.<sup>76</sup> Expedited investment into the Vulcanesti-Chisinau power line will enable Moldova to receive power from Romania. Such investments will help to make partner countries less susceptible to Russian manipulation.
- In an attempt to deepen the energy crisis, and given the relatively cheap nature of cyber warfare, NATO members and Ukraine should also anticipate an increase in Russian cyber-attacks against their energy infrastructure. Through the NATO Cooperative Cyber Defence Centre of Excellence (COE) in Tallinn and Lithuania’s Regional Cyber Defence Centre, NATO should strengthen early warning systems for both the alliance and Ukraine to prevent such attacks.
- The transatlantic alliance should create more visibility for the NATO Energy Security COE in Vilnius and expand its ability to conduct research on how the conflict is impacting Russia, Ukraine and the EU. It should identify alternative energy markets and sources of energy, and make recommendations to member states both on developing alternative sources of energy and on widening sanctions against Russia’s energy sector. ■

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# The Energy Crisis Requires a Military Solution that Compels NATO to Spend like Estonia

**GUILLEMETTE GUICHERD**  
**LEON HARTWELL**

In this LSE IDEAS Strategic Update, the authors focus on the intimate relationship between the Russia-Ukraine war and the energy crisis, both for Ukraine and the rest of Europe. It is argued that although Western sanctions against Russia's energy sector have been a welcome political statement, they have so far been inadequate. Moreover, in the absence of expanding Ukraine's defence systems, supplying the country with critical equipment to rebuild its energy sector while it is under constant Russian bombardment has limited impacts. Consequently, the authors argue that to solve the energy crisis, both for Ukraine and the rest of Europe, NATO and its allies need to "spend like Estonia." Spending like Estonia would, among others, entail ramping up support for Ukraine to 1.1% of each member state's GDP. Such an approach could help Ukraine to decisively win the war in 2023, and it would help to avert a potential energy crisis during the next winter.

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