

## BOX III Implications of Russia's invasion of Ukraine for decarbonization

Russia's invasion of Ukraine has brought widespread suffering and destruction, both in Ukraine and around the world. The ongoing war also threatens the implementation of global climate goals. Global climate policies are at a crossroads: Are we entering a new political era of conflict that severely impedes attempts at global cooperation to reduce emissions? Or will attempts to fast-track decarbonization in response to the invasion accelerate the global shift toward cleaner energy supplies? The war's impact on international climate, and environmental commitments and considerations, will be complex. It also highlights again that extreme and unexpected societal events can happen at any time. They have the potential to derail the implementation of global climate goals and to constrain drivers of deep decarbonization. These countervailing trends have yet to play out concretely for a full assessment. As UN Secretary General Guterres argued in March 2022, this invasion "risks upending global food and energy markets, with major implications for the global climate agenda. As major economies pursue an 'all-of-the-above' strategy to replace Russian fossil fuels, short-term measures might create long-term fossil fuel dependence and close the window to 1.5°C" (Guterres, 2022). Climate policy needs to be resilient in the face of these unexpected events and a shift in attention that makes climate change a lower political priority. This box brings together and evaluates some impacts of the invasion that enable or constrain social drivers of deep decarbonization. It focuses on a selection of drivers and societal agents assessed in the current Outlook in a very dynamic situation. This means that new dynamics can suddenly emerge and affect the plausibility assessment.

### Impact on global and regional cooperation dynamics to curb emissions

The global economic crisis (2008), the election of Donald Trump (2016), and the COVID-19 pandemic (2020) have all significantly constrained the scope of global cooperation on challenges of common concern such as climate change. The current global order has been under pressure for much of the past decade, not just since Russia's invasion of Ukraine. The invasion now threatens to end global cooperation as we know it and even now significantly affects global cooperation patterns. Global cooperation on emissions reduction is facing an unprecedented stress test: The UN Security Council is paralyzed, discontent with the existing system of international institutions is widespread, and new narratives and institutions, for example from China, are challenging the international order. Whether cooperation can survive under difficult circumstances, or

whether competition between states prevails, will be a crucial driver for decarbonization. The question is also whether states will be able to implement agreements from Paris 2015 and Glasgow 2021. This also depends on the capacities and agency of non-state and transnational initiatives advocating deep decarbonization (Section 6.1.1).

It is plausible that Russia's invasion of Ukraine will constrain truly global attempts to curb emissions. However, an informal "club" of like-minded liberal states—see German chancellor Scholz' proposal for a Climate Club at the G7 summit in June 2022—could advocate for less-than-global decarbonization efforts, although this role remains implausible at the time of writing (Falkner et al., 2021). Given the West's mixed short-term, carbon-intense responses and yet-to-be-implemented mid-term decarbonization plans, it is too early to assess the impact on the plausibility of decarbonization. Beyond assessments of global decarbonization efforts, the invasion may thwart any efforts by the UN Security Council to deal with issues emerging from the climate-security nexus, including potential links between climate risks and conflict risks (Mach et al., 2019).

Regional dynamics are even more heterogeneous in response to Russia's invasion of Ukraine than global ones (Section 6.1.1). On the regional level, in particular the EU, but also the US and Australia, are currently fostering decarbonization. In response to the invasion, the EU emphasized the synergies between climate action and supply autonomy. In 2020, the EU imported 58% of its energy, a considerable share of it from Russia (Eurostat, year not available). Responding to the invasion, the EU reconfirmed its commitments to energy transition, linking it to the promise of reduced import dependency (Weise and Mathiesen, 2022). The European Commission's Fit for 55 plan aims to cut greenhouse gas emissions by 55% by 2030 and to become climate neutral by 2050. Realizing these plans would make deep decarbonization more plausible, given the current convergence of funding, technical feasibility, and political support, both for energy security and environmental reasons.

While the invasion led to increased ambitions, it had a mixed impact on ongoing policy implementation. The European Parliament adopted the European Commission's proposal to phase out new fossil-fuel cars from 2035 onward and EU member states just agreed on that proposal (Ainger and Krukowska, 2022). The European Emission Trading System reform has been criticized as not ambitious enough (WWF, 2022). Furthermore, there is an emerging push for a return to coal (Apnews, 2022; Redaktionsnetzwerk Deutschland, 2022). Concerns about affordable energy prices and climate protection have a high priority among the public (European Commission, 2022) but

member states see the EU's climate ambitions heterogeneously (Zerka, 2022). Some observers expect the next few years to be difficult in terms of emissions reductions but hold that “the long-term impact on energy policy and GHG emissions in Europe could be beneficial” (Tollefson, 2022, p.232). Relatedly, the invasion caused global food supply shortages and constrained EU climate action in the agricultural sector (Fortuna and Foote, 2022). This suggests that the invasion makes progress toward deep decarbonization more difficult in the short term but increases the need for deep decarbonization and thus its plausibility in the long run—at least regionally.

The invasion will affect climate ambitions in other parts of the world as well. Several current developments affect the plausibility of deep decarbonization. The Global South is suffering under soaring energy prices. If transformation to renewable energies is cost-effective and sufficient investments are implemented, this would likely enable decarbonization. However, the most recent UNFCCC preparatory meeting for COP27 yielded only mixed results (Harvey, 2022).

### Impact of warfare and rising military expenditures on decarbonization efforts

Military and warfare significantly impact the environment, since an armed conflict consumes and pollutes natural resources (Graham-Harrison, 2022; Scheffran, 2022). Due to high dependence on fossil fuels, military activities also cause a considerable share of emissions (Military Emissions Database, n.d.). A preliminary study estimates the carbon footprint of EU military expenditure in 2019 as approximately 24.8 million tons CO<sub>2</sub>-eq (Parkinson and Cottrell, 2021). In 2020, the US Department of Defense accounted for nearly three-quarters of US government emissions (van Schaik et al., 2022). The main challenge is to decarbonize heavy weapons such as fighter jets, tanks, warships, and submarines.

Several initiatives to move to lower carbon energy use to minimize fossil-fuel-related vulnerabilities, reduce dependency on Russia, and combat climate change (van Schaik et al., 2022) are underway. However, there is no consolidated public reporting of greenhouse gas emissions for national militaries and no overarching reduction goals. Moreover, the currently intense warfare (Pereira et al., 2022) is already increasing military greenhouse gas emissions today. As military spending is already at an all-time high (Lopes da Silva et al., 2022), the planned further rapid growth in military spending will draw funding away from ambitious renewables projects and also increase military emissions, thereby constraining potentials for deep decarbonization.

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### Impact on Russian decarbonization efforts and direct role in regional and global cooperation

Russia's policy remains central to the future of global energy policy, but prospects for cooperation are dim. The country is among the biggest greenhouse gas emitters (EU EDGAR, 2021) and oil and gas exporters (IEA, 2022h; 2022d), holds the largest gas reserves, and generates 45 % of its national revenues from energy exports (IEA, 2022b). Moreover, Russia's involvement in global policy is essential in the Arctic region (Sections 6.2.1 and 6.2.2), one of the world's climate hot spots (Froitzheim et al., 2021). Yet high fossil exports, political neglect, and rampant corruption led to “critically insufficient” climate ambitions (CAT, 2022b). Russia's intended Nationally Determined Contribution submitted in 2015 includes references to “positive” consequences of climate change such as reduced heating energy consumption, ice-free northern shipping lanes (Section 6.2.3), development of the Arctic region, expansion of agricultural areas, and increased boreal productivity. Russia's geostrategic agenda aims for control of resources crucial for the global transition (Lazard, 2022) and it is currently relaxing its domestic emissions regulations (Doose et al., 2022). In reaction to Russia's invasion of Ukraine, the Arctic Council is currently frozen (Gricius and Fitz, 2022). For these reasons, the invasion makes global decarbonization less plausible.

Furthermore, increased Russian influence on the global grain market increases the country's leverage; given the Kremlin's low climate ambition, this could constrain decarbonization efforts by affecting political support and increasing opportunity costs of energy transition, particularly in light of climate-related food security challenges (Section 6.2.6). Finally, reduced regional Russian influence increases the risk of conflict escalation, for example, between Azerbaijan and Armenia or Tajikistan and Kirgizstan. It also makes regional cooperation for decarbonization less plausible.

### Conclusions

Russia's invasion of Ukraine disrupts an already challenged international order. The invasion also brought national energy policies to a critical juncture. Governments can respond to supply cuts and soaring prices with ambitious energy transformations. If such programs are swiftly and thoroughly implemented, they increase the plausibility of decarbonization. However, if governments respond with new long-term commitments to carbon-driven energy systems, they will constrain decarbonization drivers. It is too early to assess the overall impact of the invasion on the plausibility of global decarbonization, but it is plausible to assume that the short-term delays inhibit reaching decarbonization fast enough to stay within the Paris Agreement temperature goals. It is plausible that global cooperation on matters of concern to climate change will decline over the coming years.