CGIAR FOCUS Climate Security

POSITION BRIEF
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Fossil fuels feed climate change and war: Time to quit them

KEY MESSAGES

- The production, distribution, and consumption of fossil fuels are linked directly to climate change by driving up emissions, and indirectly related to conflict and human insecurity by benefitting a small number of often authoritarian countries
- By relying on fossil fuels for energy security, the EU finds it difficult to wean itself off Russian gas, thus perpetuating a tense relationship with Moscow
- But our dependency on fossil fuels also has negative consequences for the Global South, where climate change impacts are likely to be felt the hardest
- While not without challenges, now is the time to "walk the walk" by following through with low carbon transitions
- Overcoming these challenges is possible, but we must do it now. Neither the climate nor global peace and stability can wait

Photo by Ricky Martin/CIFOR

Introduction. The production, distribution, and consumption of fossil fuels have not only been at the heart of human development, but also at the heart of two of humanity's most the defining challenges: violent conflict and climate change.

On the one hand, around 2/3 of greenhouse gas emissions come from the energy sector, thus driving global climate change. As the most recent IPCC report points out, climate change will have serious negative consequences, often in regions home to the most vulnerable communities (IPCC 2021). Droughts might impact food security, while the rise of sea levels may induce migration from flooded areas to safer ones. Both examples might further exacerbate conflict over the already limited resources available to feed people, and conflict over land to house people.

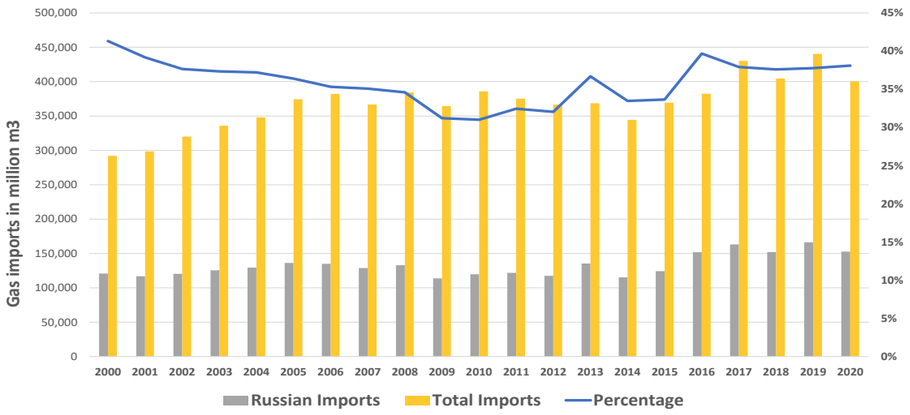
On the other hand, international relations scholars are keen to point out the role fossil fuels have played in global politics. The meeting between then US president F. D. Roosevelt on board the USS Quincy with king Abulaziz of Saudi Arabia in 1945 is often cited as the beginning of the US-Saudi alliance, exchanging security guarantees for oil. The oil embargo imposed by OPEC following the Yom Kippur war in 1973 led to the creation of the International Energy Agency (IEA), back then mostly concerned with securing global oil supply to fuel not only civilian economies: The single largest consumer of oil in the world remains the US military (Union of Concerned Scientists 2014).

Photo by Axel Fassio/CIFOR

Nuances. Of course, not every storm and every drought are induced by climate change. They have happened long before humans walked the earth. Similarly, states, kingdoms and empires have been going to war long before the advent of fossil fuels. But climate change increases the likelihood of extreme weather events, reduces the efficacy of infrastructure that was built for—and predicated on—different climatic conditions, putting strain on land- and food systems. Given this perspective, climate change is often acknowledged as a 'threat multiplier' of conflicts; not the sole reason but an additional destabilizing factor. In the same vein and given the importance of fossil fuels for almost all human activities, they can equally exacerbate international, national and regional conflicts. The current war in Ukraine offers a good example.

How fossil fuels are linked to crises. The EU and Russia have been linked by an extensive network of gas pipelines for decades. Around 40% of EU gas imports come from Russia, a share that has not changed significantly despite the EU's policy efforts to wean itself off Russian gas. For decades, conflicting interests between Member States—some more complacent vis-à-vis Russia, some more weary (Schmidt-Felzmann 2014) —and only a lukewarm commitment to energy transitions have left the EU dependent on Russian gas.

And while some scholars assess the EU-Russian gas relationship as purely commercial, some see gas as a tool which could be used for geopolitical pressure. Indeed, Russia decided to cut off transit flows via Ukraine multiple times, leaving many European households literally in the cold, most notably in 2008/09. Interestingly, just months before the invasion of Ukraine, Russian companies were accused of deliberately not fulfilling their commitment for gas shipments to Europe (Francis 2021), thus driving up prices and leaving EU gas reservoirs below capacity. But gas is not the only factor in the equation: 9% of Russian GDP comes from oil sales, compared to around 3% of from gas[1]. But since oil markets are more global in nature, the decision by the US and the UK to stop importing crude from Russia might not have the desired impact—to stop the war in Ukraine—because alternative buyers can be easily sourced. What it might do, however, is drive oil prices even higher, potentially slowing down the post-COVID recovery of many countries. And if oil prices remain high, oil companies may find it profitable to invest in new fields to cash in when exactly the opposite scenario, divestment from oil, is needed.



EU gas dependancy on Russia

But while the war in Ukraine is dominating headlines, the negative consequences for climate, peace and stability of our addiction to fossil fuels are equally prevalent in the Global South. Here, climate change impacts are expected to hit the most vulnerable communities the hardest, while rising prices for fossil fuel energy put already stretched budgets under further strain and drive-up prices for food and other necessities. Fossil fuels also help prop up moribund authoritarian regimes like Venezuela's. Similarly, they present the biggest revenue source of for governments in volatile countries like Iraq or Libya, creating rentier states that are prone to corruption, unable to diversify their economies, and often rely on authoritarian modes of governance. Of course, being dependent on fossil fuels for revenues does not automatically mean corruption or authoritarianism will follow– after all, Canada is the world's fifth largest oil producer and maintains quite an open society. But research suggests that in the absence of solid, democratic institutions, dependance on oil and gas rents reinforces authoritarian

[1] https://data.worldbank.org/indicator/NY.GDP.PETR.RT.ZS?locations=RU

Photo by Ollivier Girard/CIFOR

Energy Transition Now. This is why decision makers around the globe must do all they can to accelerate humanity's transition away from fossil fuels and towards a more sustainable energy economy. As we demonstrate in a recently published position paper, opportunities are manifold (Bößner, Läderach, and Pacillo 2022). Unlike fossil fuels, which are heavily concentrated in some parts of the globe, renewable energy sources like the sun, wind and, to a lesser extent, biomass are abundant, making it harder to limit their benefits to a select few or to weaponize them in international relations. Moreover, instead of geographical conditions, renewable energies are more dependent on innovation, skills and know-how, resources all countries possess. In addition, renewable energy production is more distributed and small-scale in nature, which facilitates cooperation. Germany is often used as an example where 50% of renewables capacity is owned by cooperatives and individual citizens rather than large corporations, thus contributing to a fairer society. Similarly, decentralized but interconnected sources of energy improve systemic robustness and reduces the impacts of conflict. While the flow of energy is currently mostly unidirectional, as fossil fuels flow from producers to importers, renewable energies could create interlinked electricity super grids where one country's security of supply is directly linked (not only exchanged for money) with another's, providing incentives for cooperation rather than conflict. The EU has already created a common market for energy and electricity, where electricity from Norwegian hydrological power and German wind turbines are sold to customers in Spain and Portugal. Frameworks like the European Green Deal are already in place, so now it is time to follow through by reducing fossil fuel dependency and related emissions.

Don't repeat, improve! This journey from a fossil fuel-based system to one based on renewable energies won't be without challenges. While sun and wind are abundant, input materials for technologies to harness their power might not be. Minerals and rare earths to produce magnets in rotors or batteries for electric vehicles are already highly concentrated in China and the Democratic Republic of Congo, and mining those materials might create additional environmental hazards[2].

From an infrastructure perspective, more regionally interconnected power grids based on renewables might be prone to cybersecurity breaches. Biomass, while less dependent on digitalization and more versatile (as it can exist in solid-, fuel- and gaseous forms) might lead to challenges related to land-use, particularly when biomass is grown to satisfy energy rather than nutritional needs. In the same vein, the energy contained in one barrel of petroleum is usually denser than that in renewables, meaning that a greater number of production plants will be required to produce an equal amount of energy. And while coal or nuclear power plants may not be visually appealing, renewable energy projects are also often opposed by local populations, particularly when implemented in a top-down manner without local consultation. Also, while researchers and entrepreneurs have delivered an astounding number of innovations in the low carbon field, some sectors such as steelmaking, aviation, and maritime shipping are still a long way from a complete transition to renewable energy sources. And while people in OECD countries enjoy energy abundance, at the time of writing almost one billion people, mostly in sub-Saharan Africa, still lack access to even basic electricity and energy. And even if communities in the Global South do have access to energy, it is often consumed in fossil fuel form such as petrol, diesel and liquified petroleum gas especially by smallholder farmers who produce about 70–80% of the world's food (Brück & d'Errico, 2019). To break this vicious cycle (fossil fuel dependency to assure one's livelihood thus exacerbating climate change which will hit poor communities the hardest), those communities need to have access to cleaner sources of energy such as clean cook stoves, solar water pumps or renewable mini- and off grid solutions.

[2] Interestingly, Ukraine might be sitting on large lithium deposits, which adds another dimension to the current war.
See https://www.nytimes.com/2022/03/02/climate/ukraine-lithium.html

Challenges are meant to be overcome. Phasing out fossil fuels and transitioning towards a more sustainable future won't automatically bring peace and prosperity, especially if mistakes from the past —top-down approaches that benefit the few rather than the many, and zero-sum politics that disincentivize collaboration—are repeated. However, challenges are meant to be overcome, and strategies exist to deliver on the positive aspects while minimizing negative impacts.

Decision-makers must now follow through on commitments to adopt concrete policies to phase out fossil fuels. Unfortunately, post-COVID recovery plans are heavily geared towards fossil fuel development (IISD 2020). Moreover, orienting research funding towards low carbon innovation in sectors such as steelmaking or aviation should be top priority. Private sector actors should place corporate sustainability at the heart of their value chains, and financial actors must cease funding fossil fuel production and put investment in more sustainable energy products. The international community should put rules-based collaboration and cooperation back on the political agenda, and the common management of resources vital for the energy transition, such as rare earths and other raw materials, may present an opportunity to do so. It might sound overly optimistic, but European Union was founded in order to manage natural resources collaboratively. Moreover, international standards and safeguards are needed so that the mining and production of raw materials used in the energy transition do not create environmental and social damage, such as those created by mining for fossil fuels and uranium. These safeguards are of utmost importance as not everyone will benefit equally from the energy transition, and societies should make sure that the most vulnerable people are protected from decisions they usually have no say in. Lastly, to tackle the issue from both the supply and the demand side, consumers must do their share by shifting toward lower carbon diets and means of transportation. Getting there won't be easy or smooth but, as the war in Ukraine shows, the earth's climate and global stability are better off without fossil fuels. We have known this for decades, and now that another window of opportunity has (unfortunately) opened, we should walk through it instead of marveling at it and closing it soon after.

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