

Breaking the Atomic Embrace

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On March 16, 2022, in the fourth week of the full-scale Russian invasion, Ukraine joined the European Energy Network ([Entso-E](https://www.entsoe.eu/)). This event is important and symbolic. The Ukrainian State has been pursuing this goal for the past several years, methodically planning to bid farewell to its energy dependence on Russia. The military invasion accelerated the process.

Today, Ukraine is fighting to rid itself of its colonial past and to achieve energy freedom, in particular. In the aftermath of any colonial policy, after the empire vanishes, the infrastructure remaining in the former colonies keeps them tied to their former colonial power. That's exactly what happened to Ukraine. Russia, the successor of the Soviet Empire, used electricity, oil, gas, and nuclear fuel as levers of pressure. The oppression was compounded by the discourse that Ukraine is incapable of doing without "cheap" energy, so the country had no choice but to settle readily for any bargain (on terms favorable to Russia, of course).

Power Network: Legacy from the Soviet Past

Ukraine's power colonization began long ago in Soviet times, when a unified power network was established, along with standardized supplies of electricity to every occupied territory known as the Soviet Socialist Republics. This standardization resulted in a situation such that even in 2021, with 95% of the electric energy supply being distributed by the United Energy System of Ukraine, it was still "more convenient" for the State to import electricity from other post-Soviet countries. Belarus, in particular, accounted for 70% of the country's 1.7 billion kWh in electricity.

Ukraine produced power for its own needs mainly from its own nuclear, thermal, and hydroelectric power plants, "backing it up" with imported energy, especially during the increased consumption in winter, when the country's own energy might not be enough.

In 2014, Ukraine launched the process of synchronization with European Union's energy network. That same year, Russia launched a hybrid war in the east of Ukraine. The necessity to sever all interactions with the aggressor, energy being first, has become quite clear, as that was the instrumental hook for the empire to keep their former colonies dependent.

It took quite a while to synchronize and coordinate, even though 5% of Ukraine's power network (the so-called Burshtyn Energy Island) has been synchronized with ENTSO-E (then UCTE) since 2002, simplifying the transition to the European Energy network.

To synchronize, Ukraine had to disconnect from the power grid it had been using since the Soviet Union and had been running autonomously for some time. This was planned for (and executed on) February 24, 2022. Due to the invasion, the system kept working for several days, until February 26, for which it was no longer scheduled. Yet, Ukraine managed to get through it, which is a very good sign.

The fact that Russia attacked on the eve of Ukraine's disconnection from the "Soviet" power grid suggests that Ukraine's energy independence runs counter to the empire's colonial ambitions.

"Gas Wars": Blackmailing with "Cheap" Energy Commodities

Natural gas was another "carbon needle" shoved into Ukraine's energy system since the USSR period in order to keep it subordinate. The huge [Ugenroy Gas Field](#), discovered in 1961, provided the USSR with the opportunity to create plans of exporting gas to Europe. Those plans were implemented from 1970 to 1974, when, together with West Germany (the Federal Republic of Germany), they built a gas pipeline running through Ukraine and signed gas supply contracts until the year 2000. Alas, Germany, enticed by the cost-effective offer, became energy-dependent on the USSR and its successor, Russia. Only now is the German leadership beginning to [realize the fallacy](#) of cooperating with Russia in this area-- and the catastrophic consequences of such cooperation. The case of Germany, like the situation in Ukraine, illustrates the logic of colonialism: offer resources, technology, and infrastructure in order to foster dependence and then dictate your terms.

Since the 1990s, Ukraine has fallen into the trap of energy dependence. Natural gas supplies were transited to Europe through Ukraine's territory, yet the tariff for the country was mostly higher than that for Russia's "partners," creating "gas servitude" where the gas debt had to be paid by any means at hand, such as the sale of military equipment to Russia in the late 1990s. This whole mess has triggered a series of gas conflicts. The first one occurred in 1993 when gas supplies were first suspended due to Ukraine's failure to pay.

We dare say, therefore, that the whole history of independent Ukraine is a continued attempt, with varying degrees of success, to break free from this gas loop. Yet, in the early 21st century, Russia realized that there will be no peace in the "gas wars." The two gas conflicts between the two countries, in 2004–2005 and 2008–2009, urged Russia to launch the [Nord Stream–1](#) in 2011, support discussions of the [Nord Stream–2](#), and even hold onto the idea of the [South Stream](#).

In 2010, Russia tried to "buy" Ukraine from Yanukovich for gas discounts. One of the conditions for "cooperation" at the time was allowing a base for the Russian fleet and military in Sevastopol. Such discounts and offers could have led to even deeper energy colonization of Ukraine, yet the [Revolution of Dignity](#) of 2014 once again proved that Ukraine has chosen the path of freedom, not dependence.

In response to Ukraine's assertion of dignity, Russia launched a hybrid war, occupying Crimea and Donbas. Ukraine, on its own, has not imported any gas from Russia since November 26, 2015, so, in this regard, the country has, in fact, managed to achieve partial energy decolonization. Russian natural gas, however, still transits through the territory of Ukraine — even today, during a full-scale war. Despite all of the Russian atrocities, everything continues "as agreed."

In this context, phasing out natural gas as an energy resource seems to be the right decision both in terms of ecology and ethics. Work should continue towards reducing natural gas consumption in order to phase out gas imports altogether.

Failed Attempt of Blackmailing with Coal

The war in Donbas is a tragedy for the Ukrainian people. It has been hurting us for eight years already. In addition to deaths, shattered destinies, and devastated lives, one of Russia's most painful blows was struck against Ukraine's energy system. The whole country felt it in 2014, and it still resonates today. No wonder they keep talking about the battle for Donbas, which may determine the course of the current war.

In 2013, Ukraine extracted 83.7 million tons of coal. In 2015, due to the occupation of Donbas where most Ukrainian mines are concentrated, coal production amounted to only 39.7 million tons.

By seizing Donetsk and Luhansk oblasts to turn them into quasi-states-- now the so-called [DPR \(DNR\)](#) and [LPR \(LNR\)](#)-- Russia hoped to undermine the independence of Ukraine, with thermal power plants (TPPs) playing an important role in the country's energy system. The enemy hoped to see Ukraine fall in a couple of winters, yet their plans were ruined by the global climate crisis. In 2015, countries around the globe signed the Paris Agreement, which undertook to reduce CO₂ emissions and actively develop renewable energy.

Having lost half of its mines, Ukraine suddenly became one of the leaders in phasing down the "dirtiest" carbon fuel (coal) and began to actively master the new industry. Russia's attempt to blackmail Ukraine with coal failed. Having embarked on the path of European development, our country also committed to supporting European values, with care for the environment (and reduction in greenhouse gas emissions) being of foremost importance today. Phasing out fossil fuels, primarily coal, is part of that commitment.

Our pain in Donbas is also a pain for the renewable energy projects located in the region. They were meant to be the primary tools of a "just transition," by replacing environmentally harmful mines with renewable energy stations (RES). They also were going to lead to creating new jobs and developing infrastructure in the region. Over 40% of Ukraine's RES are located in war zones, where combat either took place or is taking place.

To counter energy colonialism, renewable energy is the path to independence. The production of solar panels depends on rare earth metals, and the efficient operation of wind turbines requires a unified power network that can compensate for the decline in electricity generation. However, the only issue here is the development of technology.

RES makes us independent of fuel supply. We can move away from the very fuel that is the "blood" of Russia's colonial logic of creating dependencies on supplies rather than trading in technologies. In the case of RES, the "fuel" (sunlight, wind, and biogas) is supplied for free by nature itself.

Nuclear Power as Dubious Alternative to Carbon-Fueled One

In Ukraine, nuclear energy is also a legacy of the Soviet era. In total, Ukraine has 15 power units running at four nuclear power plants (NPPs), namely Zaporizhka (Zaporizhzhia NPP), Rivnenska (Rivne NPP), Khmelnytska (Khmelnytsky NPP), and Pivdennoukrainska (South Ukraine NPP, SUNPP).

When it comes to energy independence, nuclear power plants cannot give such freedom. Although their greenhouse gas emissions are much lower than those operating coal, oil, or gas, they also need fuel. At the beginning of the war, six of the 15 units currently operating in Ukraine ran on American nuclear fuel from Westinghouse, while nine ran on Russian TVEL.

The swift transition of every reactor to American fuel is impossible. Preliminary estimates show that the Russian nuclear fuel needed to operate the reactors may be enough for another year and a half. Yet, after the war broke out, Energoatom, the operator of all four nuclear power plants, [announced](#) that it was completely abandoning Russian fuel and transiting every reactor to the American Westinghouse.

Before the hostilities end, it is impossible to talk about the development of nuclear energy in Ukraine. The Zaporizhzhia NPP was captured by the enemy, and six reactors are being held hostage by the Russian occupiers. Under conditions of pressure on workers and the proximity of hostilities, the station operates at a low load and does not provide electricity. The South Ukrainian NPP is also very close to the frontline.

The seizure of the operational Zaporizhzhia NPP and the preserved Chernobyl NPP and, in fact, the hostilities on their territory, which were and are being waged by Russia, amount to nuclear terrorism. Russia has completely violated the security principles of the International Atomic Energy Agency ([IAEA](#)), which Russia, being an IAEA member state, has committed to upholding. Thus, the development of nuclear energy is a risky and dangerous path that should be avoided.

Today, Ukraine is fighting on every front, defending itself from an aggressor who is trying to break our will. Ukraine is fighting for its freedom, in particular for energy independence, and has been fighting for many years now. Perhaps, the time for the final battle has come. Now the whole world has learned that Russia demands exorbitant prices for their gas, oil, coal, electricity, and nuclear fuel. Ukraine's tragic experience is a strong argument as to why one shouldn't agree to the status of a colony that obeys the Moscow metropolis. Ukraine's choice is to be a free and independent country among other European nations enjoying their freedom, strength, and pride.

There is no doubt that by developing RES and other technologies, implementing energy efficiency programs, and using the European energy network as a backup, Ukraine, for the first time in many years, will be able to overcome the colonial legacy of the energy sector.