

**NET
ZERO
WORLD
INITIATIVE**

Accelerating Global
Energy System
Decarbonization

Ukraine's Energy Sector: An Introduction to Energy-Water-Health Nexus

Nazar Kholod

Addressing Environmental Impacts of War in Ukraine

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Ukraine's Energy Sector Before War

- Before February 2022, the energy sector played a key role in Ukraine's economic growth
- The entire population had access to electricity
 - 95% had access to clean fuels for cooking
 - 89% of the population had access to clean water
- Nuclear power plants produced about half of Ukraine's electricity
- Renewables accounted for 12.4% of the total energy mix
- Ukraine's power mix was cleaner than the European average
- Ukraine synchronized its power system with Europe (ENTSO-E) and aimed to export electricity to Europe, potentially reducing Europe's demand for Russian gas by 17%

War-Time Energy Situation

- Russia occupied the Zaporizhzhia nuclear power plant, the largest nuclear facility in Europe with 42% of Ukraine's nuclear installed capacity
- Russian attacks on energy infrastructure started in October 2022
- Russian forces destroyed or occupied 80% of wind and 20% of solar capacities
- Destroyed the Kakhovka hydroelectric power plant on June 6, 2023
- March 22 witnessed the largest attack, resulting in power outages affecting 1.5 million Ukrainians





DTEK images of destruction caused by russian attacks against DTEK power station in March 2024

Recovery and Reconstruction Needs

- Energy companies must restore electricity supply as quickly as possible
- Despite the extensive damage, efforts are underway to resume power generation at coal and hydro power plants
- New gas-fired turbine and piston stations are needed
- Solar and wind plants can enhance energy resilience at the local level

Effects of constrained energy supply on health:

- Lack of heat and lighting
- Reduced access to healthcare
- Reduced ability to manage chronic diseases
- Worsening mental health
- Increasing potential public health risks



Net Zero World's goals in Ukraine:

- 1) Help transform Ukraine's energy system
- 2) Address near and medium-term technical needs to support Ukraine's reconstruction
- 3) Contribute to the capacity-building of energy sector professionals
- 4) Support Ukraine's European integration goals



Contacts



Dr. Nazar Kholod is a scientist at the Joint Global Change Research Institute, a collaboration between the University of Maryland and Pacific Northwest National Laboratory.

Nazar is the Ukraine country coordinated for the [Net Zero World Initiative](#)

nazar.kholod@pnnl.gov