

Accelerating Global Energy System Decarbonization

Ukraine's Energy Sector:

An Introduction to Energy-Water-Health Nexus

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EXIM EXPORT-IMPORT BANK OF THE UNITED STATES





Ukraine's Energy Sector Before War

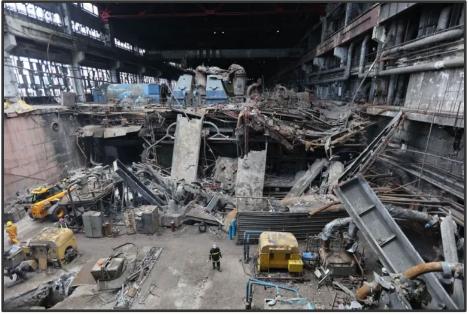
- Before February 2022, the energy sector played a key role in Ukraine's economic growth
- The entire population had access to electricity
 - 95% had access to clean fuels for cooking
 - 89% of the population had access to clean water
- Nuclear power plants produced about half of Ukraine's electricity
- 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





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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 lightning
- 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 mediumterm technical needs to support Ukraine's reconstruction
- 3) Contribute to the capacitybuilding of energy sector professionals
- 4) Support Ukraine's European integration goals









































Contacts



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