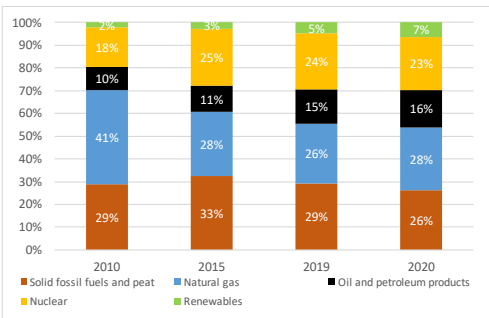




Energy fiche - Ukraine

Key energy figures

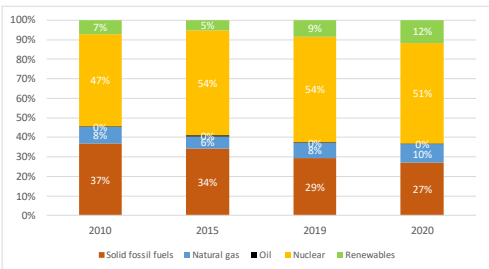
Graph 1: Energy mix



Source: Eurostat

- Pre-war, **fossil fuels** accounted for 70% of the country's energy mix. The remaining 30% came from **nuclear** (23%) and **renewable energy** (7%).

Graph 2: Electricity mix



Source: Eurostat

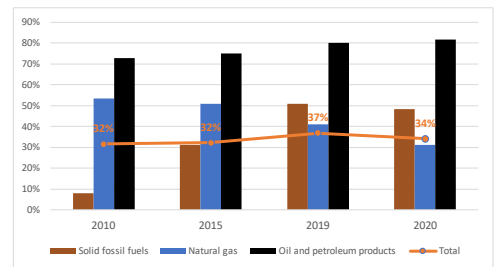
- Nuclear power plants** (51%), together with **coal-fired power plants** (27%) had a central role in the country's electricity sector and accounted for 78% of the total electricity production in 2020. Ukraine aims to phase out coal in electricity generation by 2035.

- According to International Renewable Energy Agency, pre-war, the country has seen a significant rise in renewable capacity from **13 764 MW** in 2020 to **14 921 MW** in 2021, mainly from new solar PV and wind capacities (1).

Energy security

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: Import dependency on fossil fuels



- Combustible renewables and electricity are excluded
- The total amount takes into consideration the energy mix of the country

Source: Eurostat

Integrated energy market

1. ELECTRICITY

- It is estimated that **more than half of UA's electricity generation** has been destroyed or occupied since the full-scale invasion, however, exact numbers are not disclosed due to security reasons.
- On 16 March 2022 UA/MD grid was **synchronised** with the Continental European

(1) International Renewable Energy Agency (2024). Renewable capacity statistics 2024

Network as an emergency, and synchronisation has become permanent since November 2023.

- Since then, electricity **import and export capacity** with the EU has been gradually increased. It is now set at 1700MW for imports to Ukraine and Moldova and 550MW for exports. Ukraine can also import as emergency assistance, key for system functioning amid targeted attacks.
- Process of market integration with the EU is ongoing under the **Electricity Integration Package**, adopted in the Energy Community in 2022. Due to the delay in transposition, an infringement procedure has been opened under the Energy Community Treaty.

2. NATURAL GAS

- Pre-war, in 2020, consumption of natural gas was **29.5 bcm**, with **energy sector** (44%) accounting for the largest share of the natural gas consumption, followed by **households** (27%) and **industry** (21%).
- Ukraine has a notable domestic natural gas production. In 2020, **indigenous (domestic) gas production** was 19.8 bcm, with rest of the supply being met through the imports from European markets (9 bcm).
- As of June 2023, Ukraine is ensuring all its supplies of natural gas by **domestic production** and **very limited imports from the EU**, as a consequence of demand destructions due to Russia's invasion.
- Ukraine's gas market is subject to **martial law** and functions in a heavily regulated environment. The main goal is to preserve the infrastructure assets, maintain control of domestic production and supply gas to households. Re-launching gas market is a priority for engagement with Ukraine in upcoming years.
- Ukraine certified its storage system operator, Ukrtransgaz, in line with the **Gas Storage Regulation** on 7 April 2023. Ukraine has complied with annual gas storage targets set by the Energy Community Secretariat. For 1 November 2024, the filling level shall be 12 bcm.
- Ukraine is late to implement Regulation (EU) 2017/1938, the **security of gas supply**, and prepare preventive and emergency action plans.

3. ENERGY INFRASTRUCTURE

Map 1: **Electricity infrastructure including cross-border interconnections**



Source: ENTSO-E

Electricity infrastructure projects under development:

- Rehabilitation of 400 kV OHL Mukacheve (UA) – Velké Kapušany (SK) with expected commissioning in 2026 (accepted in the TYNDP 2024).
- The reconstruction of the 400 kV transmission line Pivdenoukrajinska NPP (Ukraine)-Isaccea (RO) with expected commissioning in 2028 (accepted in the TYNDP 2024)
- 330 kV OHL Balti (MD) - Dnestrovsk HPP-2 (UA) with expected commissioning in 2032.
- DTEK STORAGE (225 MW / 450 MWh, with an expected annual production of 315 GWh/year, battery sites located in several locations in Western and Central Ukraine) with expected commissioning 2025-2028.

Map 2: **Gas infrastructure including cross-border interconnections**



Source: ENTSO-G

- Ukraine's gas transportation system has the largest storage capacity in Europe. The **13 underground gas storage facilities** have a total working capacity of **30.9 bcm**.

4. ENERGY POVERTY

Table 1: Energy poverty

	Ukraine			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	:	:	:	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	:	:	:	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	:	:	:	14.8%	:	:

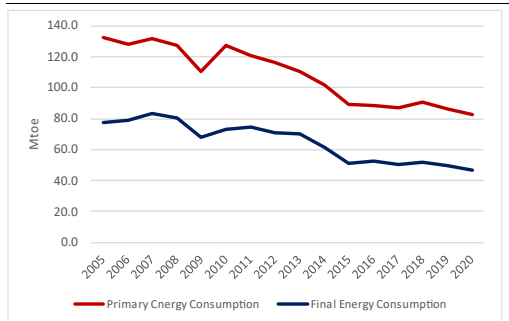
(1) SILC used to collect energy poverty data is not conducted.

Source: Eurostat

Energy efficiency

1. ENERGY EFFICIENCY

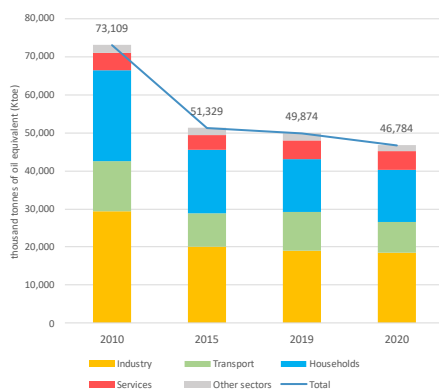
Graph 4: Primary and final energy consumption



Source: Eurostat

- The NECP of Ukraine sets an energy efficiency target for the planned total maximum level of final energy consumption by 2030 at **42.17 Mtoe**. For primary energy consumption, the NECP sets a value of **72.22 Mtoe**. Both targets are more ambitious than the ones set by the 2022 Ministerial Council Decision.

Graph 5: Final energy consumption by sector



(1) Final energy consumption excludes consumption of the energy sector (including transformation and distribution losses) and non-energy use of energy carriers.

Source: Eurostat

2. ENERGY SAVINGS IN BUILDINGS

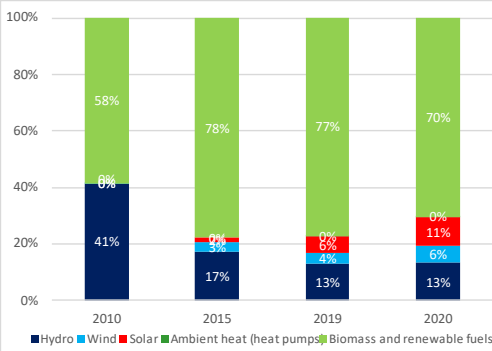
- Ukraine adopted the majority of by-laws to implement the Energy Performance of Buildings Law, including a national plan to increase the number of near-zero energy buildings. Furthermore, the Parliament passed a law fostering a conducive environment to comprehensive thermal modernization of buildings in 2023. The long-term building renovation strategy was drafted and published in 2022. Revisions will be necessary to factor in the building stock damaged by the Russian war against Ukraine and the increased climate ambitions.

Decarbonisation

1. SECTORAL SHARE OF RENEWABLE ENERGY

- In **2020**, Ukraine recorded a share of renewable energy in gross final energy consumption of **9.2%**, which is below its 2020 target of 11%.
- The NECP of Ukraine sets a target for the share of renewable energy in gross final energy consumption by **2030** at **27%**, which is in line with the 2022 Energy Community Ministerial Council Decision. However, it notes that this target was set prior to the Russian invasion and would be reviewed.

Graph 6: **Renewable energy mix**



(1) In % of gross final consumption of energy.

Source: Eurostat

involved in the **EU macro-regional Strategy for the Danube Region** (EUSDR).

- Ukraine is also a member of the **Energy Charter, IRENA and IAEA**.
- The EU cooperates with Ukraine in the framework of the **European Neighbourhood Policy** and its eastern regional dimension, the **Eastern Partnership**, with the objective to bring Ukraine closer to the EU. It is also a beneficiary of the **EU4Energy project**.

National Energy and Climate Plan (NECP)

- The Ministry of Economy of Ukraine published the draft National Energy and Climate Plan (NECP) for public consultations in February 2024 and submitted it to the Energy Community Secretariat's assessment on 2 May 2024. The Energy Community Secretariat assessed the draft Plan and issued its [Recommendations](#) on 7 June 2024.
- The Cabinet of Ministers of Ukraine has approved the NECP on 25 June 2024 which was notified to the Energy Community Secretariat on 5 July 2024.

Enlargement

- Ukraine applied for EU membership in **March 2022** and was granted EU candidate status in **June 2022**.
- In **December 2023**, the Council endorsed opening of accession negotiations with Ukraine. The first Inter-Governmental Conference on accession negotiations with Ukraine took place in **June 2024** marking the formal start of the accession negotiations.
- As regards the green agenda and sustainable connectivity⁽²⁾ (cluster 4), Ukraine has some level of preparation in **transport** (chapter 14), **trans-European networks** (chapter 21) and **environment and climate change** (chapter 27), and good level of preparation in **energy** (chapter 15)⁽³⁾.

Energy partnerships

- Ukraine is engaged in a number of regional cooperation initiatives and organizations, such as the **Energy Community, Central European Free Trade Agreement (CEFTA), Black Sea Economic Cooperation (BSEC), CESEC**, southern regions of Ukraine are also

⁽²⁾ Following the introduction of the revised methodology for the accession negotiations in February 2020, negotiating chapters are now divided in six thematic clusters.

⁽³⁾ European Commission (2023), Ukraine 2023 Report, SWD(2023) 699 final