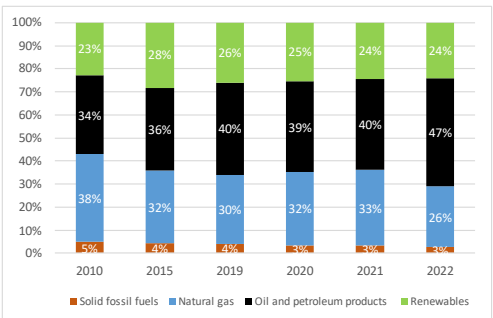
Energy fiche - Moldova

Key energy figures

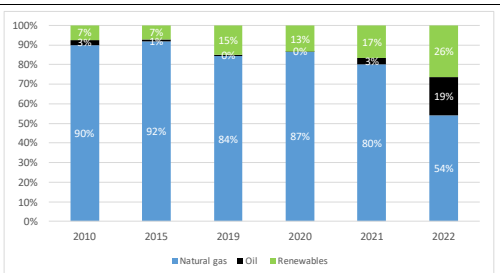
Graph 1: **Energy mix**



Source: Eurostat

- Moldova is **highly dependent on fossil fuels**, accounting for three quarters (76% in 2022) of the country's energy mix. The country is particularly reliant on oil, oil products (47%), and natural gas (26%).

Graph 2: **Electricity mix**



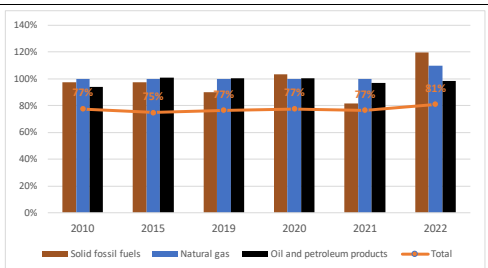
Source: Eurostat

- **Natural gas** fired power plants have a central role in the country's electricity sector and traditionally accounted for most of the electricity production. In 2022, the production from natural gas decreased to 540 GWh from 905 GWh in 2021 (partially replaced with the heavy fuel oil, due to reduced gas supplies).
- At the same time, production from renewable energy sources (from 188 to 263 GWh) and oil (from 38 to 192 GWh) has increased.
- The country has seen since additional uptake in deployment of **solar PV** and **wind** capacities. According to International Renewable Energy Agency, the solar PV capacity installed rose from **60 MW** in 2022 to **87 MW** in 2023. At the same time, wind capacities rose from **115** to **141 MW** (1).

Energy security

1. DIVERSIFICATION OF ENERGY SOURCES AND REDUCTION OF IMPORT DEPENDENCY

Graph 3: **Import dependency on fossil fuels**



(1) The role of solid fossil fuels (coal) is very limited.
(2) Combustible renewables and electricity are excluded
(3) The total amount takes into consideration the energy mix of the country
Source: Eurostat

Integrated energy market

1. ELECTRICITY

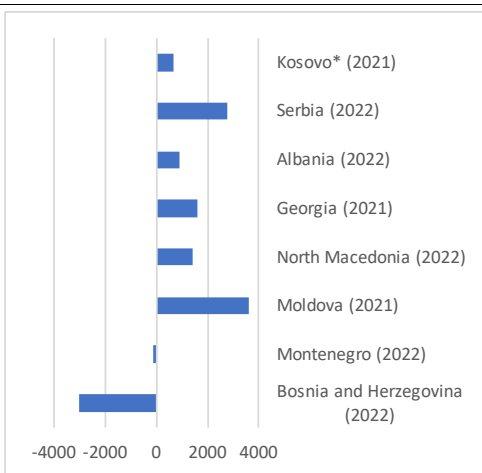
- In 2021, the annual gross electricity production in Moldova stood at 1,131 GWh. The country

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

was a **net electricity importer** in 2021, with 3,607 GWh imported more than exported.

- While Moldova does not depend on Russian gas anymore for the Right Bank, Transnistria's reliance on 'free gas' from Russia cause major **vulnerabilities**, mainly, due to **electricity import dependence on Transnistrian MGRES** power plant for about 90% of demand in summer and 60% in wintertime.
- 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.

Graph 4: **Net electricity imports (GWh)**



(1) Net electricity imports are calculated as electricity imports minus exports.
(2) The values for Bosnia and Herzegovina, Montenegro, North Macedonia, Albania and Serbia are from 2022. The 2022 values for Moldova, Georgia and Kosovo* are still not available, so 2021 data was used. Ukraine was not covered in the overview, as the latest available data was from 2020.
Source: Eurostat

2. NATURAL GAS

- Consumption of natural gas was **0.8 bcm in 2022** (excluding Transnistria, Russian-allied breakaway region). This is a decrease from **1.2 bcm** in **2021**. **Households** (39%) and **energy sector** (37%) account for the largest part of natural gas consumption. They are followed by services and public sector (12%) and industry.
- For **Transnistria,** consumption is estimated of **about 2 bcm,** including gas consumption for the electricity generation (MGRES power plant).
- With EU's support, **Moldova** (**Right Bank) imports no Russian gas** since December 2022, while back in 2021, Russian imports accounted for 1.2 bcm, or 98.6% (with the rest coming from UA).
- Moldova went through an **energy crisis** in 2021-22 mostly due to Gazprom supplies cut off, encouraging it to take actions to diversify its natural gas supply. Energocom (Moldova's state-owned energy trading company) began making purchases on the international gas market, making use of EBRD's loan facility for the purchase and storage of gas (EUR 300 million). Energocom has also joined and placed demand under the **AggregateEU**.
- **For the 2023/24 heating season approx. 650 mcm of gas were stored** in Ukraine and Romania. For the 2024/25 winter, Moldova will implement the security gas stocks and storage obligations under the EU Gas Storage regulation, resulting in a total **149 mcm** of natural gas to be stored in Ukraine and/or Romania.
- Moldova is implementing Regulation (EU) 2017/1938, the **security of gas supply**, and prepared preventive and emergency action plans.
- **Gas market opening started in Q2 2023**, stimulated by the high regulated gas prices, and now is roughly 7% and there are 6 gas suppliers selling gas to consumers on the competitive market.

3. ENERGY INFRASTRUCTURE

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

Source: ENTSO-E

- Since 2022 one **400 kV power line Isaccea – Vulcanesti,** connects Moldova to the EU/Romania. There are seven lines 330 kV between Moldova and Ukraine.
- **Vulcanesti – Chisinau 400 kV power** line (an extension of the interconnection with Romania), a priority project under the CESEC High-Level Group, is to be completed by end 2025 ending the structural risk that most interconnection lines from Ukraine and to Romania pass through the MGRES substation in Transnistria.
- **Second power link with Romania** (**Balti-Suceava**) is planned for end 2027. **Both projects** are included in the **CESEC Electricity and Renewable Energy Action Plan** as endorsed on 19 January 2024.
- A third 400 kV overhead power line between Straseni (MD) - Gutinas (RO) is planned for 2031.

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

Source: ENTSO-G

- In 2021 the **Ungheni-Iasi pipeline** (MD-RO) connected to the EU with capacity of 4.9 mcm/day, which equates to approximately 147 mcm/month or nearly 1.8 bcm/year. Therefore, the pipeline, which can be used for supplies to both banks, could cover up to 77% of peak monthly consumption and up to 58% of peak daily consumption (both peaks being observed during winter).

Full utilization of **Trans Balkan Pipeline** is a top priority for Moldova, as well as Ukraine, and is part of the work ongoing under CESEC, reconfirmed by the CESEC Ministerial on 19 January 2024.

- On 18 January, Moldova and Ukraine joined the **MoU on Vertical Corridor,** together with Greece, Bulgaria, Romania and Hungary. The Moldovan section entails enhancement of the internal infrastructure and interconnection points Grebenyky and Kaushany.

4. ENERGY POVERTY

Table 1: **Energy poverty**

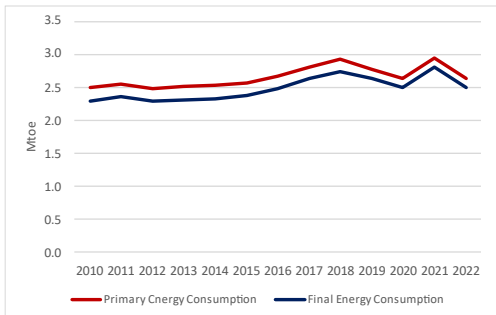
	Moldova			EU		
	2020	2021	2022	2020	2021	2022
Arrears on utility bills (households %)	:	:	:	6.5%	6.4%	6.9%
Inability to keep home adequately warm (household %)	:	:	:	7.5%	6.9%	9.3%
Population living in dwelling with presence of lead, damp and rot (population %)	:	:	:	14.8%	:	:

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

Energy efficiency

1. ENERGY EFFICIENCY

Graph 5: **Primary and final energy consumption**

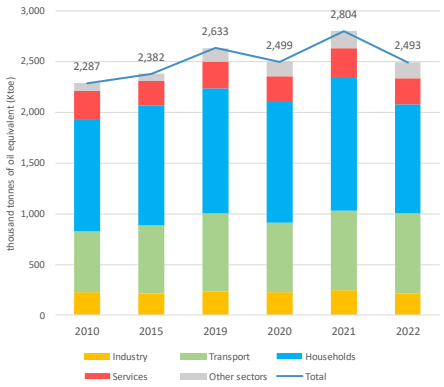


Source: Eurostat

- The draft NECP of Moldova sets an energy efficiency target for planned total maximum level of final energy consumption by 2030 of **2.80 Mtoe**, in line with the target agreed by 2022 Energy Community Ministerial Council Decision.
- As for primary energy consumption, the draft NECP sets a value of **3.00 Mtoe**, which is also in line with the target set by the 2022 Ministerial Council Decision. Due to the inconsistencies – i.e. varying values throughout the draft NECP – it is not possible to determine the target values for primary and final energy consumption. The territorial application of the target is also unclear.
- It is assumed that the overall targets are considered for the Right Bank only, and that the energy consumption – both primary and final – on the entire territory of Moldova is expected

to surpass the 2030 targets defined by the Energy Community Ministerial Council.

Graph 6: **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

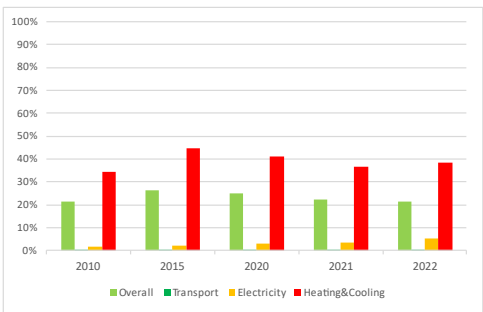
2. ENERGY SAVINGS IN BUILDINGS

- The 2018 Energy Performance of Buildings Directive (EPBD) was transposed in October 2023. Draft long-term building renovation strategy and the Nearly Zero Energy Buildings Action Plan are prepared and planned to be adopted by end 2024.

Decarbonisation

1. SECTORAL SHARE OF RENEWABLE ENERGY

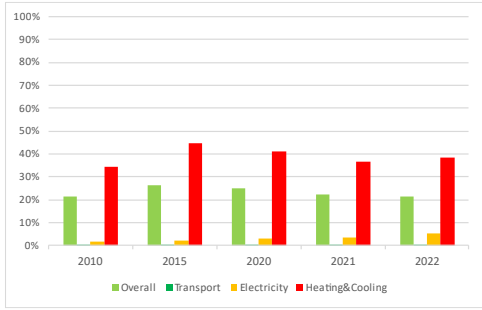
Graph 7: **Share of renewable energy sources**



(1) In % of gross final consumption of energy.
Source: Eurostat

- In **2022**, Moldova recorded a share of renewable energy in gross final energy consumption of **21.5%**, which is above its 2020 target of 17%.
- The 2023 draft NECP of Moldova sets a new target for planned minimum share of renewable energy in gross final energy consumption by **2030** at **27%**, which corresponds to the target set by the 2022 Energy Community Ministerial Council Decision.

Graph 8: **Renewable energy mix**



(1) In % of gross final consumption of energy.
Source: Eurostat

Enlargement

- Moldova 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 Moldova. The first Inter-Governmental Conference on accession negotiations with Moldova took place in **June 2024** marking the formal start of the accession negotiations.
- As regards the green agenda and sustainable connectivity[2] (cluster 4), Moldova is at an early stage of preparation in **environment and climate change** (chapter 27), it has some level of preparation in **transport** (chapter 14), and **trans-European networks** (chapter 21) and is between some to moderate level of preparedness in **energy** (chapter 15)[3].

Energy partnerships

- Moldova 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, EU macro-regional Strategy for the Danube Region** (EUSDR).
- Moldova is also a member of the **Energy Charter**, **IRENA** and **IAEA**.
- The EU cooperates with Moldova in the framework of the **European Neighbourhood Policy** and its eastern regional dimension, the **Eastern Partnership**, with the objective to bring Moldova closer to the EU. It is also a beneficiary of the **EU4Energy project.**

National Energy and Climate Plan (NECP)

- Moldova submitted its draft National Energy and Climate Plan (NECP) to the Energy Community Secretariat for its review in December 2023. The Secretariat assessed the draft Plan and issued its Recommendations in April 2024.
- The Energy Community Contracting Parties were due to adopt their final NECPs by 30 June 2024 taking into consideration Recommendations from the Energy Community Secretariat.

[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), Moldova 2023 Report, SWD(2023) 698 final