Republic of Moldova

IRENA
International Renewable Energy Agency

COUNTRY INDICATORS AND SDGS

GDP per capita — **8.1.1 Real GDP growth rate**

7.3.1 Energy intensity

7.1.1 Access to electricity (% population)
7.1.2 Access to clean cooking (% population)
7.2.1 Renewable energy (% TFEC)

7.a.1 Public flows to renewables

7.b.1 Per capita renewable capacity

11.6.2 Air particulate matter (PM$_{2.5}$)

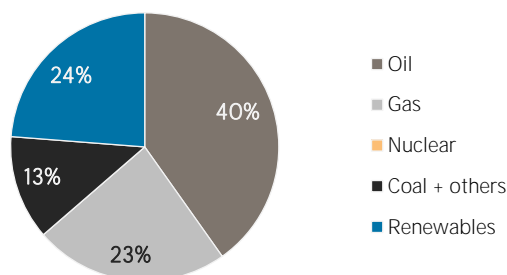Urban — Average — Rural — WHO safe
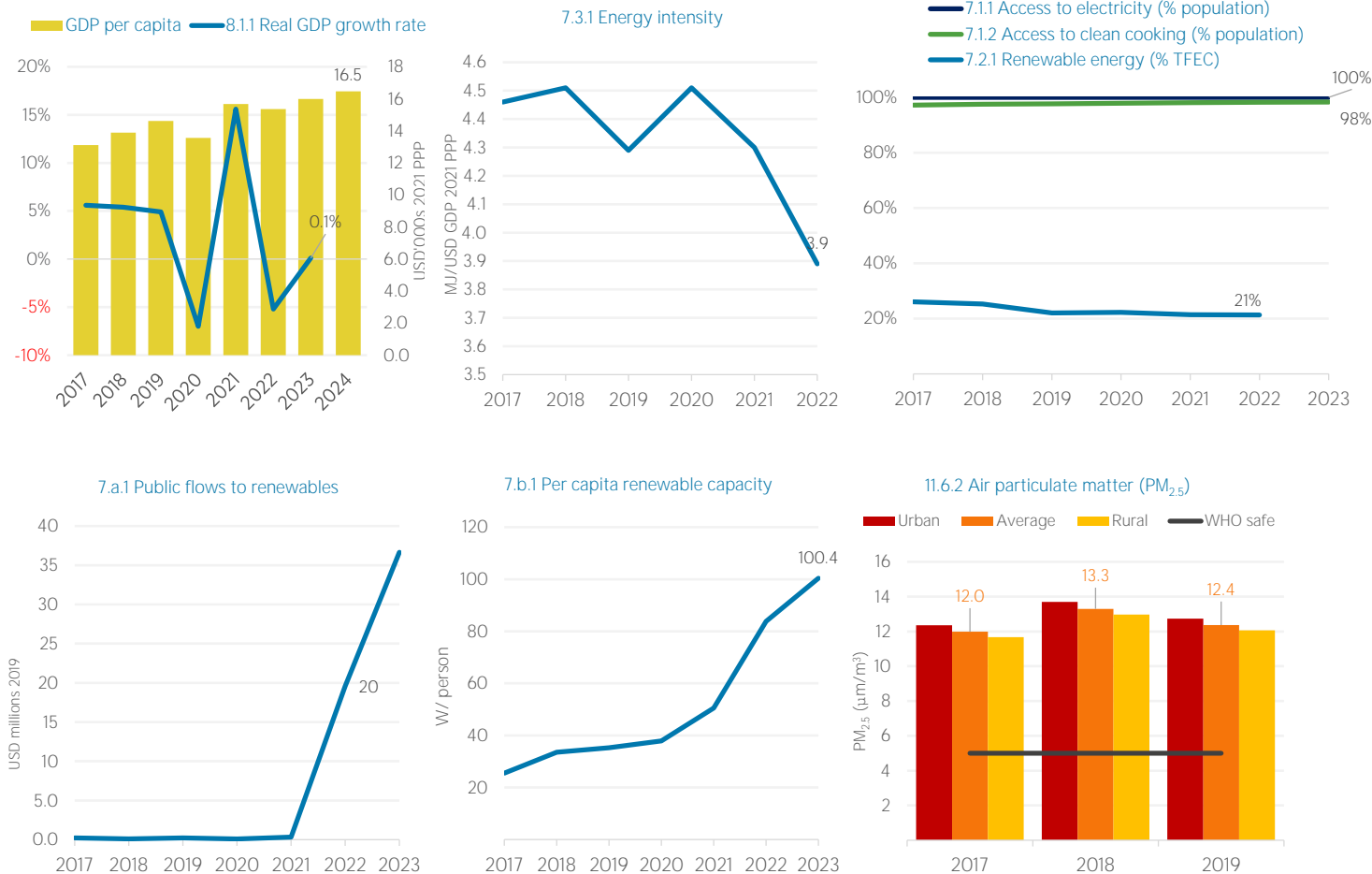
TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2017	2022
Non-renewable (TJ)	84 949	85 619
Renewable (TJ)	33 904	26 698
Total (TJ)	118 852	112 316
Renewable share (%)	29	24

Growth in TES	2017-22	2021-22
Non-renewable (%)	+0.8	-10.7
Renewable (%)	-21.3	-9.9
Total (%)	-5.5	-10.5

Primary energy trade	2017	2022
Imports (TJ)	89 510	99 969
Exports (TJ)	1 469	8 282
Net trade (TJ)	- 88 041	- 91 687
Imports (% of supply)	75	89
Exports (% of production)	4	36
Energy self-sufficiency (%)	28	21

Total energy supply in 2022

- Oil
- Gas
- Nuclear
- Coal + others
- Renewables

Renewable energy supply in 2022

- Hydro/marine
- Wind
- Solar
- Bioenergy
- Geothermal
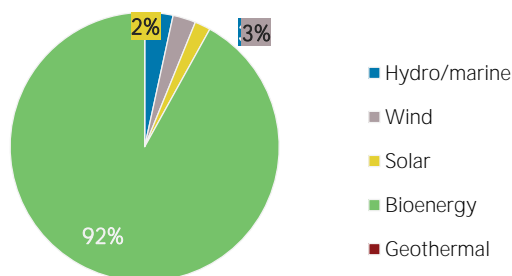
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend

Legend: ■ Electricity ■ Commercial heat ■ Bioenergy

Petajoules (PJ)

Values shown: 33 (2017), 35 (2018), 29 (2019), 30 (2020), 29 (2021), 26 (2022)
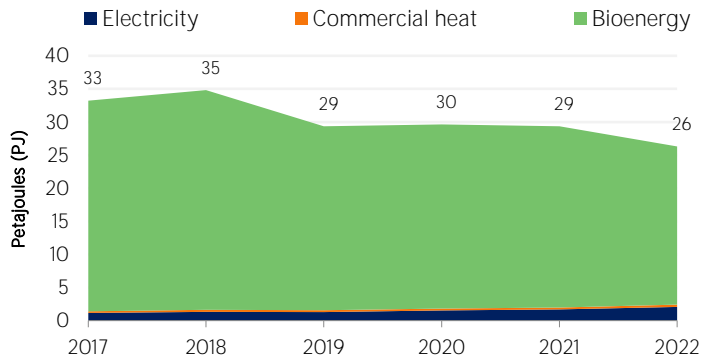
Consumption by sector	2017	2022
Industry (TJ)	332	579
Transport (TJ)	26	24
Households (TJ)	30 521	21 501
Other (TJ)	2 339	4 198

Renewable energy consumption in 2022

Legend: ■ Geothermal ■ Solar direct

Pie chart (top): 8%, 1%, 91%

Pie chart (bottom): 2%, 0%, 16%, 82%

Legend: ■ Industry ■ Transport ■ Households ■ Other
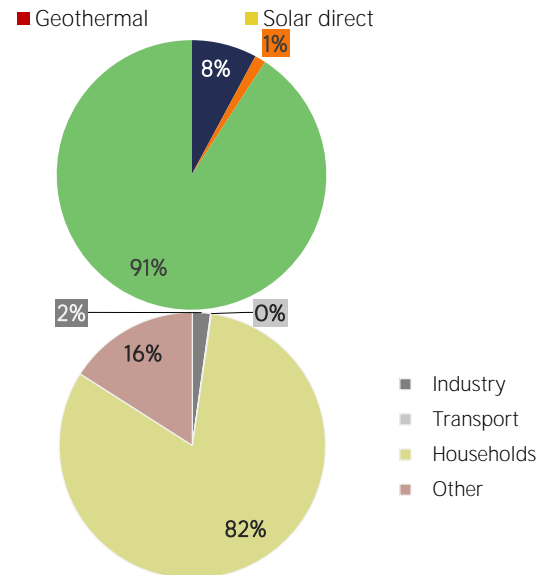
ELECTRICITY CAPACITY

Installed capacity trend

Legend: ■ Fossil fuels ■ Nuclear ■ Other Non-RE ■ Hydro/marine ■ Wind ■ Solar ■ Bioenergy ■ Geothermal — Renewable share

Gigawatts (GW) / Renewable share (%)

Values shown: 3.0 (2017), 3.0 (2018), 3.1 (2019), 3.1 (2020), 3.1 (2021), 3.2 (2022), 3.4 (2023), 3.5 (2024), 15%

Net capacity change in 2024 (MW)

Non-renewable	0	Hydro and marine	0
Solar	+ 143	Wind	- 19
Bioenergy	- 9	Geothermal	0
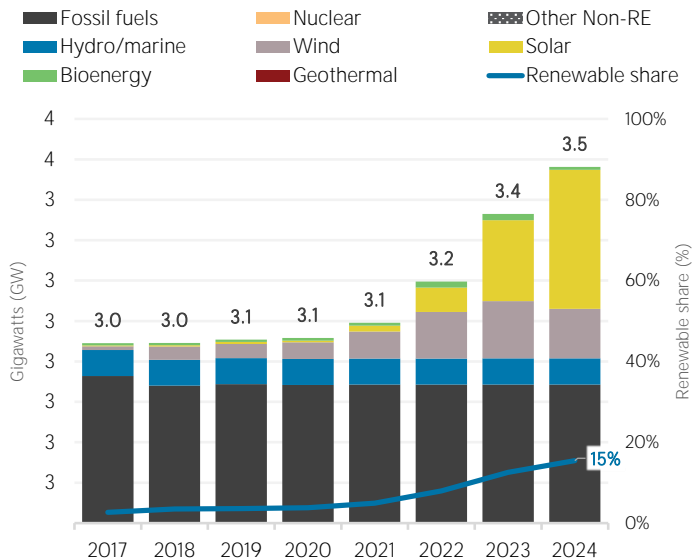
Renewable capacity in 2024

Pie chart: 12%, 64%, 23%, 1%

Legend: ■ Hydro/marine ■ Solar ■ Wind ■ Bioenergy ■ Geothermal

Net capacity change (GW)

Legend: ■ Fossil fuels ■ Renewable

Values shown:
2019: 0.0, 0.0
2020: 0.0
2021: 0.0, 0.0
2022: 0.0, 0.1
2023: 0.0, 0.2
2024: 0.0, 0.1
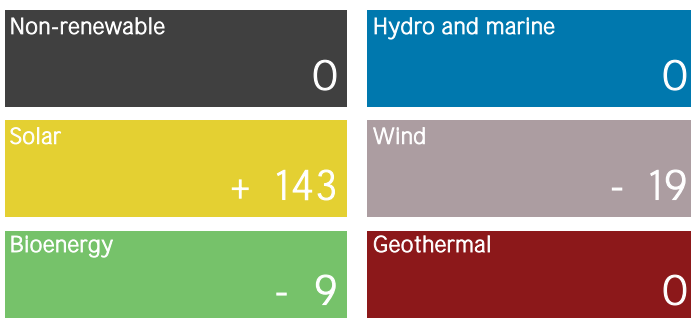
Capacity utilisation in 2023 (%)

Fossil fuels	15%
Nuclear	
Hydro/Marine	42%
Solar	12%
Wind	17%
Bioenergy	10%
Geothermal	
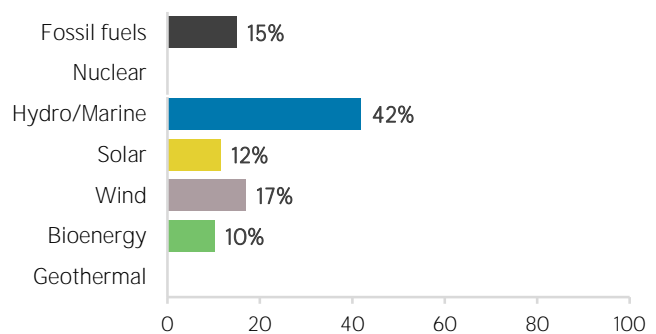
ELECTRICITY GENERATION

Generation in 2023	GWh	%
Non-renewable	3 883	87
Renewable	574	13
Hydro and marine	237	5
Solar	132	3
Wind	191	4
Bioenergy	14	0
Geothermal	0	0
Total	4 457	100

Per capita electricity generation (kWh)
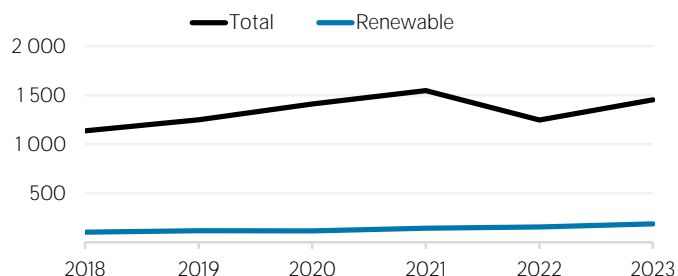
Electricity generation trend
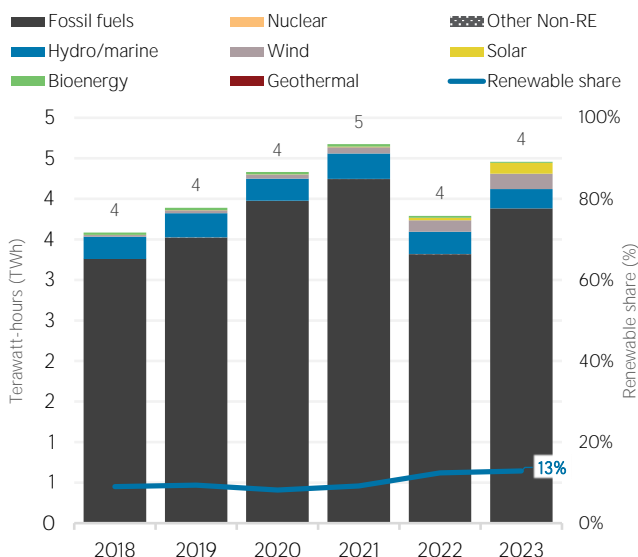

LATEST POLICIES, PROGRAMMES AND LEGISLATION

1 Revised/Updated NDC of Republic of Moldova — **2021**

2 Energy auditors and Energy audit — **2020**

3 Program for the renovation of buildings owned and occupied by central governmental authorities for the period 2020-2022 — **2020**

4 Energy Efficiency Law — **2018**

5 Law no. 139 on Energy Efficiency — **2018**

ENERGY AND EMISSIONS
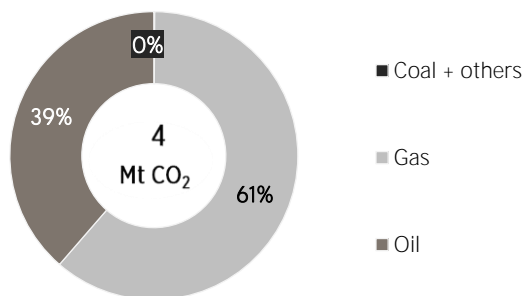
CO_2 emissions by sector

Elec. & heat generation CO_2 emissions in
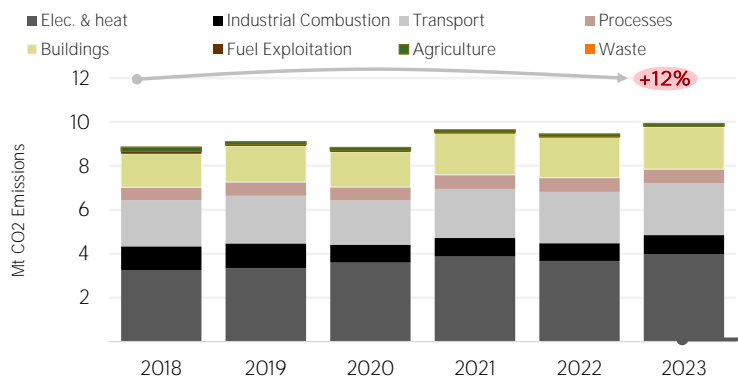
Avoided emissions from renewable elec. & heat
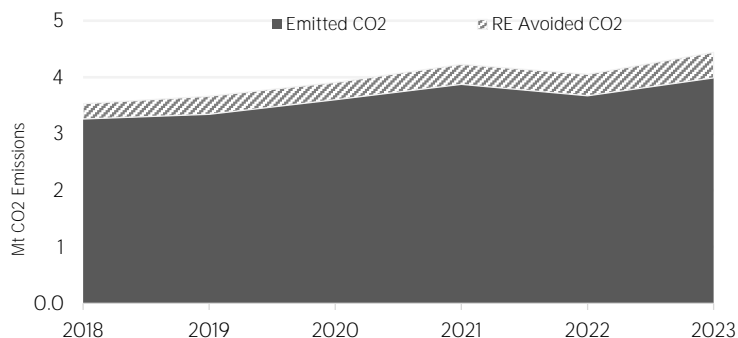
Avoided emissions based on fossil fuel mix used for power
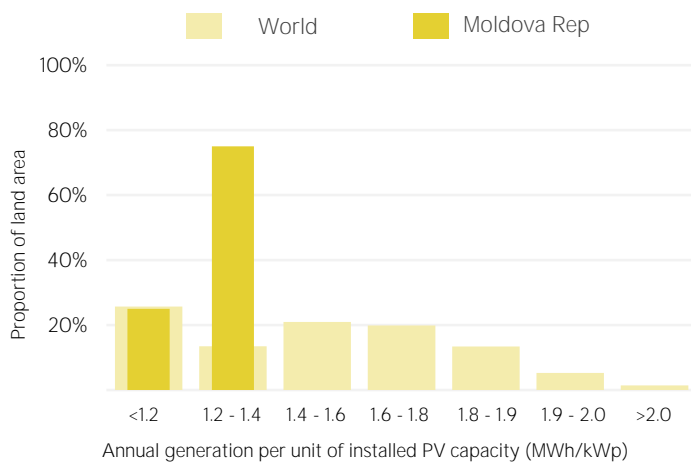
CO_2 emission factor for elec. & heat generation
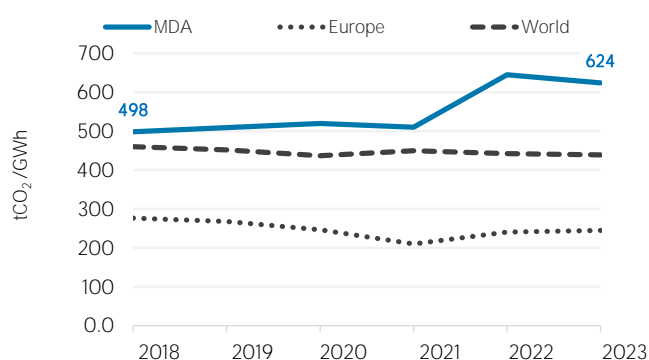
Calculated by dividing power sector emissions by elec. + heat gen.

Distribution of solar potential
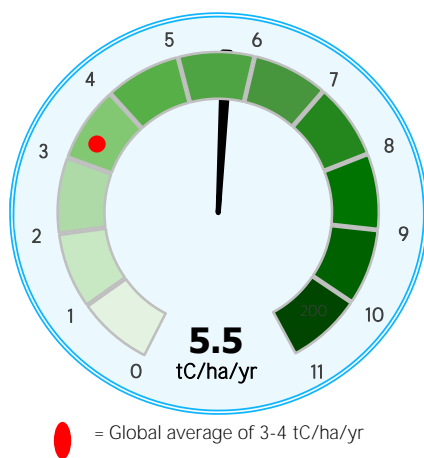
World   Moldova Rep

Proportion of land area

100%
80%
60%
40%
20%

<1.2   1.2 - 1.4   1.4 - 1.6   1.6 - 1.8   1.8 - 1.9   1.9 - 2.0   >2.0

Annual generation per unit of installed PV capacity (MWh/kWp)

Distribution of wind potential

World   Moldova Rep

Proportion of land area

100%
80%
60%
40%
20%
0%

<260   260-420   420-560   560-670   670-820   820-1060   >1060

Wind power density at 100m height (W/m^2)
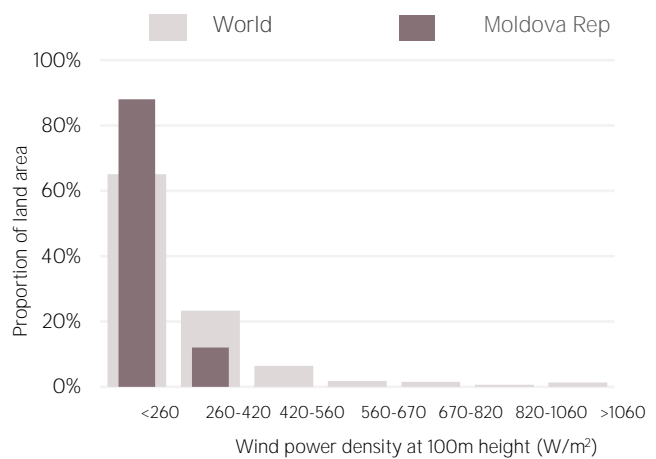
Biomass potential: net primary production

5.5
tC/ha/yr

= Global average of 3-4 tC/ha/yr

Indicators of renewable resource potential

Solar PV: Solar resource potential has been divided into seven classes, each representing a range of annual PV output per unit of capacity (kWh/kWp/yr). The bar chart shows the proportion of a country's land area in each of these classes and the global distribution of land area across the classes (for comparison).

Onshore wind: Potential wind power density (W/m^2) is shown in the seven classes used by NREL, measured at a height of 100m. The bar chart shows the distribution of the country's land area in each of these classes compared to the global distribution of wind resources. Areas in the third class or above are considered to be a good wind resource.

Biomass: Net primary production (NPP) is the amount of carbon fixed by plants and accumulated as biomass each year. It is a basic measure of biomass productivity. The chart shows the average NPP in the country (tC/ha/yr), compared to the global average NPP of 3-4 tonnes of carbon

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