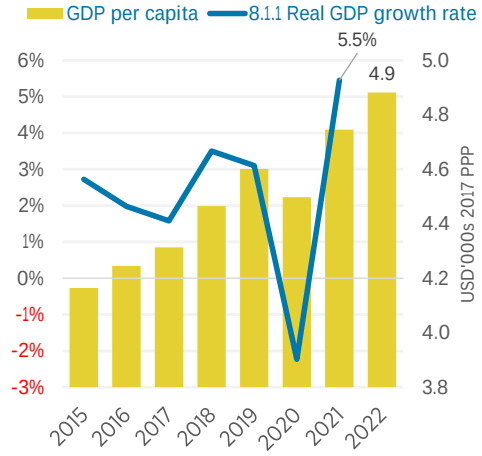
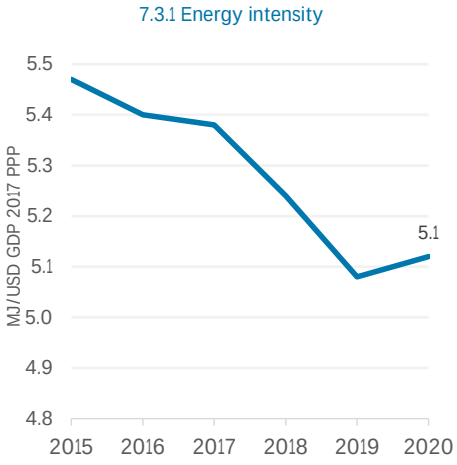
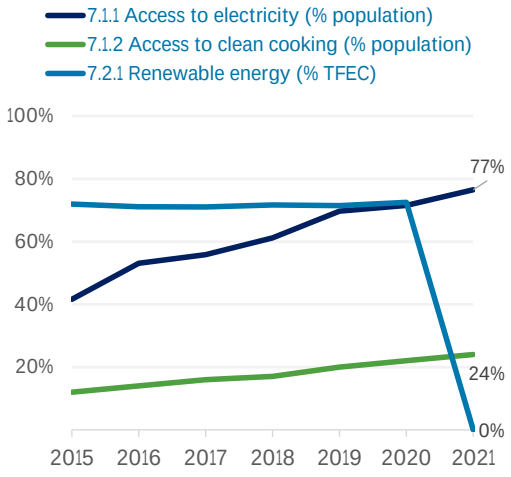
ENERGY PROFILE

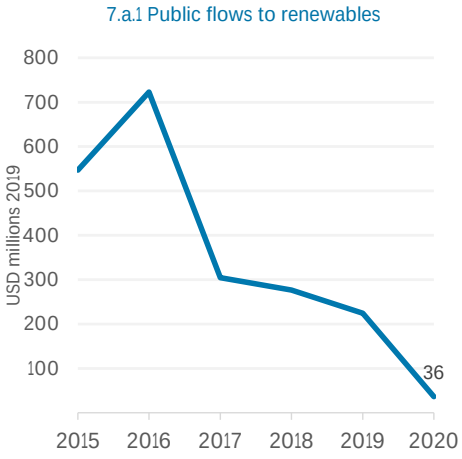
Kenya

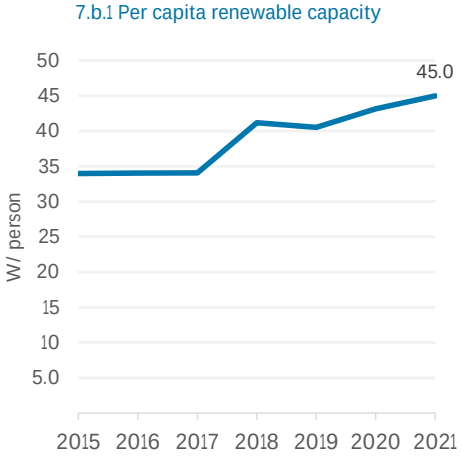
COUNTRY INDICATORS AND SDGS

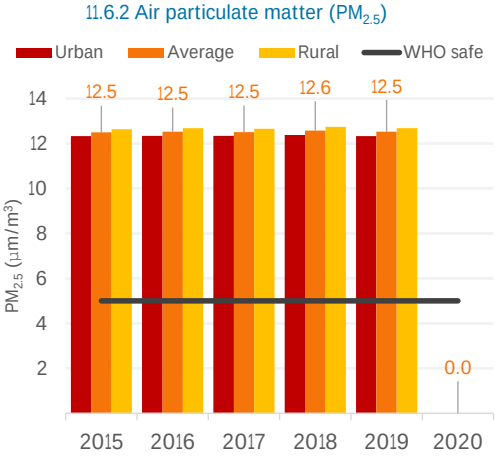












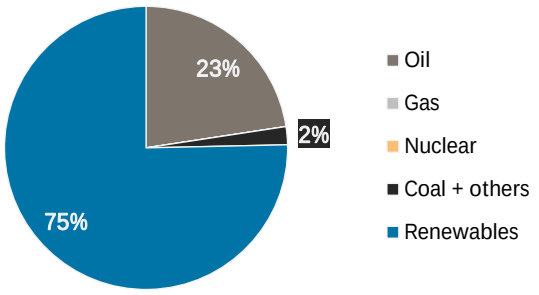
TOTAL ENERGY SUPPLY (TES)

Total Energy Supply (TES)	2015	2020
Non-renewable (TJ)	191 826	254 232
Renewable (TJ)	767 522	777 194
Total (TJ)	959 349	1 031 426
Renewable share (%)	80	75

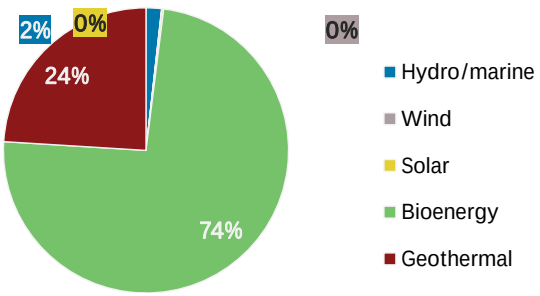
Growth in TES	2015-20	2019-20
Non-renewable (%)	+32.5	+8.3
Renewable (%)	+1.3	+0.2
Total (%)	+7.5	+2.1

Primary energy trade	2015	2020
Imports (TJ)	433 972	273 416
Exports (TJ)	228 691	1 244
Net trade (TJ)	- 205 281	- 272 172
Imports (% of supply)	45	27
Exports (% of production)	30	0
Energy self-sufficiency (%)	80	75

Total energy supply in 2020

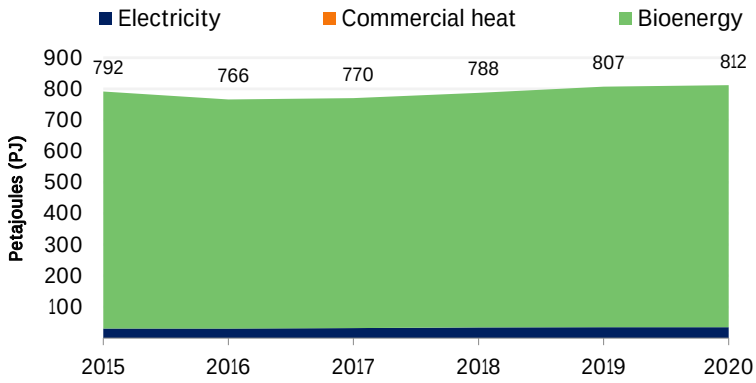


Renewable energy supply in 2020



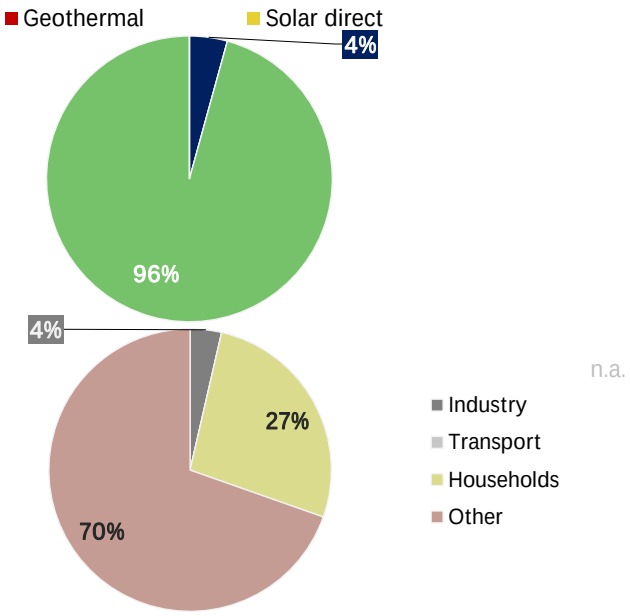
RENEWABLE ENERGY CONSUMPTION (TFEC)

Renewable TFEC trend



Consumption by sector	2015	2020
Industry (TJ)	32 846	29 156
Transport (TJ)	0	0
Households (TJ)	286 802	217 608
Other (TJ)	472 044	565 318

Renewable energy consumption in 2020



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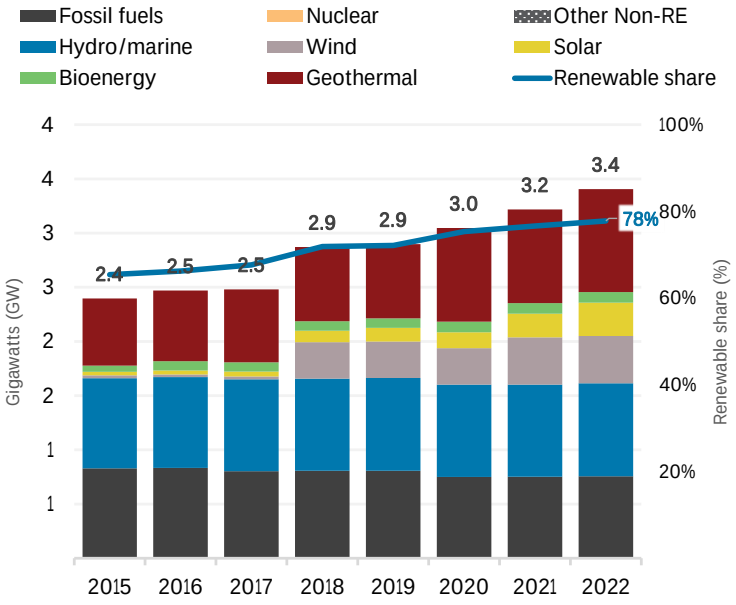
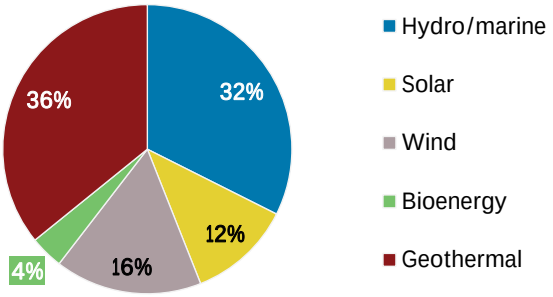
ELECTRICITY CAPACITY

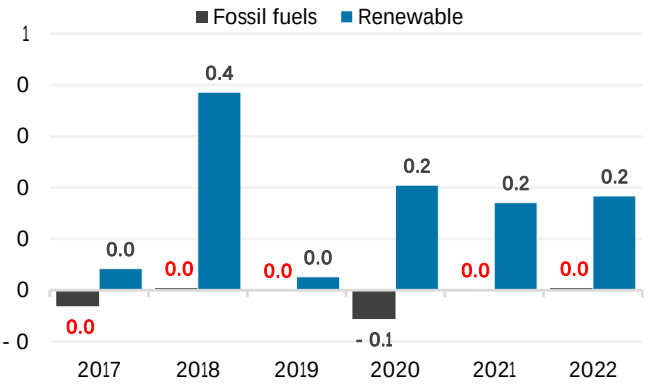
Installed capacity trend



Renewable capacity in 2022



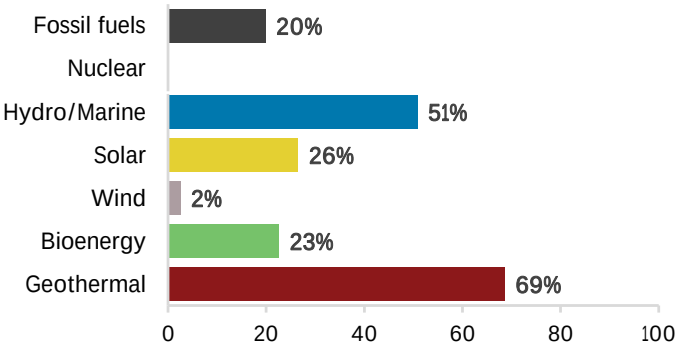
Net capacity change (GW)



Net capacity change in 2022 (MW)

Non-renewable: + 4	Hydro and marine: + 8
Solar: + 90	Wind: 0
Bioenergy: 0	Geothermal: + 86

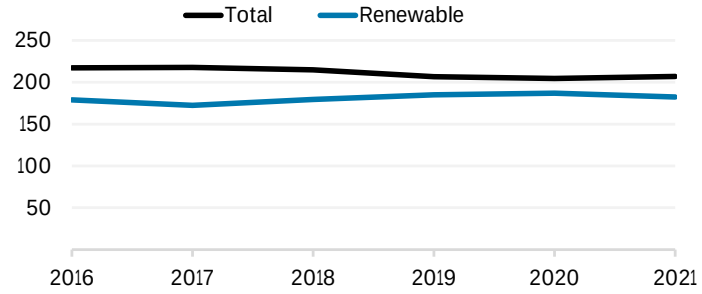
Capacity utilisation in 2021 (%)



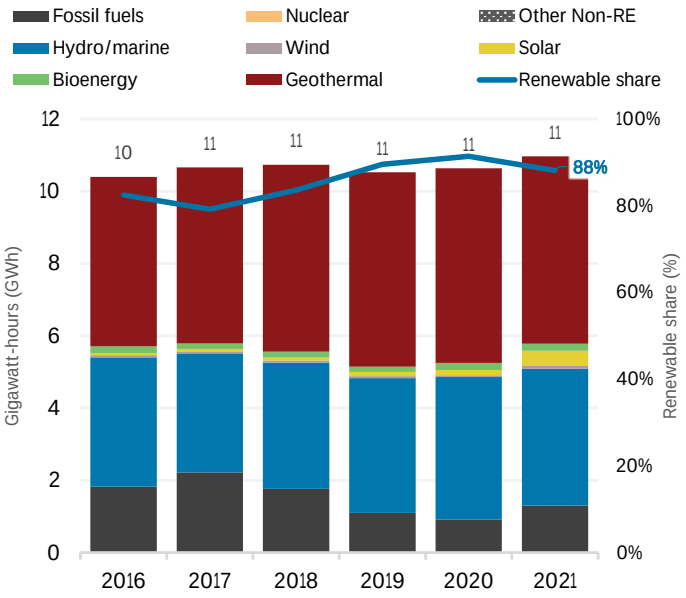
ELECTRICITY GENERATION

Generation in 2021	GWh	%
Non-renewable	**1 301**	**12**
Renewable	**9 663**	**88**
Hydro and marine	3 781	34
Solar	422	4
Wind	83	1
Bioenergy	195	2
Geothermal	5 183	47
Total	**10 965**	**100**

Per capita electricity generation (kWh)



Electricity generation trend

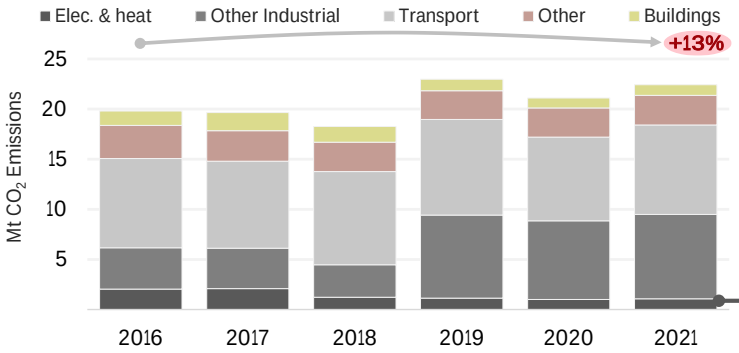


LATEST POLICIES, PROGRAMMES AND LEGISLATION

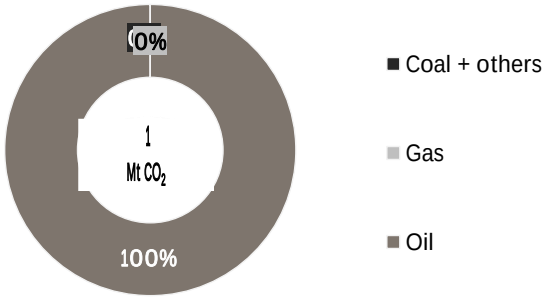
1	2022 & 2023 fuel subsidy scheme- Petroleum Development Levy Fund.	2022
2	2022 Reduction of electricity tariffs	2022
3	Cooking gas consumer support	2022
4	KS 2463 Non-ducted air conditioners - Testing and rating performance	2019
5	National Energy Policy	2018

ENERGY AND EMISSIONS

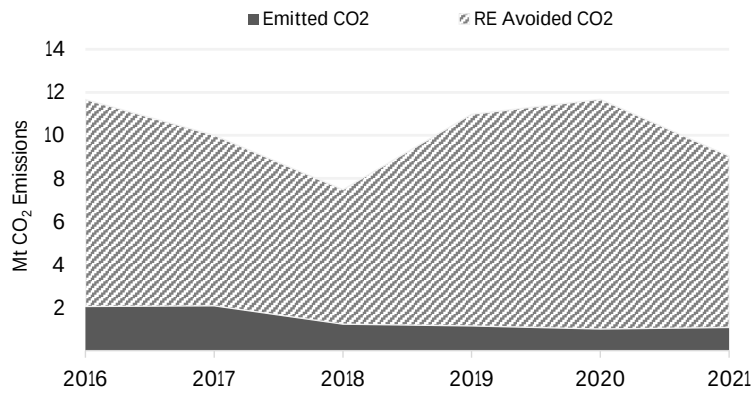
Energy-related CO_2 emissions by sector



Elec. & heat generation CO_2 emissions in

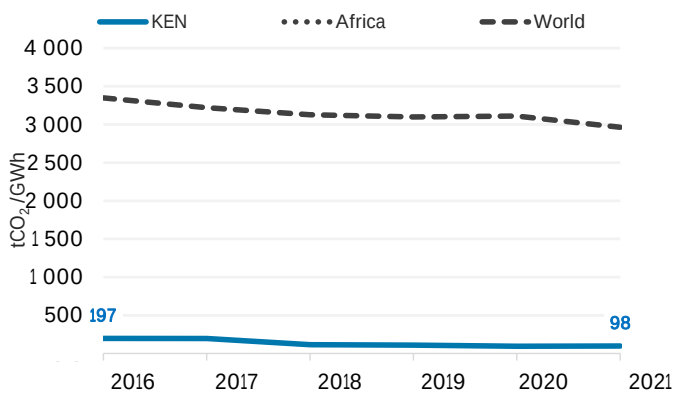


Avoided emissions from renewable elec. & heat



Avoided emissions based on fossil fuel mix used for power

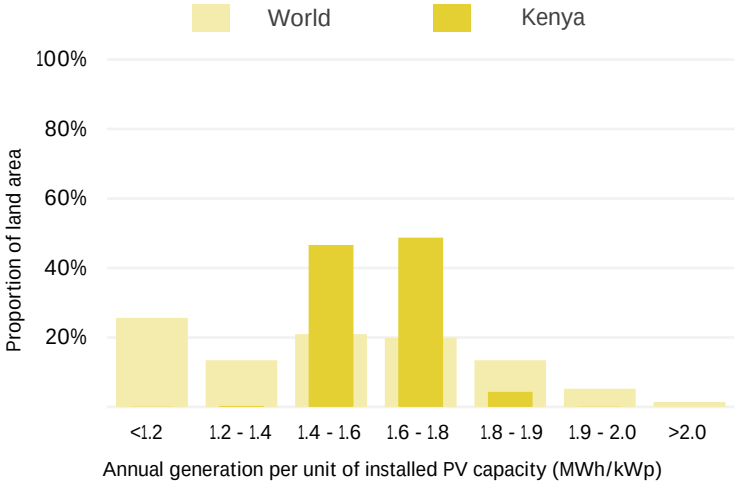
CO_2 emission factor for elec. & heat generation



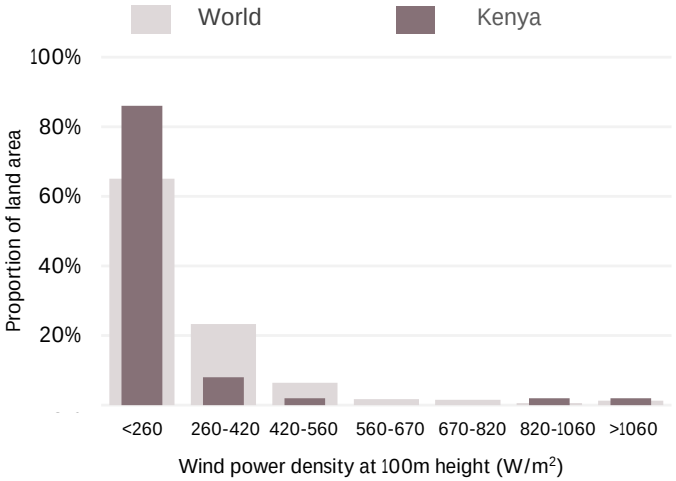
Calculated by dividing power sector emissions by elec. + heat gen.

RENEWABLE RESOURCE POTENTIAL

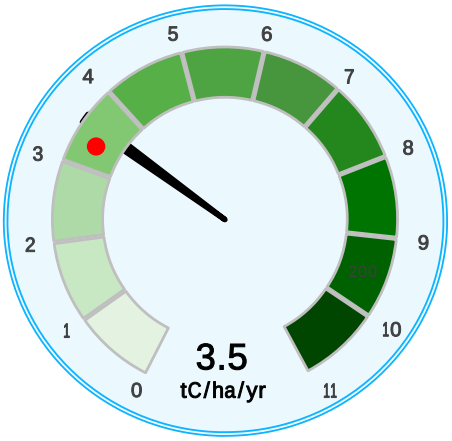
Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



= 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/m²) 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

Sources: IRENA statistics, plus data from the following sources: UN SDG Database (original sources: WHO; World Bank; IEA; IRENA; and UNSD); UN World Population Prospects; UNSD Energy Balances; UN COMTRADE; World Bank World Development Indicators; EDGAR; REN21 Global Status Report; IEA-IRENA Joint Policies and Measures Database; IRENA Global Atlas; and World Bank Global Solar Atlas and Global Wind Atlas.

Additional notes: Capacity per capita and public investments SDGs only apply to developing areas. Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. Energy trade includes all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation is calculated as annual generation divided by year-end capacity x 8,760h/year. Avoided emissions from renewable power is calculated as renewable generation divided by fossil fuel generation multiplied by reported emissions from the power sector. This assumes that, if renewable power did not exist, fossil fuels would be used in its place to generate the same amount of power and using the same mix of fossil fuels. In countries and years where no fossil fuel generation occurs, an average fossil fuel emission factor has been used to calculate the avoided emissions.

These profiles have been produced to provide an overview of developments in renewable energy in different countries and areas. The IRENA statistics team would welcome comments and feedback on its structure and content, which can be sent to statistics@irena.org.

Last updated on: 8th August, 2023

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