STATISTICAL PROFILE

Hungary

Sustainable Development Goal 7.2: Energy Indicators (2016)

Renewable energy (% of TFEC)	15.1	Access to electricity (% of population)	100.0
Energy efficiency (MJ per $1 of GDP)	4.3	Access to clean cooking (% of population)	>95

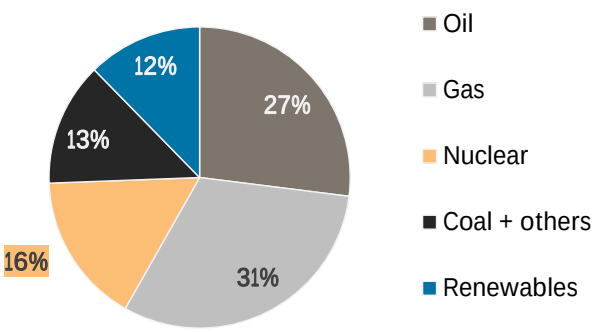
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	968 017	943 729
Renewable (TJ)	123 362	132 653
Total (TJ)	1 091 379	1 076 381
Renewable share (%)	11	12

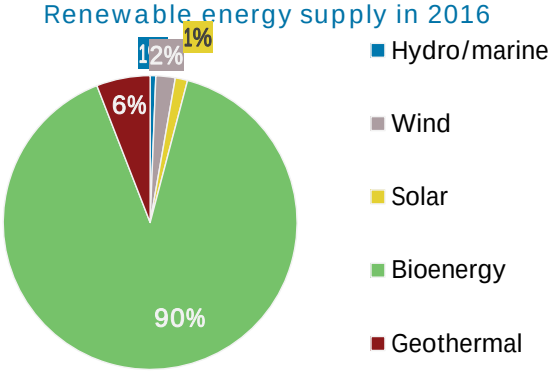
Growth in TPES	2011-16	2015-16
Non-renewable (%)	-2.5	+2.0
Renewable (%)	+7.5	-0.1
Total (%)	-1.4	+1.8

Primary energy trade	2011	2016
Imports (TJ)	739 203	817 666
Exports (TJ)	186 042	213 455
Net trade (TJ)	- 553 161	- 604 211
Imports (% of supply)	68	76
Exports (% of production)	38	45
Energy self-sufficiency (%)	45	45
Net trade (USD million)	- 8 485	- 3 978
Net trade (% of GDP)	-6.0	-3.1

Total primary energy supply in 2016



Renewable energy supply in 2016



RENEWABLE ENERGY CONSUMPTION

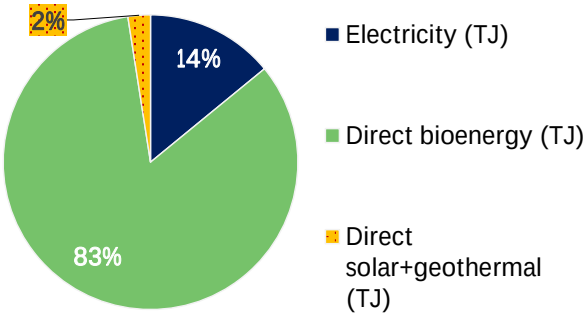
Consumption by source	2011	2016
Electricity (TJ)	9 137	14 772
Direct bioenergy (TJ)	88 249	87 585
Direct solar+geothermal (TJ)	4 352	2 588
Total (TJ)	**101 738**	**104 945**
Electricity share (%)	9	14

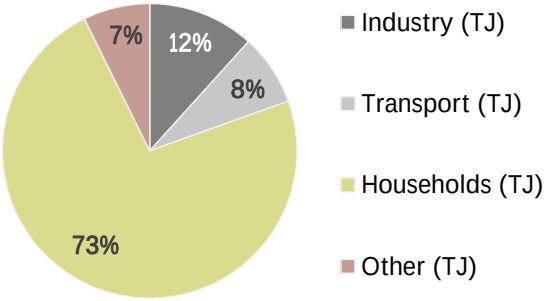
Consumption growth	2011-16	2015-16
Renewable electricity (%)	+61.7	+3.2
Other renewables (%)	-0.5	-0.7
Total (%)	**+5.3**	**-0.2**

Consumption by sector	2011	2016
Industry (TJ)	6 127	12 276
Transport (TJ)	6 883	8 201
Households (TJ)	79 417	76 794
Other (TJ)	9 288	7 669

Renewable share of TFEC	14.7	15.1

Renewable energy consumption in 2016





ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	**7 651**	**83**
Renewable	**1 599**	**17**
Hydro/marine	57	1
Solar	726	8
Wind	329	4
Bioenergy	484	5
Geothermal	3	0
Total	**9 249**	**100**

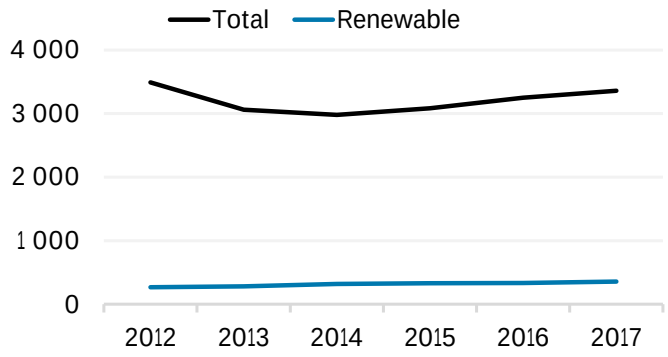
Capacity change (%)	2013-18	2017-18
Non-renewable	**- 0**	**- 0.2**
Renewable	**+ 113**	**+ 33.9**
Hydro/marine	0	0.0
Solar	+ 1 974	+ 111.0
Wind	0	0.0
Bioenergy	+ 47	+ 4.9
Geothermal	0	0.0
Total	**+ 10**	**+ 4.4**

Net capacity change in 2018 (MW)

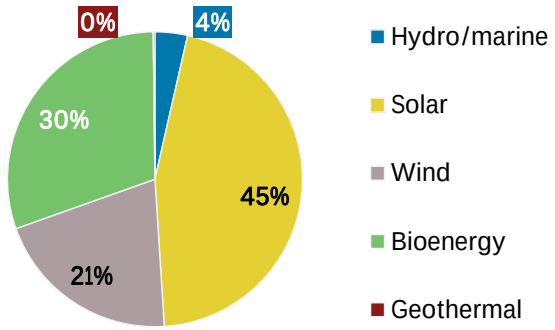
Non-renewable: - 16	Hydro and marine: 0
Solar: + 382	Wind: 0
Bioenergy: + 23	Geothermal: 0

Generation in 2017	GWh	%
Non-renewable	**29 403**	**89**
Renewable	**3 482**	**11**
Hydro and marine	220	1
Solar	349	1
Wind	758	2
Bioenergy	2 154	7
Geothermal	1	0
Total	**32 885**	**100**

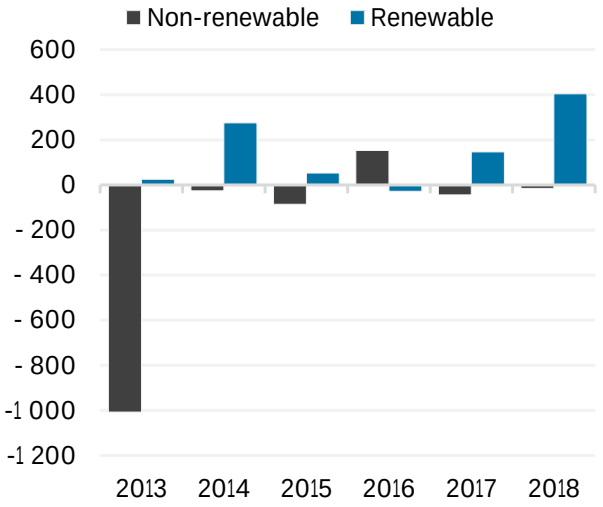
Per capita electricity generation (kWh)



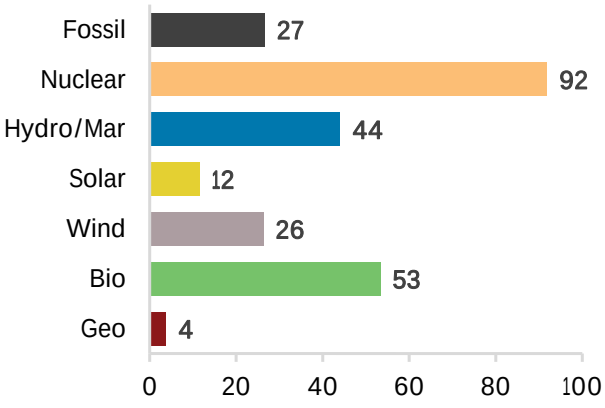
Renewable capacity in 2018



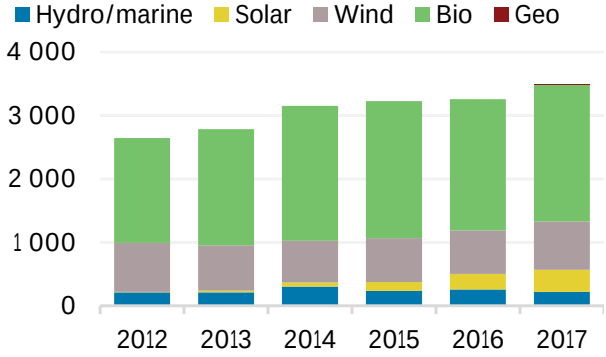
Net capacity change (MW)



Capacity utilisation in 2017 (%)



Renewable generation (GWh)



TARGETS, POLICIES AND MEASURES

Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:	2020	15	%
Renewable electricity:	2020	11	%
Renewable capacity:			
Renewable transport:	2020	10	%
Liquid Biofuel blending mandate:			
Other transport targets:			
Renewable heating/cooling:	2020	19	%
Renewable Hydropower			
Off-grid renewable technologies:			

Energy efficiency (Energy):

Energy efficiency (Electricity):

Latest policies, programmes and legislation

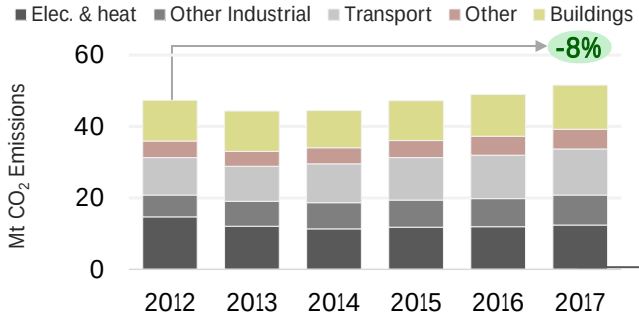
1	Certification of origin from high efficiency cogeneration or renewable energy	2013
2	Environment and Energy Efficiency Operative Programme (KEHOP) 2013	2013
3	2030 Energy Strategy of Hungary	2012
4	National Energy Strategy 2030	2011
5	National Renewable Energy Action Plan (NREAP)	2011

References to sustainable energy in Nationally Determined Contribution (NDC)

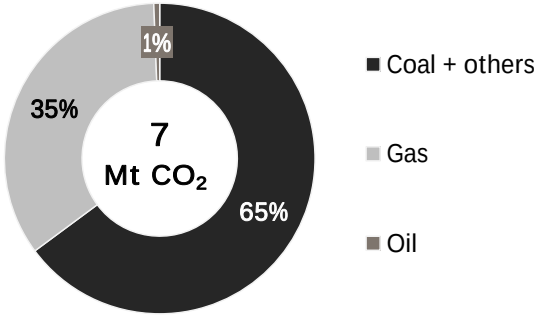
	Conditional	Unconditional	unit
- **Renewable energy**			
- electricity			
- transport			
- heating/cooling			
- Energy efficiency			

ENERGY AND EMISSIONS

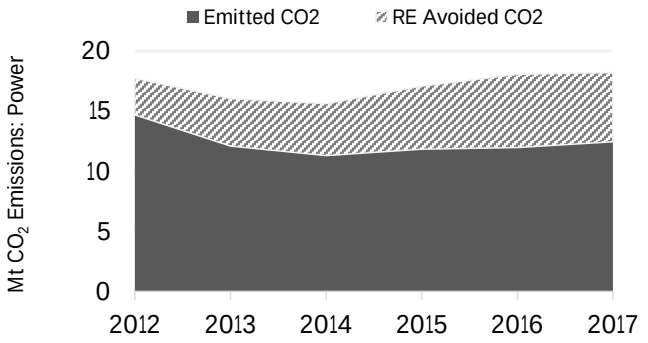
Energy-related CO_2 emissions by sector



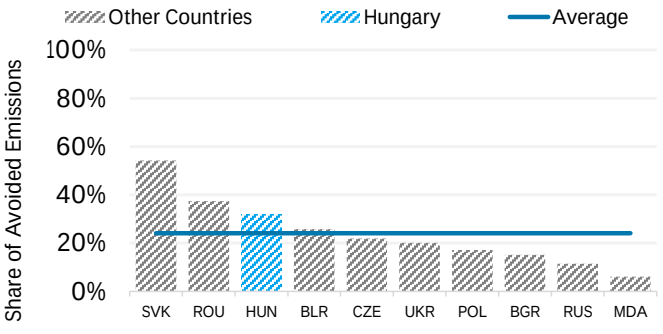
Elec. & heat generation CO_2 emissions in 2017



Avoided emissions from renewable power



Reduction in power emissions due to RE in 2017

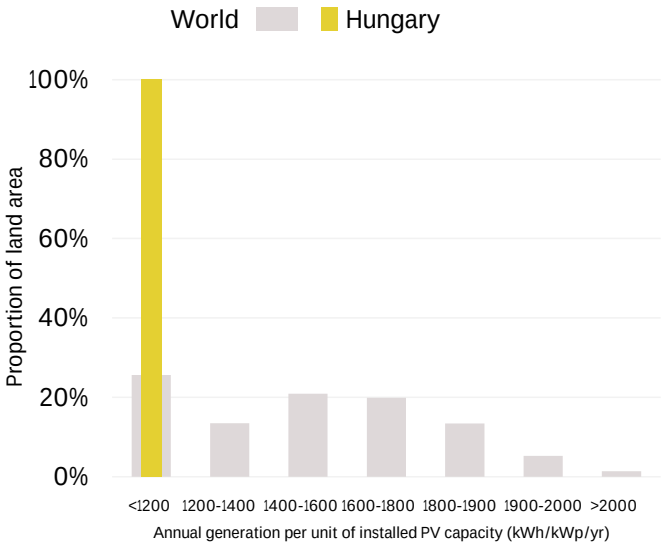


Avoided emissions based on fossil fuel mix used for power

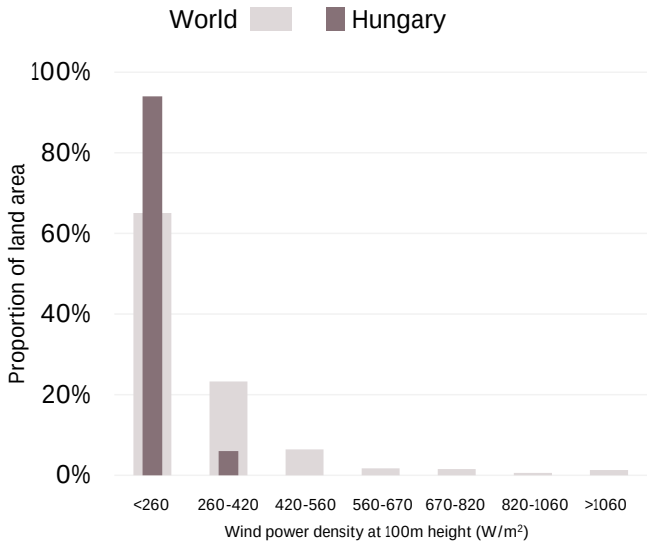
Reduction is RE Avoided divided by sum of avoided and emitted

RENEWABLE RESOURCE POTENTIAL

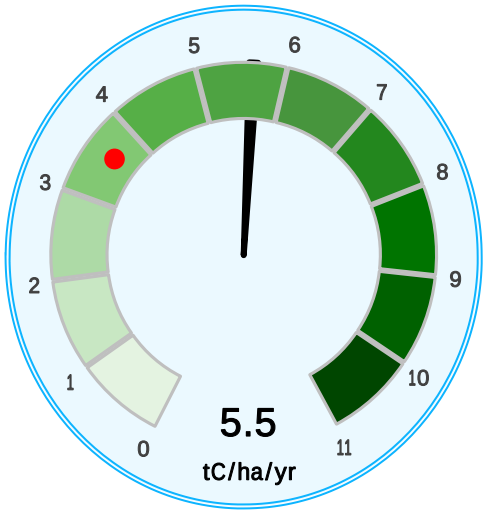
Distribution of solar potential



Distribution of wind potential



Biomass potential: net primary production



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 per year.

Sources: IRENA statistics, plus data from the following sources: UN SDG Indicators Database (original sources: WHO; World Bank; IEA; IRENA; and UNSD); 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: Energy self-sufficiency has been defined as total primary energy production divided by total primary energy supply. The value of energy trade has been defined as including all commodities in Chapter 27 of the Harmonised System (HS). Capacity utilisation has been calculated as annual generation divided by capacity x 8,760. Avoided emissions from renewable power have been calculated as renewable generation divided by fossil fuel generation multiplied by reported emissions from the power secrtor. 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.

This note has been produced to provide policy makers with a brief overview of developments in renewable energy in a country. The IRENA statistics team would welcome comments and feedback on its structure and content, which can be sent to statistics@irena.org.

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