

Austria

Sustainable Development Goal 7.2: Energy Indicators (2016)

Renewable energy (% of TFEC)	34.7	Access to electricity (% of population)	100.0
Energy efficiency (MJ per \$1 of GDP)	3.6	Access to clean cooking (% of population)	>95

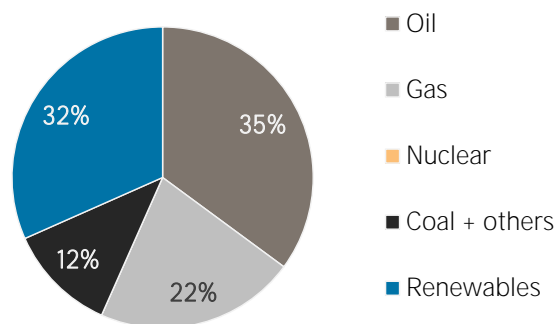
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	993 887	954 159
Renewable (TJ)	419 405	441 494
Total (TJ)	1 413 292	1 395 653
Renewable share (%)	30	32

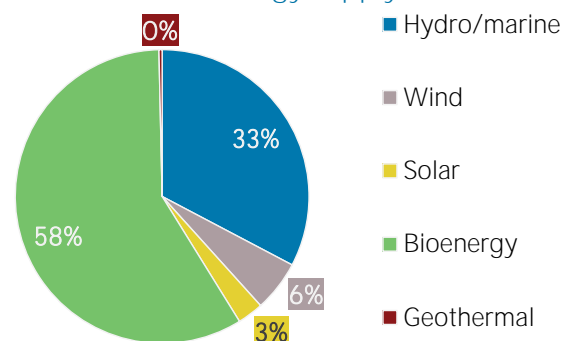
Growth in TPES	2011-16	2015-16
Non-renewable (%)	-4.0	+1.1
Renewable (%)	+5.3	-1.4
Total (%)	-1.2	+0.3

Primary energy trade	2011	2016
Imports (TJ)	1 291 128	1 336 816
Exports (TJ)	296 749	440 975
Net trade (TJ)	- 994 379	- 895 841
Imports (% of supply)	91	96
Exports (% of production)	59	85
Energy self-sufficiency (%)	36	37
Net trade (USD million)	- 16 077	- 7 417
Net trade (% of GDP)	-3.7	-1.9

Total primary energy supply in 2016



Renewable energy supply in 2016



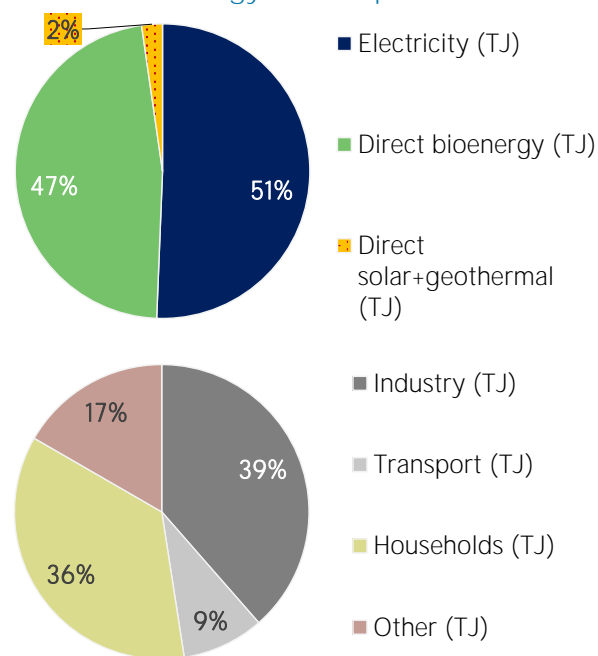
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2011	2016
Electricity (TJ)	178 597	173 353
Direct bioenergy (TJ)	142 285	161 203
Direct solar+geothermal (TJ)	7 030	7 805
Total (TJ)	327 912	342 361
Electricity share (%)	54	51

Consumption growth	2011-16	2015-16
Renewable electricity (%)	-2.9	-4.4
Other renewables (%)	+13.2	+3.4
Total (%)	+4.4	-0.7

Consumption by sector	2011	2016
Industry (TJ)	126 822	132 013
Transport (TJ)	29 768	30 790
Households (TJ)	119 176	122 489
Other (TJ)	52 146	57 069
Renewable share of TFEC	31.0	34.7

Renewable energy consumption in 2016

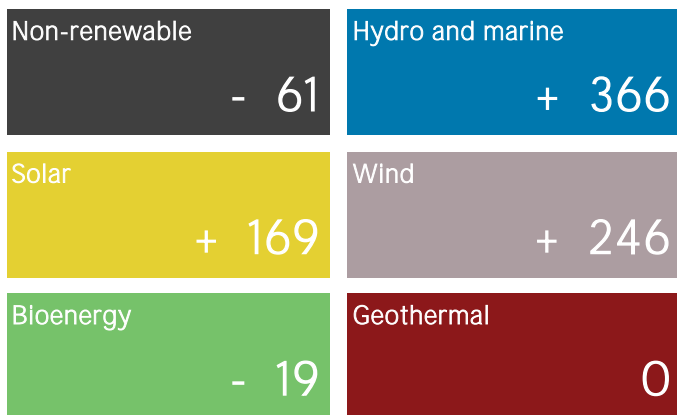


ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	5 262	21
Renewable	20 358	79
Hydro/marine	14 516	57
Solar	1 438	6
Wind	3 133	12
Bioenergy	1 271	5
Geothermal	1	0
Total	25 620	100

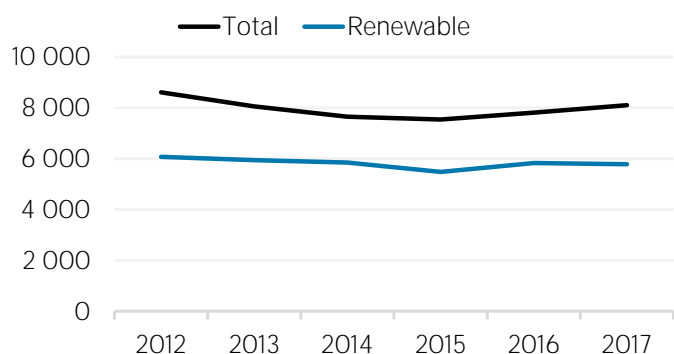
Capacity change (%)	2013-18	2017-18
Non-renewable	- 21	- 1.1
Renewable	+ 18	+ 3.9
Hydro/marine	+ 8	+ 2.6
Solar	+ 130	+ 13.3
Wind	+ 87	+ 8.5
Bioenergy	- 16	- 1.5
Geothermal	0	0.0
Total	+ 7	+ 2.8

Net capacity change in 2018 (MW)

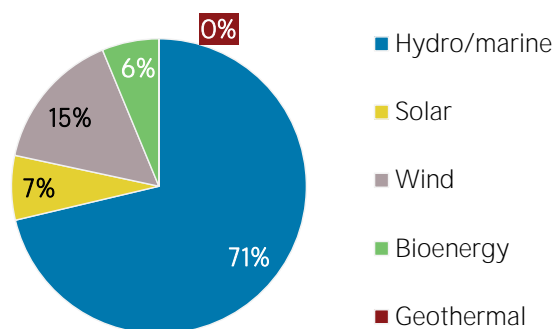


Generation in 2017	GWh	%
Non-renewable	20 470	29
Renewable	50 854	71
Hydro and marine	38 370	54
Solar	1 269	2
Wind	6 574	9
Bioenergy	4 641	7
Geothermal	0	0
Total	71 324	100

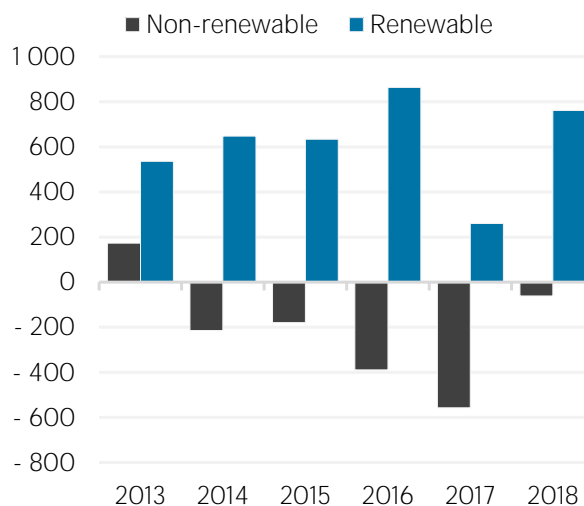
Per capita electricity generation (kWh)



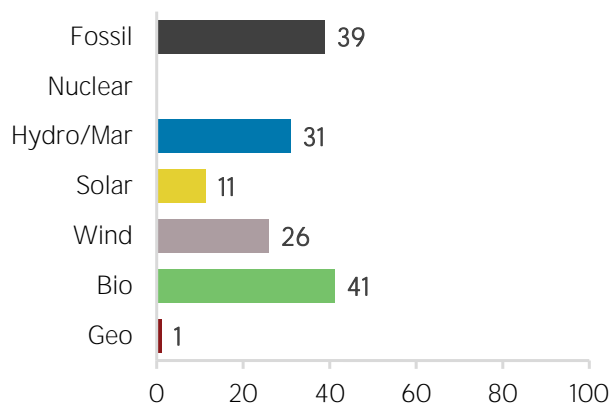
Renewable capacity in 2018



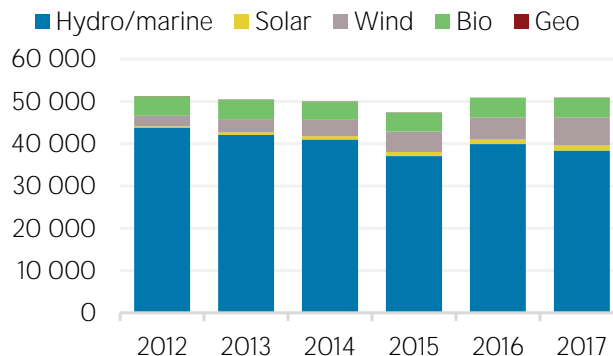
Net capacity change (MW)



Capacity utilisation in 2017 (%)



Renewable generation (GWh)



Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:	2020	34	%
Renewable electricity:	2020	71	%
Renewable capacity:			
Renewable transport:	2020	11	%
Liquid Biofuel blending mandate:			
Other transport targets:			
Renewable heating/cooling:	2020	33	%
Renewable Hydropower			
Off-grid renewable technologies:			

Energy efficiency (Energy):

Energy efficiency (Electricity):

Latest policies, programmes and legislation

- Green book for an integrated energy- and climate strategy 2016
- Green Electricity Act 2012 2012
- Ökostromverordnung (feed-in tariffs) 2012 - ÖSVO 2012 2012
- Klimaschutzgesetz KSG ("law for climate protection") 2011
- Austrian Energy Strategy 2010

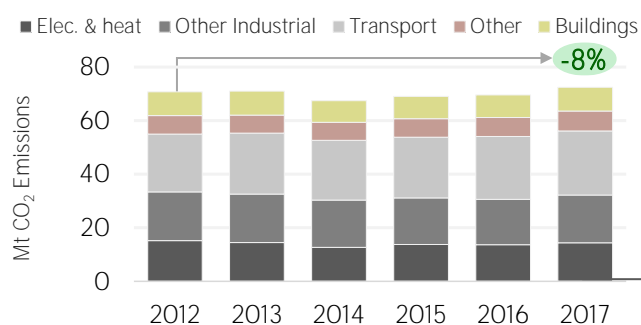
References to sustainable energy in Nationally Determined Contribution (NDC)

- Renewable energy
 - electricity
 - transport
 - heating/cooling
- Energy efficiency

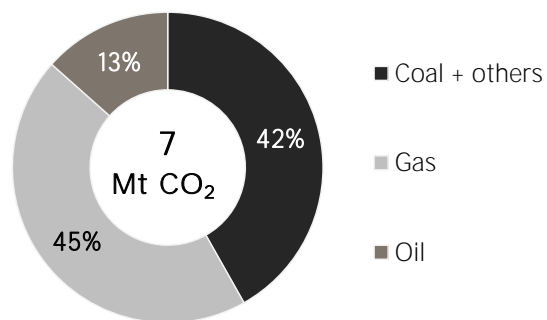
Conditional Unconditional unit

ENERGY AND EMISSIONS

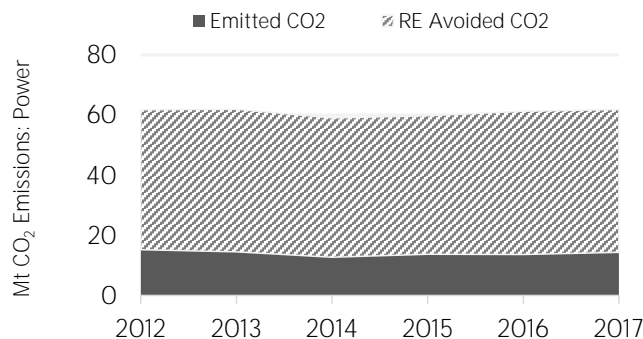
Energy-related CO₂ emissions by sector



Elec. & heat generation CO₂ emissions in 2017

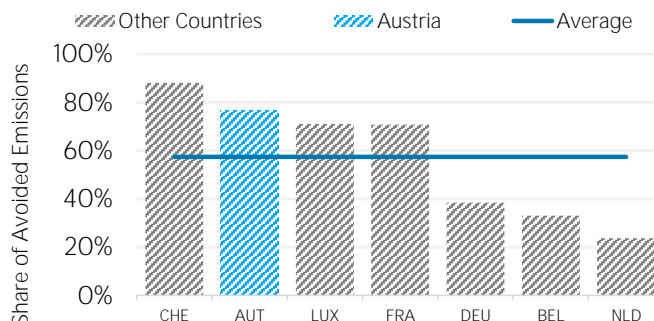


Avoided emissions from renewable power



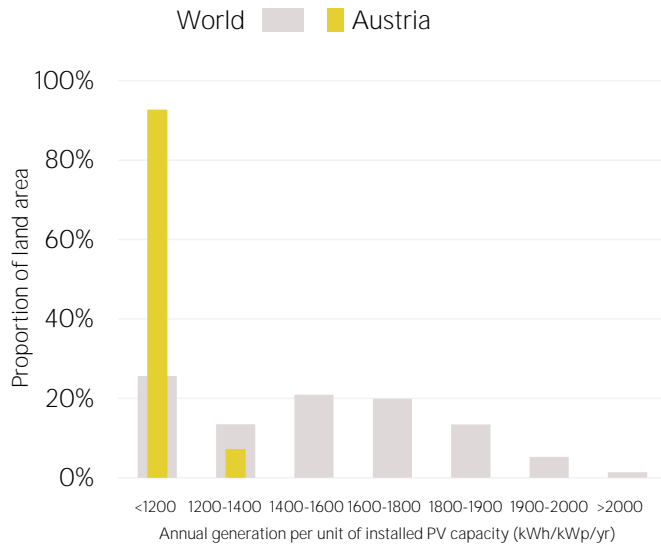
Avoided emissions based on fossil fuel mix used for power

Reduction in power emissions due to RE in 2017

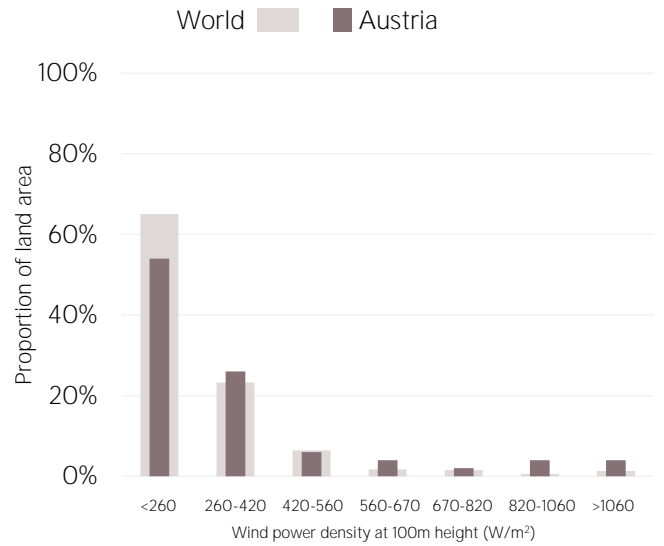


Reduction is RE Avoided divided by sum of avoided and emitted

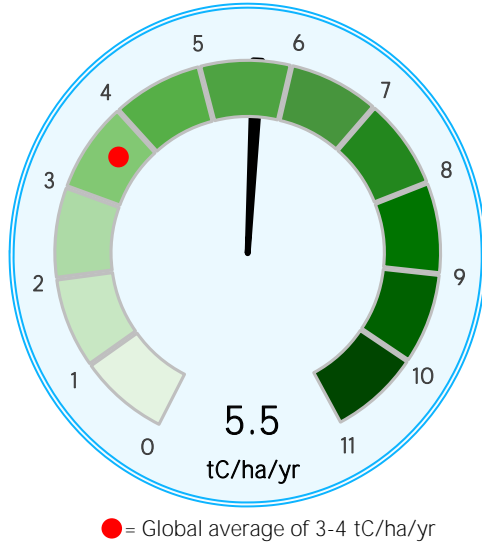
Distribution of solar potential



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 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.

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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