

Nicaragua

Sustainable Development Goal 7.2: Energy Indicators (2016)

Renewable energy (% of TFEC)	46.8	Access to electricity (% of population)	85.2
Energy efficiency (MJ per \$1 of GDP)	5.2	Access to clean cooking (% of population)	52

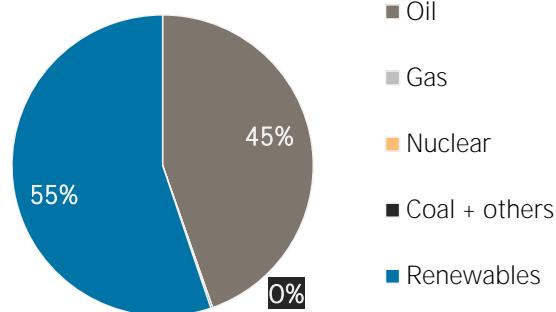
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	63 288	74 668
Renewable (TJ)	75 252	91 967
Total (TJ)	138 540	166 635
Renewable share (%)	54	55

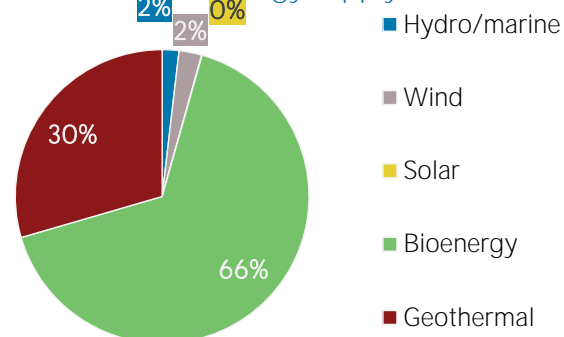
Growth in TPES	2011-16	2015-16
Non-renewable (%)	+18.0	+6.0
Renewable (%)	+22.2	-2.2
Total (%)	+20.3	+1.3

Primary energy trade	2011	2016
Imports (TJ)	68 528	74 419
Exports (TJ)	1 155	788
Net trade (TJ)	- 67 373	- 73 631
Imports (% of supply)	49	45
Exports (% of production)	2	1
Energy self-sufficiency (%)	54	55
Net trade (USD million)	- 1 097	- 606
Net trade (% of GDP)	-11.2	-4.6

Total primary energy supply in 2016



Renewable energy supply in 2016



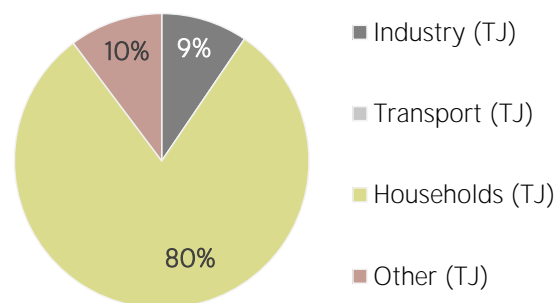
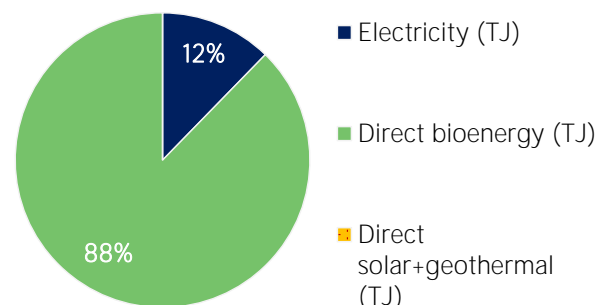
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2011	2016
Electricity (TJ)	4 388	6 084
Direct bioenergy (TJ)	42 164	43 406
Direct solar+geothermal (TJ)	0	0
Total (TJ)	46 552	49 490
Electricity share (%)	9	12

Consumption growth	2011-16	2015-16
Renewable electricity (%)	+38.7	+3.7
Other renewables (%)	+2.9	-0.3
Total (%)	+6.3	+0.2

Consumption by sector	2011	2016
Industry (TJ)	4 081	4 701
Transport (TJ)	0	0
Households (TJ)	38 961	39 714
Other (TJ)	3 510	5 075
Renewable share of TFEC	51.6	46.8

Renewable energy consumption in 2016

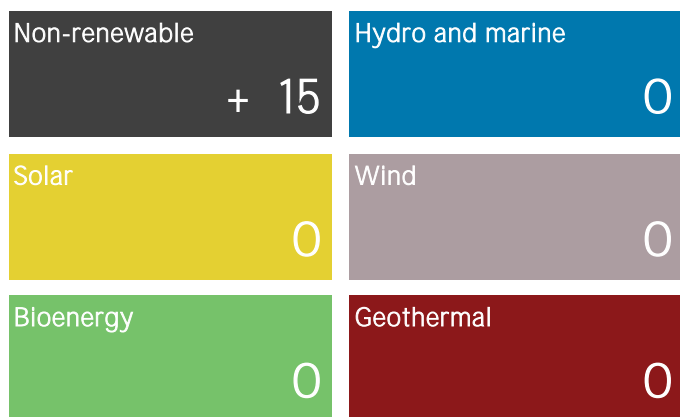


ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	824	55
Renewable	674	45
Hydro/marine	142	10
Solar	14	1
Wind	186	12
Bioenergy	177	12
Geothermal	155	10
Total	1 497	100

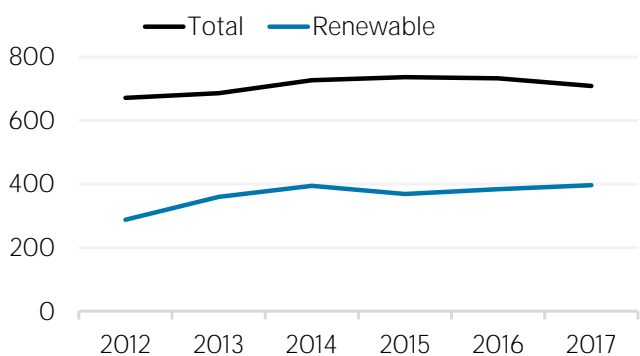
Capacity change (%)	2013-18	2017-18
Non-renewable	+ 12	+ 1.9
Renewable	+ 21	0.0
Hydro/marine	+ 19	0.0
Solar	+ 912	0.0
Wind	+ 27	0.0
Bioenergy	+ 32	0.0
Geothermal	0	0.0
Total	+ 16	+ 1.0

Net capacity change in 2018 (MW)

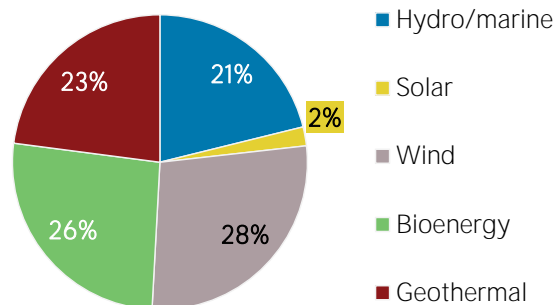


Generation in 2017	GWh	%
Non-renewable	1 994	44
Renewable	2 533	56
Hydro and marine	469	10
Solar	14	0
Wind	635	14
Bioenergy	664	15
Geothermal	751	17
Total	4 527	100

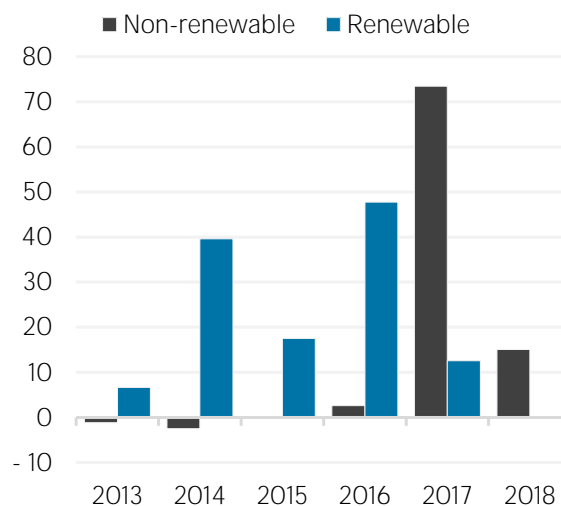
Per capita electricity generation (kWh)



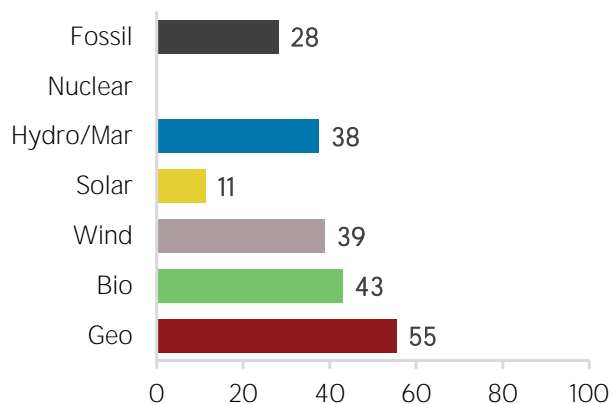
Renewable capacity in 2018



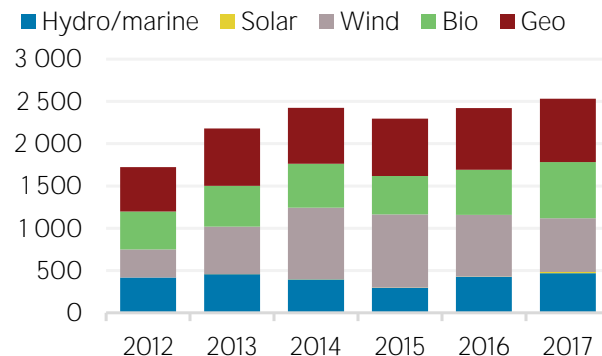
Net capacity change (MW)



Capacity utilisation in 2017 (%)



Renewable generation (GWh)



Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:			
Renewable electricity:	2018	55	%
Renewable capacity:			
Renewable transport:			
Liquid Biofuel blending mandate:			
Other transport targets:			
Renewable heating/cooling:			
Renewable Hydropower			
Off-grid renewable technologies:			
Energy efficiency (Energy):			
Energy efficiency (Electricity):			

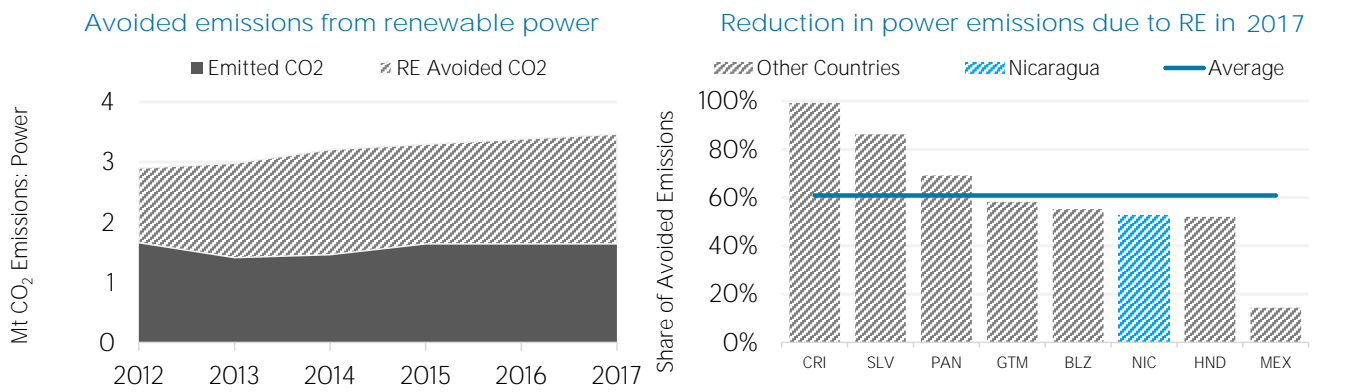
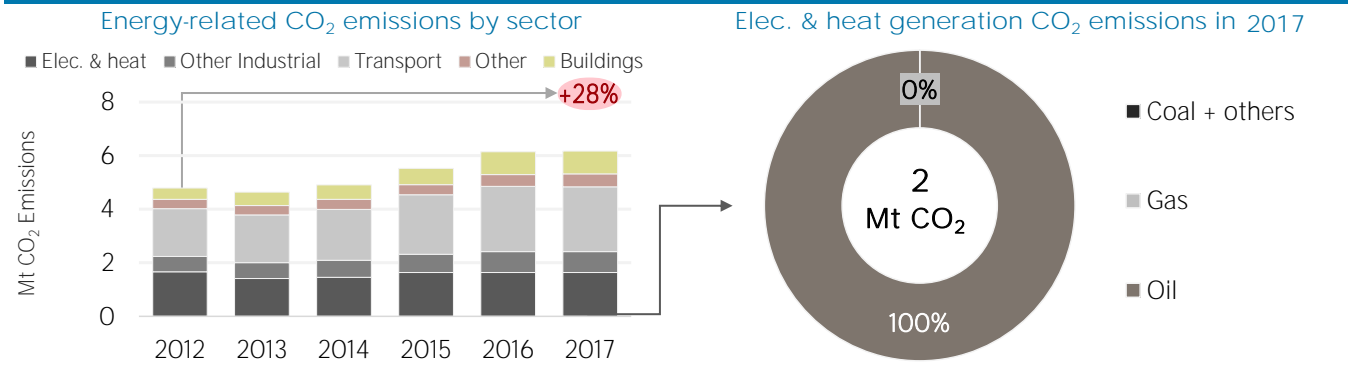
Latest policies, programmes and legislation

1 National Partnership with Global Alliance for Clean Cookstoves	2014
2 Electricity Generation Expansion Plan (2013-2027)	2013
3 Fuelwood and Charcoal National Strategy (2011-2021)	2012
4 National Sustainable Electrification and Renewable Energy Program (PNESER)	2012
5 Special Law for the development of the Hydroelectricity Tumarín Project (Law 695)	2009

References to sustainable energy in Nationally Determined Contribution (NDC)

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

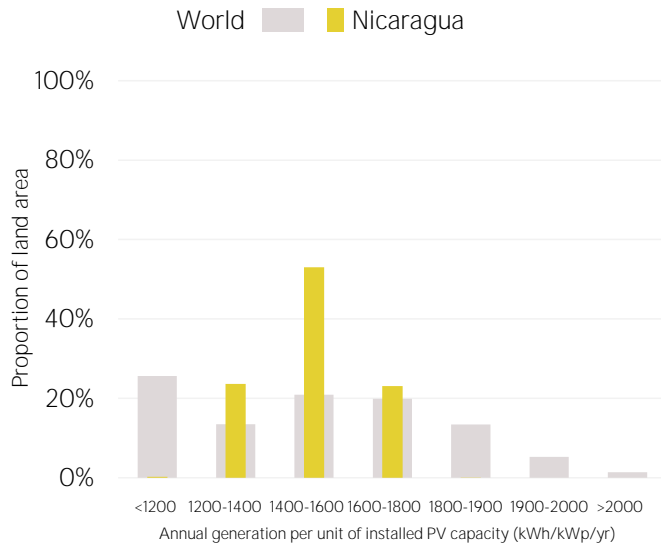
ENERGY AND EMISSIONS



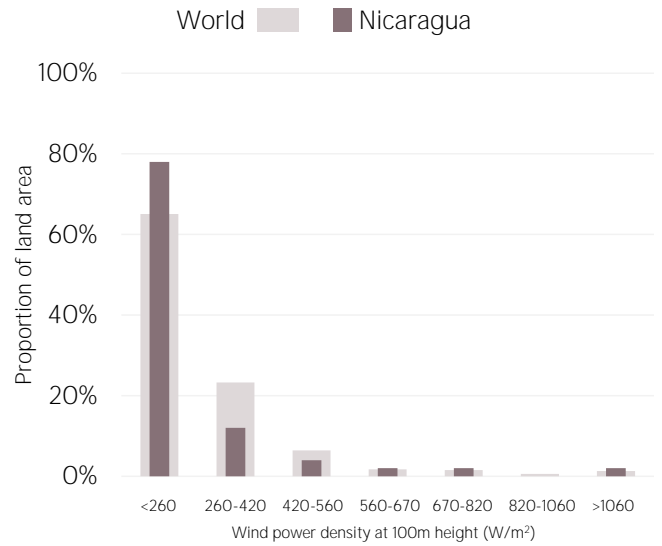
Avoided emissions based on fossil fuel mix used for power

Reduction is RE Avoided divided by sum of avoided and emitted

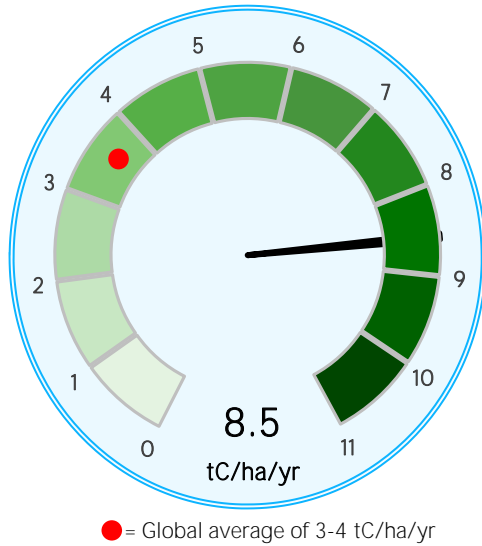
Distribution of solar potential



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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