

## SUSTAINABLE DEVELOPMENT GOAL 7: ENERGY INDICATORS (2017)

Renewable energy (% of TFEC)	17.7	Access to electricity (% of population)	100.0
Energy efficiency (MJ per \$1 of GDP)	1.8	Access to clean cooking (% of population)	n.a.
Public flows renewables (2017 USD M)	108.4	Per capita renewable capacity (W/person)	59.6

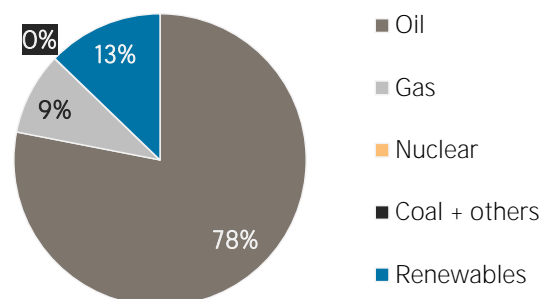
## TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2012	2017
Non-renewable (TJ)	409 836	352 545
Renewable (TJ)	43 049	51 666
Total (TJ)	452 885	404 211
Renewable share (%)	10	13

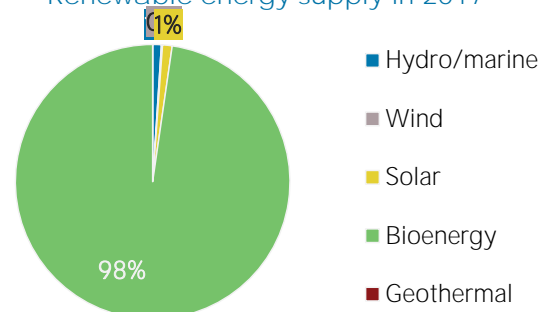
Growth in TPES	2012-17	2016-17
Non-renewable (%)	-14.0	-10.7
Renewable (%)	+20.0	+27.6
Total (%)	-10.7	-7.2

Primary energy trade	2012	2017
Imports (TJ)	345 515	265 669
Exports (TJ)	64 435	33 773
Net trade (TJ)	- 281 080	- 231 896
Imports (% of supply)	76	66
Exports (% of production)	31	17
Energy self-sufficiency (%)	46	48
Net trade (USD million)	n.a.	n.a.
Net trade (% of GDP)	n.a.	n.a.

## Total primary energy supply in 2017



## Renewable energy supply in 2017



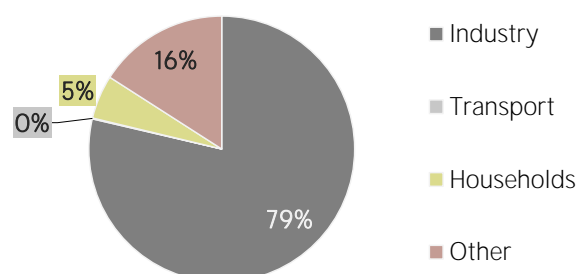
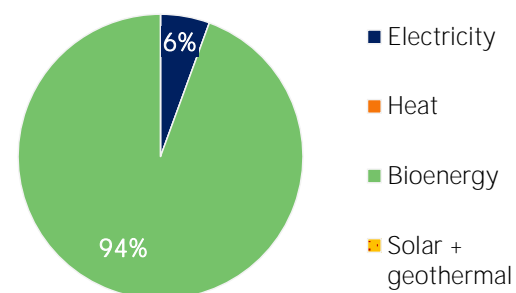
## RENEWABLE ENERGY CONSUMPTION

Consumption by source	2012	2017
Electricity (TJ)	2 718	2 065
Heat (TJ)	0	0
Bioenergy (TJ)	30 002	35 002
Solar + geothermal (TJ)	0	0
<b>Total (TJ)</b>	<b>32 720</b>	<b>37 067</b>
Electricity share (%)	8	6

Consumption growth	2012-17	2016-17
Renewable electricity (%)	-24.0	-9.6
Other renewables (%)	+16.7	+48.7
<b>Total (%)</b>	<b>+13.3</b>	<b>+43.5</b>

Consumption by sector	2012	2017
Industry (TJ)	21 248	29 151
Transport (TJ)	48	39
Households (TJ)	2 304	1 973
Other (TJ)	9 120	5 904
Renewable share of TFEC		17.7

## Renewable energy consumption in 2017

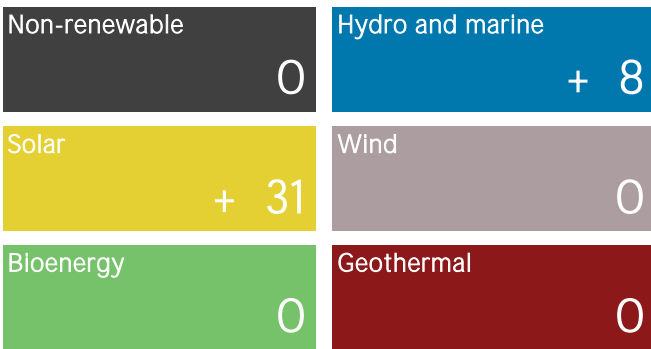


## ELECTRICITY CAPACITY AND GENERATION

Capacity in 2019	MW	%
<b>Non-renewable</b>	<b>5 905</b>	<b>88</b>
<b>Renewable</b>	<b>797</b>	<b>12</b>
Hydro/marine	72	1
Solar	159	2
Wind	12	0
Bioenergy	554	8
Geothermal	0	0
<b>Total</b>	<b>6 702</b>	<b>100</b>

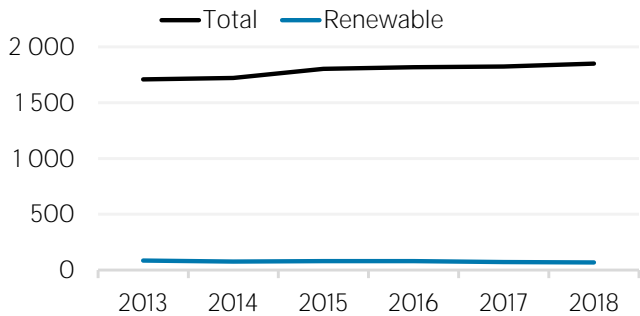
Capacity change (%)	2014-19	2018-19
<b>Non-renewable</b>	<b>+ 5</b>	<b>0.0</b>
<b>Renewable</b>	<b>+ 34</b>	<b>+ 5.2</b>
Hydro/marine	+ 14	+ 12.3
Solar	+ 624	+ 24.4
Wind	0	0.0
Bioenergy	+ 11	0.0
Geothermal	0	0.0
<b>Total</b>	<b>+ 8</b>	<b>+ 0.6</b>

### Net capacity change in 2019 (MW)

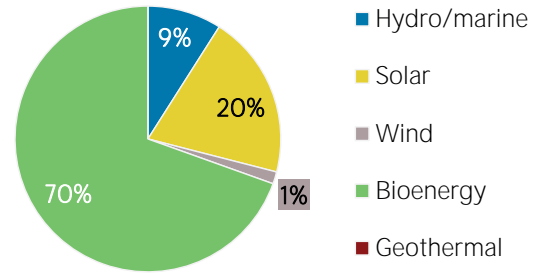


Generation in 2018	GWh	%
<b>Non-renewable</b>	<b>20 206</b>	<b>96</b>
<b>Renewable</b>	<b>771</b>	<b>4</b>
Hydro and marine	146	1
Solar	162	1
Wind	20	0
Bioenergy	444	2
Geothermal	0	0
<b>Total</b>	<b>20 977</b>	<b>100</b>

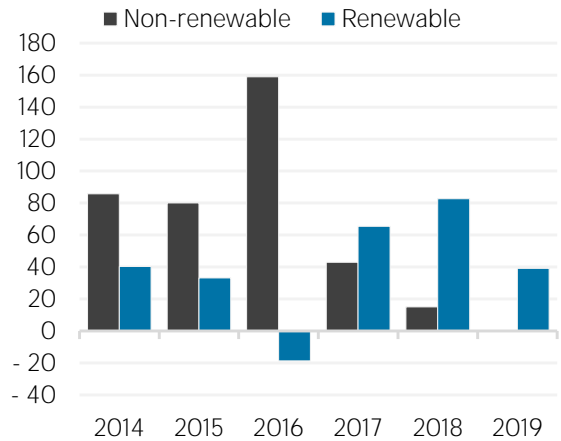
### Per capita electricity generation (kWh)



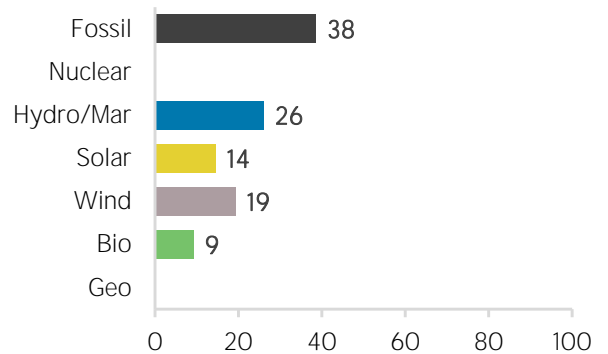
### Renewable capacity in 2019



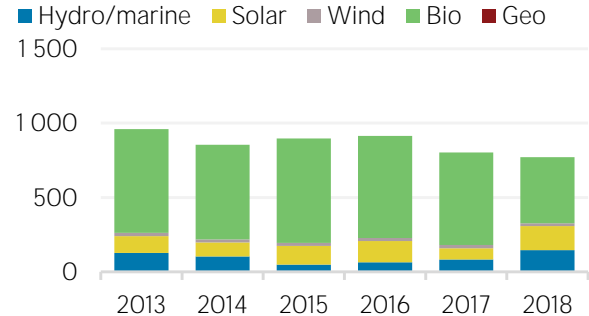
### Net capacity change (MW)



### Capacity utilisation in 2018 (%)



### Renewable generation (GWh)



## TARGETS, POLICIES AND MEASURES

### Most immediate clean energy targets & NDCs

	year	target	unit
<b>Renewable energy:</b>	2030	100	%
Renewable electricity:	2015	235	MW (additional)
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):			

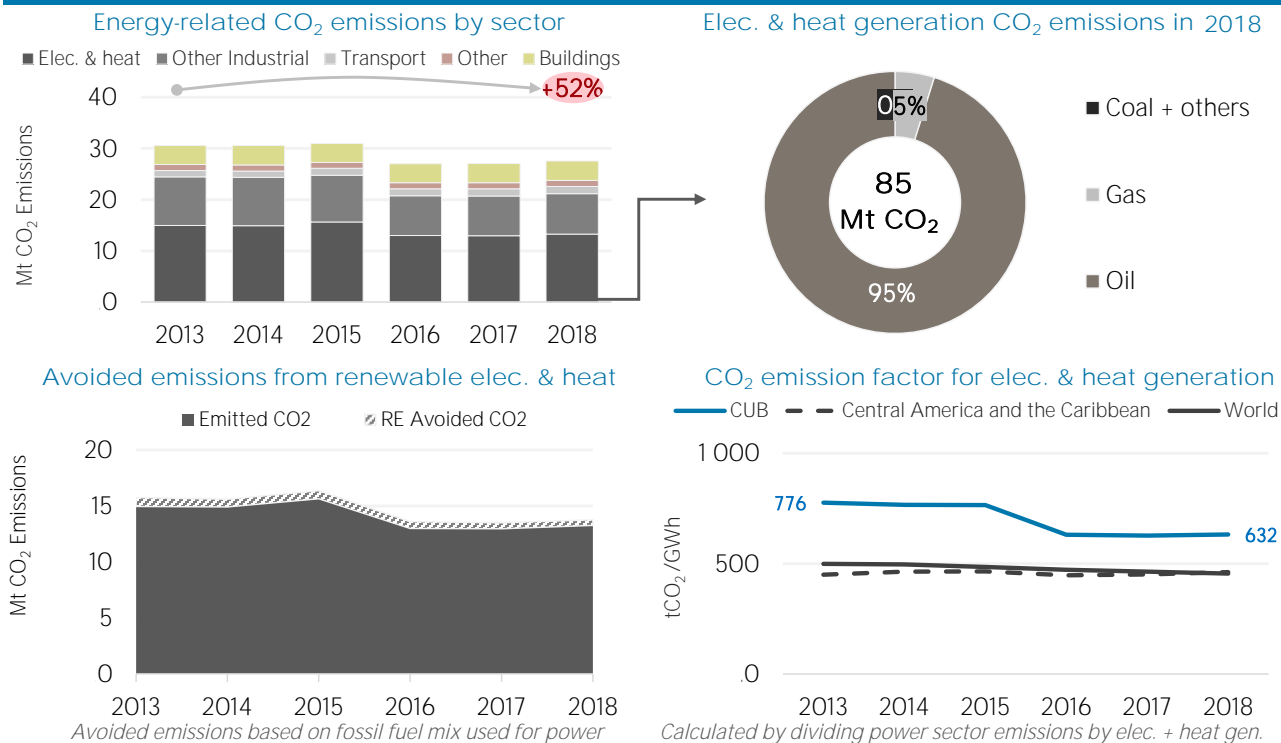
### Latest policies, programmes and legislation

### References to sustainable energy in Nationally Determined Contribution (NDC)

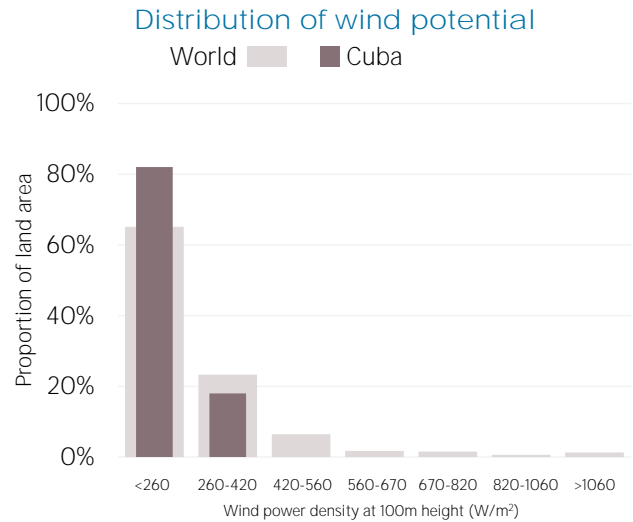
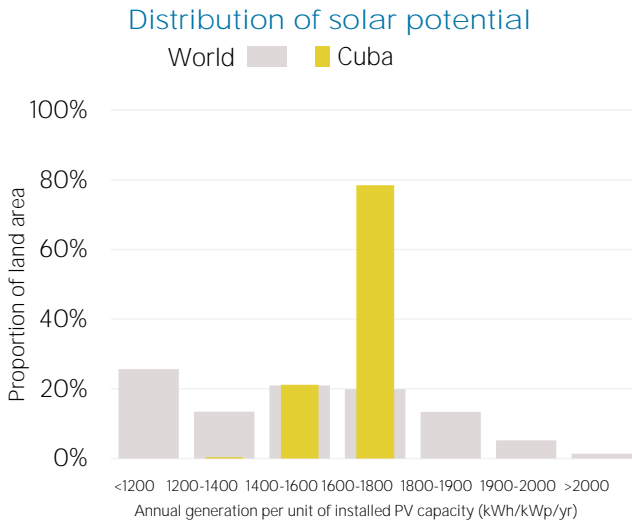
- **Renewable energy**
  - electricity
  - transport
  - heating/cooling
- Energy efficiency

Conditional      Unconditional      unit  
100      %

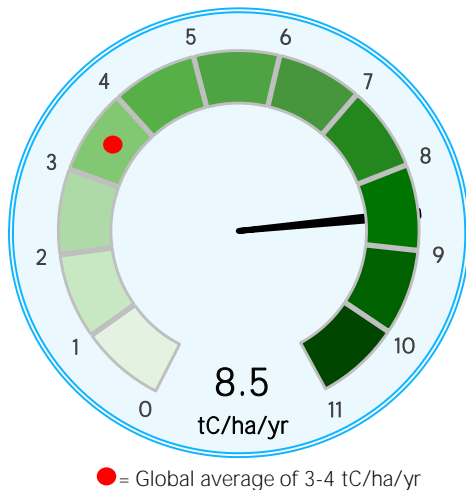
## ENERGY AND EMISSIONS



## RENEWABLE RESOURCE 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<sup>2</sup>) 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 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](mailto:statistics@irena.org).



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