

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

Renewable energy (% of TFEC)	35.0	Access to electricity (% of population)	98.1
Energy efficiency (MJ per \$1 of GDP)	3.5	Access to clean cooking (% of population)	76
Public flows renewables (2017 USD M)	414.1	Per capita renewable capacity (W/person)	34.6

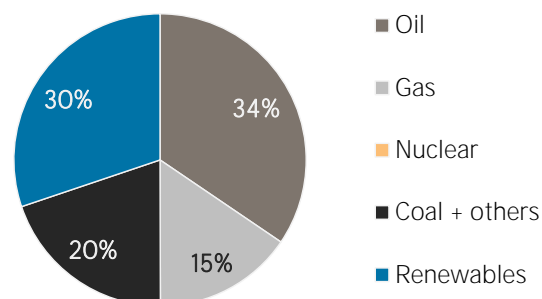
## TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2012	2017
Non-renewable (TJ)	6 841 112	6 964 190
Renewable (TJ)	2 696 302	3 009 764
Total (TJ)	9 537 413	9 973 954
Renewable share (%)	28	30

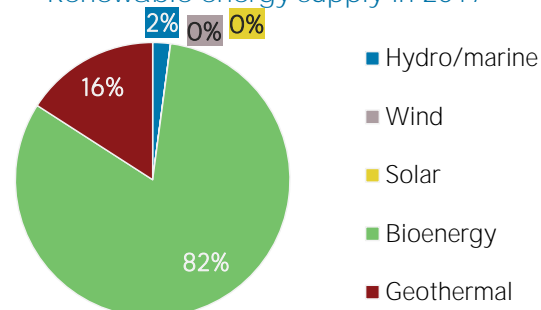
Growth in TPES	2012-17	2016-17
Non-renewable (%)	+1.8	-3.2
Renewable (%)	+11.6	+4.0
Total (%)	+4.6	-1.1

Primary energy trade	2012	2017
Imports (TJ)	2 199 133	2 302 792
Exports (TJ)	10 206 220	11 439 578
Net trade (TJ)	8 007 087	9 136 786
Imports (% of supply)	23	23
Exports (% of production)	58	60
Energy self-sufficiency (%)	184	193
Net trade (USD million)	+ 20 621	+ 11 428
Net trade (% of GDP)	+2.2	+1.1

## Total primary energy supply in 2017



## Renewable energy supply in 2017



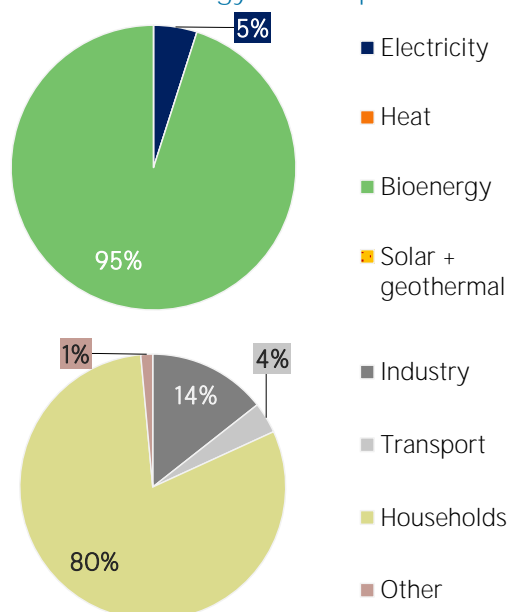
## RENEWABLE ENERGY CONSUMPTION

Consumption by source	2012	2017
Electricity (TJ)	108 846	125 071
Heat (TJ)	0	0
Bioenergy (TJ)	2 261 448	2 407 796
Solar + geothermal (TJ)	0	0
<b>Total (TJ)</b>	<b>2 370 294</b>	<b>2 532 867</b>
Electricity share (%)	5	5

Consumption growth	2012-17	2016-17
Renewable electricity (%)	+14.9	-1.2
Other renewables (%)	+6.5	+3.8
<b>Total (%)</b>	<b>+6.9</b>	<b>+3.5</b>

Consumption by sector	2012	2017
Industry (TJ)	361 461	364 480
Transport (TJ)	68	95 704
Households (TJ)	1 974 391	2 036 082
Other (TJ)	34 374	36 601
Renewable share of TFEC		35.0

## Renewable energy consumption in 2017

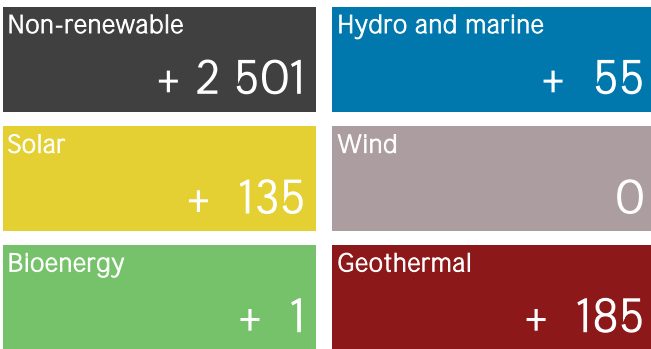


## ELECTRICITY CAPACITY AND GENERATION

Capacity in 2019	MW	%
<b>Non-renewable</b>	<b>57 792</b>	<b>85</b>
<b>Renewable</b>	<b>9 861</b>	<b>15</b>
Hydro/marine	5 616	8
Solar	198	0
Wind	76	0
Bioenergy	1 841	3
Geothermal	2 131	3
<b>Total</b>	<b>67 653</b>	<b>100</b>

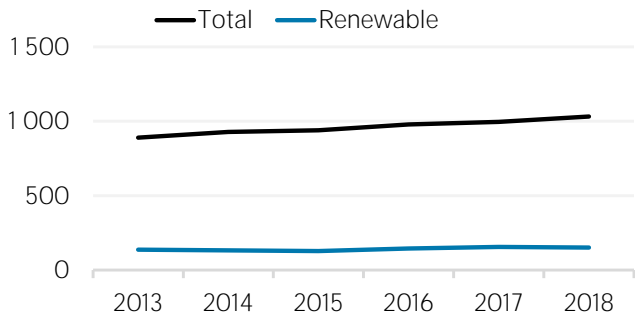
Capacity change (%)	2014-19	2018-19
<b>Non-renewable</b>	<b>+ 25</b>	<b>+ 4.5</b>
<b>Renewable</b>	<b>+ 17</b>	<b>+ 4.0</b>
Hydro/marine	+ 7	+ 1.0
Solar	+ 374	+ 218.1
Wind	+ 6 696	0.0
Bioenergy	+ 6	+ 0.1
Geothermal	+ 52	+ 9.5
<b>Total</b>	<b>+ 23</b>	<b>+ 4.4</b>

### Net capacity change in 2019 (MW)

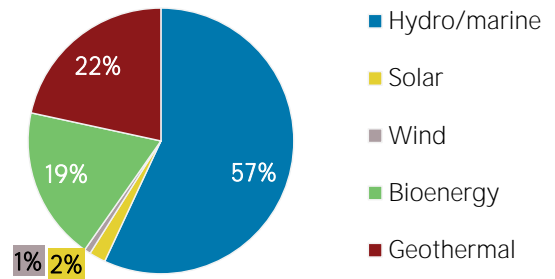


Generation in 2018	GWh	%
<b>Non-renewable</b>	<b>235 754</b>	<b>85</b>
<b>Renewable</b>	<b>40 433</b>	<b>15</b>
Hydro and marine	17 422	6
Solar	120	0
Wind	6	0
Bioenergy	9 589	3
Geothermal	13 296	5
<b>Total</b>	<b>276 187</b>	<b>100</b>

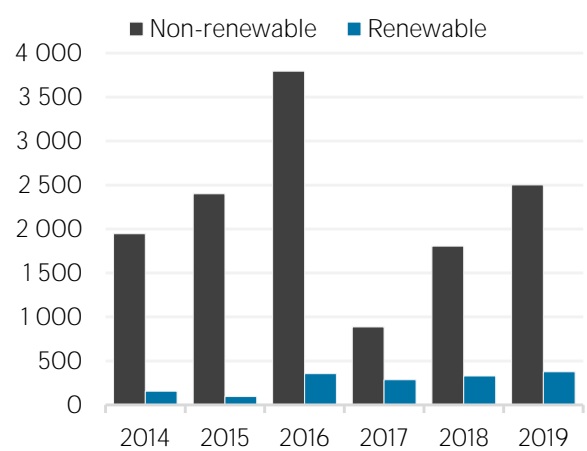
### Per capita electricity generation (kWh)



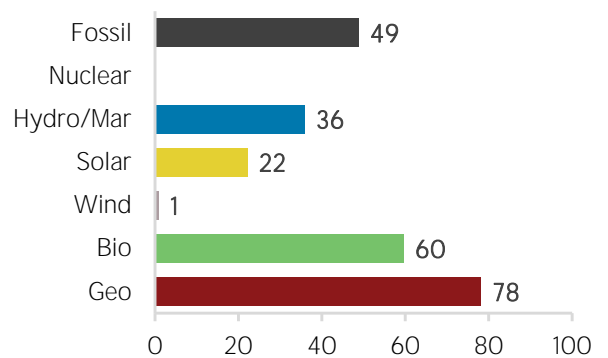
### Renewable capacity in 2019



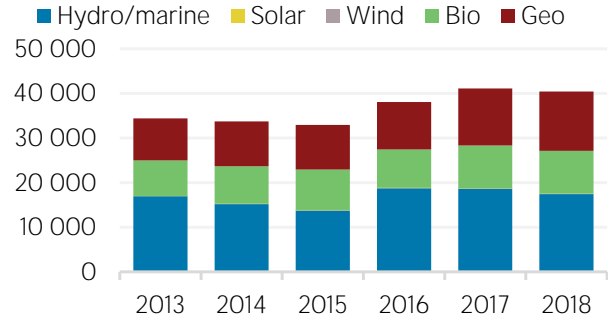
### Net capacity change (MW)



### Capacity utilisation in 2018 (%)



### Renewable generation (GWh)



## TARGETS, POLICIES AND MEASURES

### Most immediate clean energy targets & NDCs

	year	target	unit
<b>Renewable energy:</b>			
Renewable electricity:	2030	20	%
Renewable capacity:			
Renewable transport:			
Liquid Biofuel blending mandate:	2030	100	%
Other transport targets:			
Renewable heating/cooling:			
Renewable Hydropower	2030	10	%
Off-grid renewable technologies:			
Energy efficiency (Energy):	2025	1	% reduction per year until 2025
Energy efficiency (Electricity):			

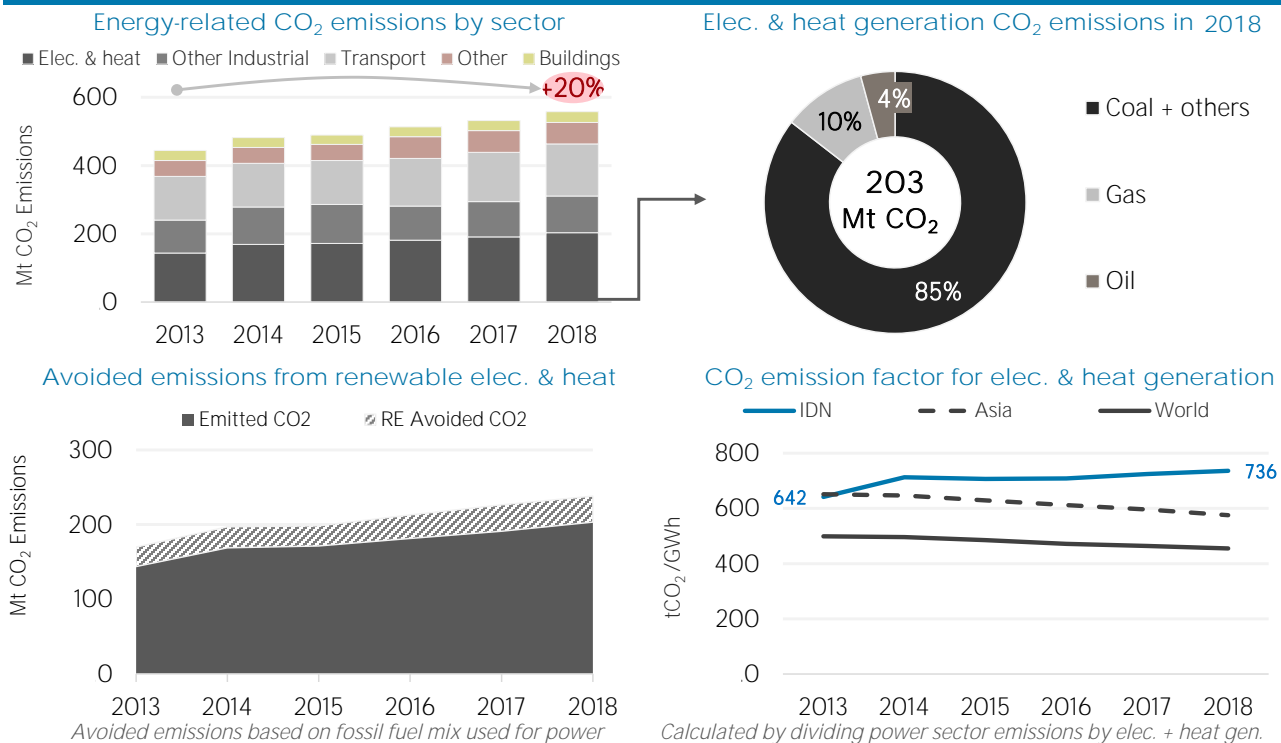
### Latest policies, programmes and legislation

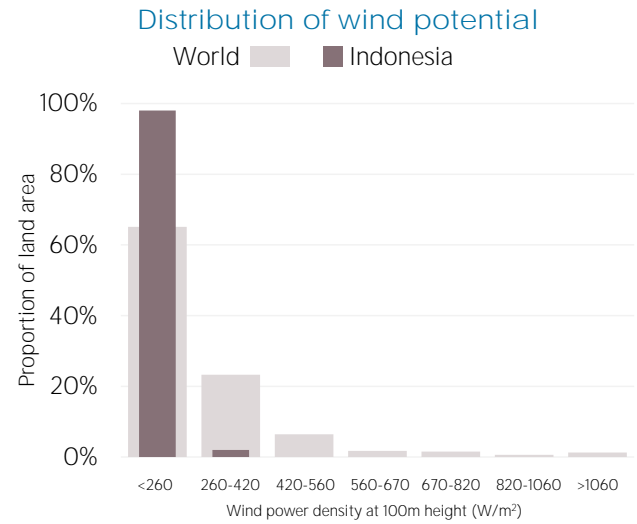
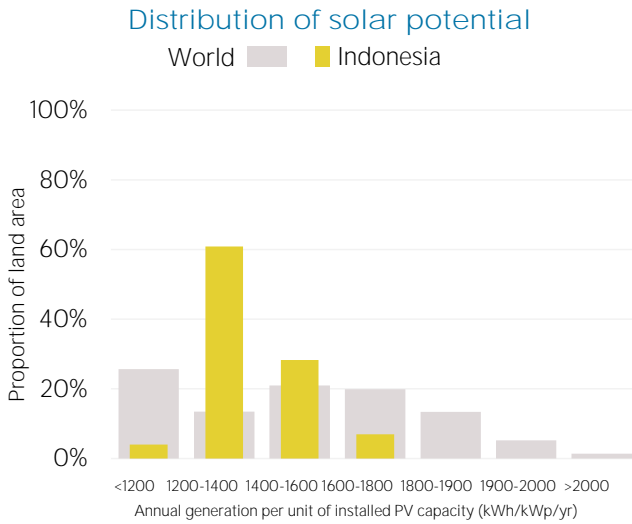
1	SNI ISO 50015:2014 on Energy management systems -Measurement and verification of energy performance of organizations - General principles and guidance	2019
2	MEPS and Labelling for Air Conditioning (Ministerial Regulation No.57/2017)	2018
3	Minister of Manpower Decree No. 53/2018 on Establishment of Indonesian National Working Competency Standard for Energy Audit	2018
4	SNI 8476-2018 on Performance Testing and Evaluation Method for Chillers using Steam Vapor Compression System	2018
5	SNI ISO 50002:2014 on Energy Audits - Requirements with Guidance for Use	2018

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

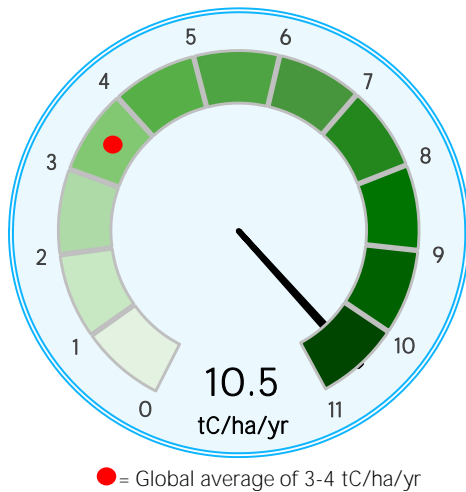
	Conditional	Unconditional	unit
- <b>Renewable energy</b>			
- electricity	133	20	TWh
- transport			
- heating/cooling			
- Energy efficiency	100	90	%

## ENERGY AND EMISSIONS





### 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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