

SUSTAINABLE DEVELOPMENT GOAL 7: ENERGY INDICATORS (2017)

Renewable energy (% of TFEC)	0.7	Access to electricity (% of population)	100.0
Energy efficiency (MJ per \$1 of GDP)	3.1	Access to clean cooking (% of population)	>95
Public flows renewables (2017 USD M)	n.a.	Per capita renewable capacity (W/person)	57.7

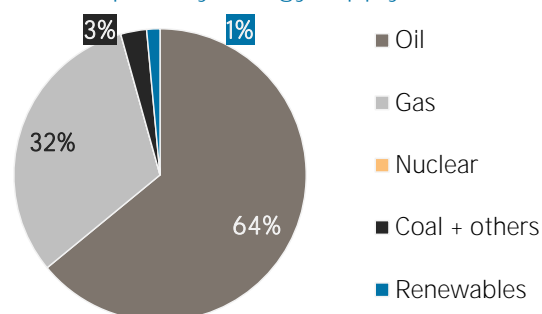
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2012	2017
Non-renewable (TJ)	1 015 275	1 149 250
Renewable (TJ)	13 603	17 124
Total (TJ)	1 028 878	1 166 374
Renewable share (%)	1	1

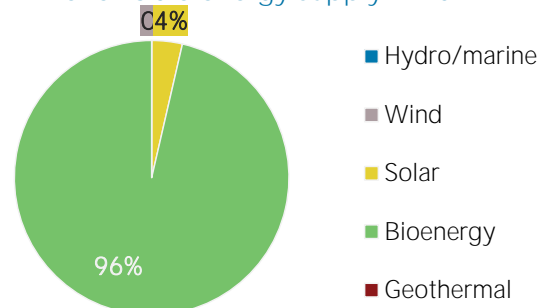
Growth in TPES	2012-17	2016-17
Non-renewable (%)	+13.2	+28.3
Renewable (%)	+25.9	+16.9
Total (%)	+13.4	+28.1

Primary energy trade	2012	2017
Imports (TJ)	6 591 387	7 898 874
Exports (TJ)	3 562 882	4 349 472
Net trade (TJ)	-3 028 505	-3 549 402
Imports (% of supply)	641	677
Exports (% of production)	13525	15744
Energy self-sufficiency (%)	3	2
Net trade (USD million)	- 48 291	- 24 568
Net trade (% of GDP)	-16.4	-7.2

Total primary energy supply in 2017



Renewable energy supply in 2017



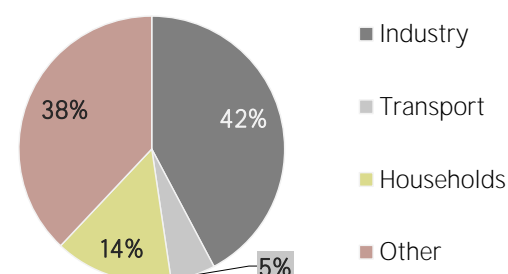
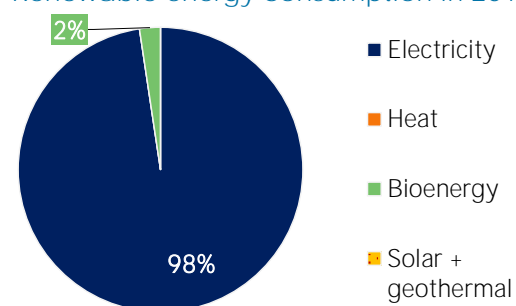
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2012	2017
Electricity (TJ)	6 327	7 462
Heat (TJ)	0	0
Bioenergy (TJ)	513	181
Solar + geothermal (TJ)	0	0
Total (TJ)	6 840	7 643
Electricity share (%)	93	98

Consumption growth	2012-17	2016-17
Renewable electricity (%)	+17.9	-3.1
Other renewables (%)	-64.7	-49.2
Total (%)	+11.7	-5.1

Consumption by sector	2012	2017
Industry (TJ)	2 659	3 229
Transport (TJ)	333	414
Households (TJ)	949	1 098
Other (TJ)	2 899	2 902
Renewable share of TFEC		0.7

Renewable energy consumption in 2017

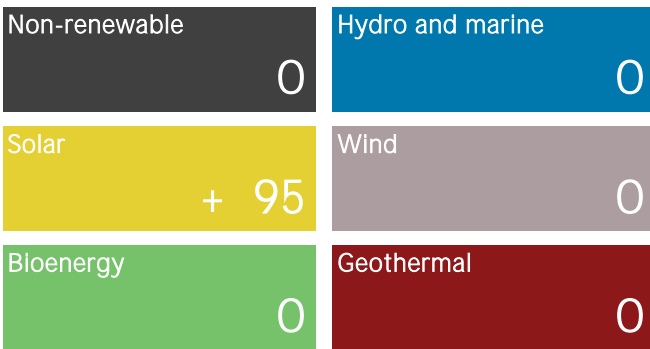


ELECTRICITY CAPACITY AND GENERATION

Capacity in 2019	MW	%
Non-renewable	13 364	97
Renewable	467	3
Hydro/marine	0	0
Solar	255	2
Wind	0	0
Bioenergy	211	2
Geothermal	0	0
Total	13 831	100

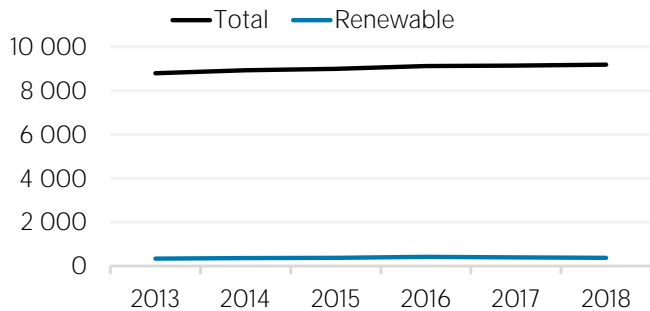
Capacity change (%)	2014-19	2018-19
Non-renewable	+ 5	0.0
Renewable	+ 124	+ 25.6
Hydro/marine	+ 31	0.0
Solar	+ 909	+ 59.3
Wind	0	0.0
Bioenergy	+ 15	0.0
Geothermal	0	0.0
Total	+ 7	+ 0.7

Net capacity change in 2019 (MW)

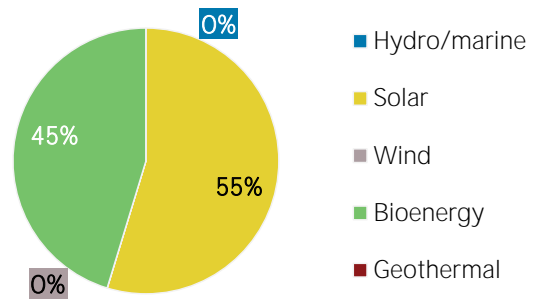


Generation in 2018	GWh	%
Non-renewable	50 724	96
Renewable	2 181	4
Hydro and marine	0	0
Solar	171	0
Wind	0	0
Bioenergy	2 010	4
Geothermal	0	0
Total	52 905	100

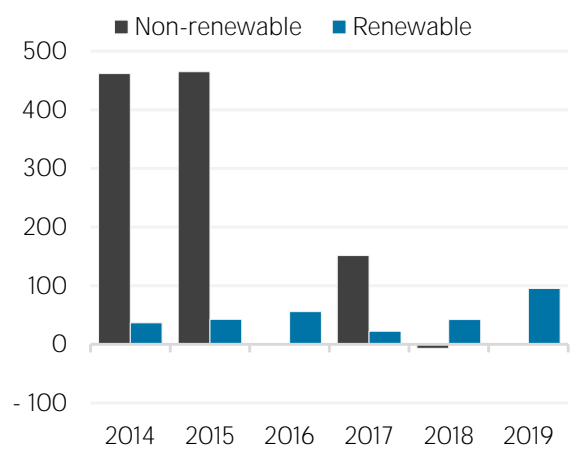
Per capita electricity generation (kWh)



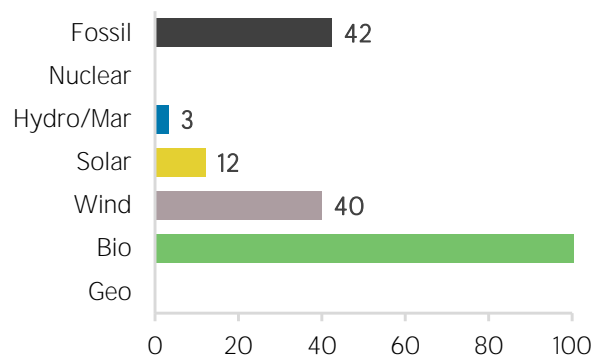
Renewable capacity in 2019



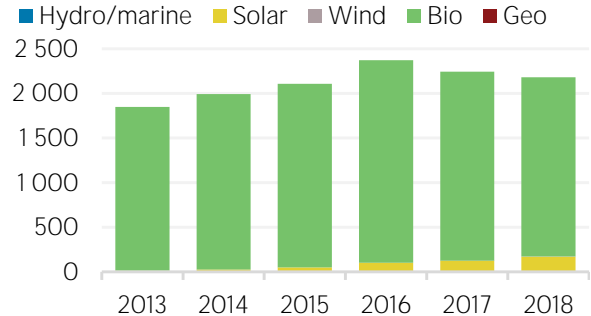
Net capacity change (MW)



Capacity utilisation in 2018 (%)



Renewable generation (GWh)



Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:			
Renewable electricity:			
Renewable capacity:			
Renewable transport:			
Liquid Biofuel blending mandate:			
Other transport targets:			
Renewable heating/cooling:			
Renewable Hydropower			
Off-grid renewable technologies:			
Energy efficiency (Energy):	2030	35	%
Energy efficiency (Electricity):			

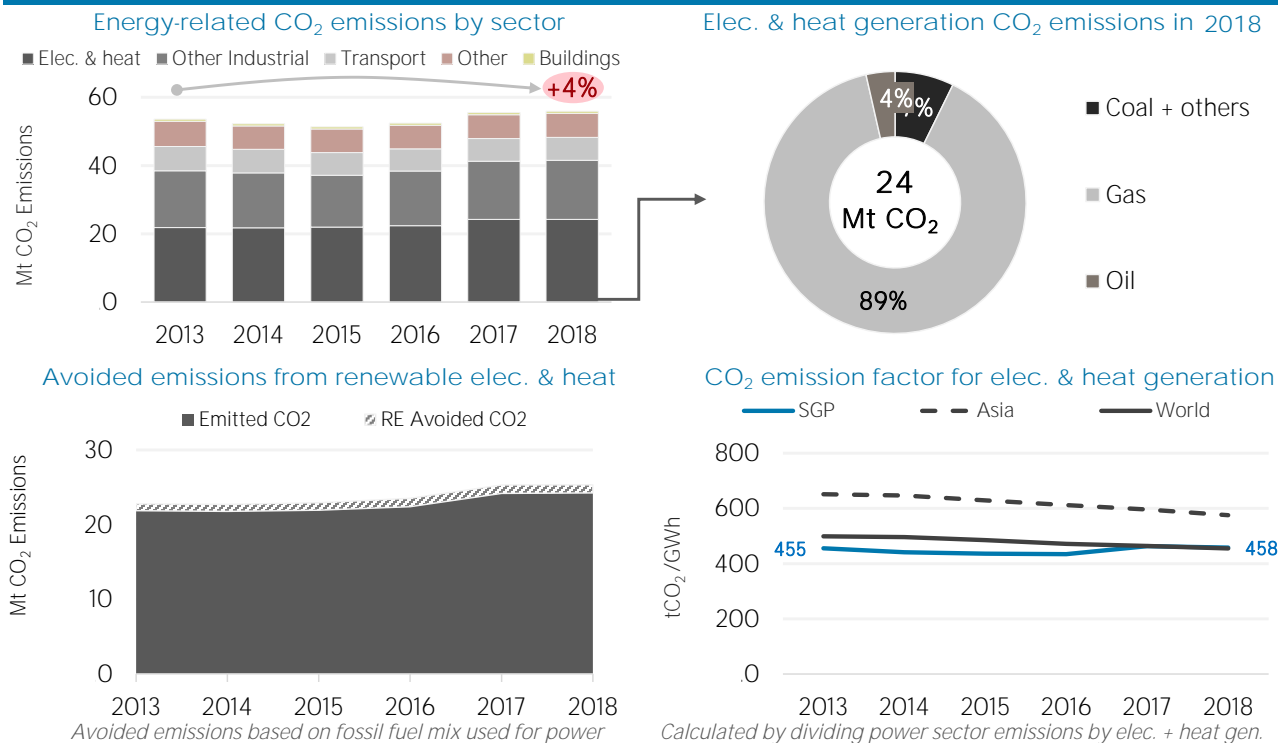
Latest policies, programmes and legislation

1	EE Funding for Qualifying Costs for Energy Assessment in Industries	2018
2	Energy conservation (prescribed regulated goods) order 2017	2018
3	MEPS for Motors (IE3)	2018
4	Requirements for Energy Efficiency Opportunities Assessment (EEOA) for New Ventures (NV)	2018
5	BlueSG	2017

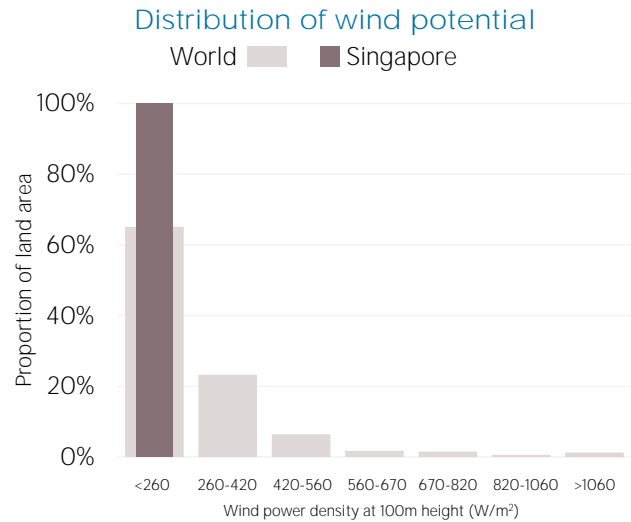
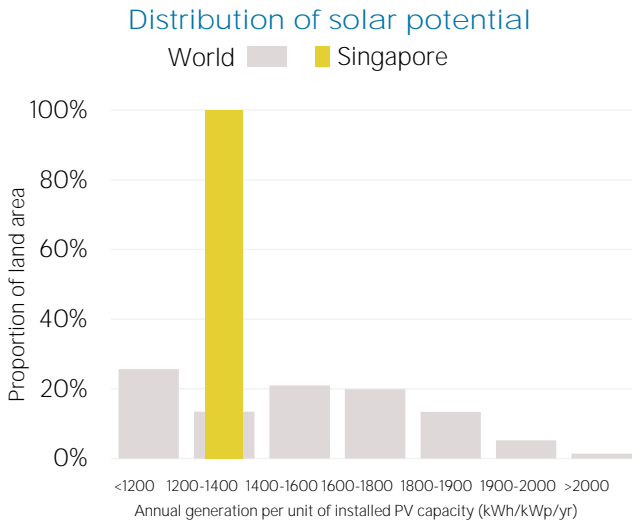
References to sustainable energy in Nationally Determined Contribution (NDC)

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

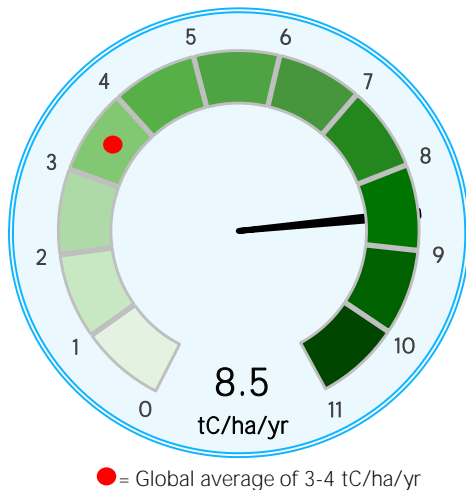
ENERGY AND EMISSIONS



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/m²) 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.



IRENA Headquarters
Masdar City
P.O. Box 236, Abu Dhabi
United Arab Emirates
www.irena.org