

Sustainable Development Goal 7.2: Energy Indicators (2016)

Renewable energy (% of TFEC)	28.5	Access to electricity (% of population)	98.4
Energy efficiency (MJ per \$1 of GDP)	2.6	Access to clean cooking (% of population)	94

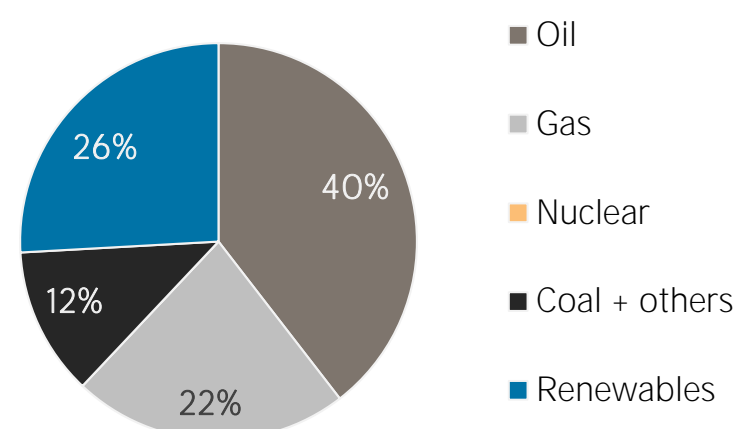
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	1 055 245	1 319 582
Renewable (TJ)	355 861	460 734
Total (TJ)	1 411 106	1 780 316
Renewable share (%)	25	26

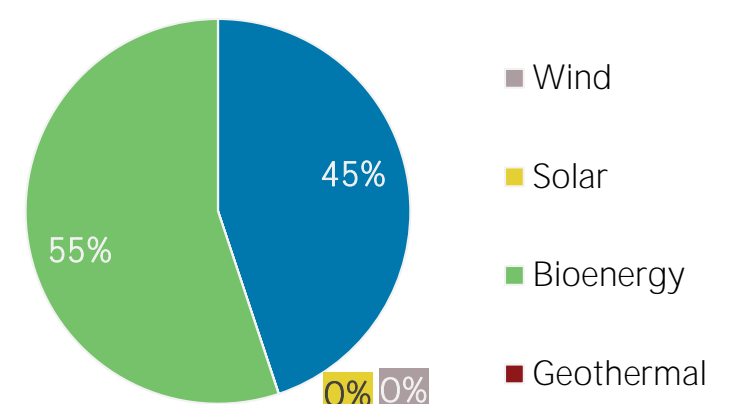
Growth in TPES	2011-16	2015-16
Non-renewable (%)	+25.0	+4.2
Renewable (%)	+29.5	+24.5
Total (%)	+26.2	+8.8

Primary energy trade	2011	2016
Imports (TJ)	119 936	204 887
Exports (TJ)	3 749 727	3 806 899
Net trade (TJ)	3 629 791	3 602 012
Imports (% of supply)	8	12
Exports (% of production)	73	72
Energy self-sufficiency (%)	362	296
Net trade (USD million)	+ 32 635	+ 10 914
Net trade (% of GDP)	+9.8	+3.9

Total primary energy supply in 2016



Renewable energy supply in 2016



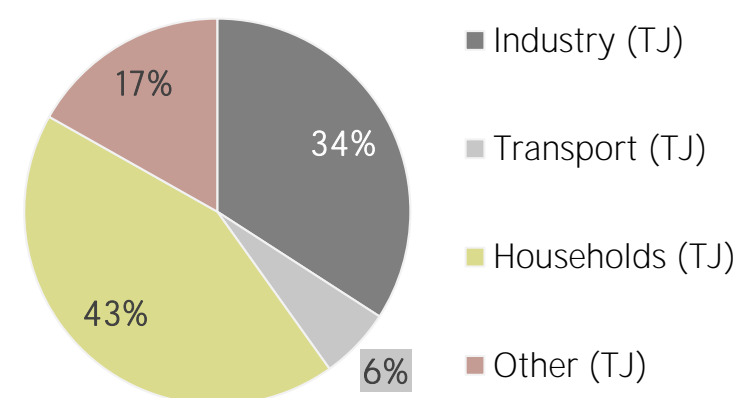
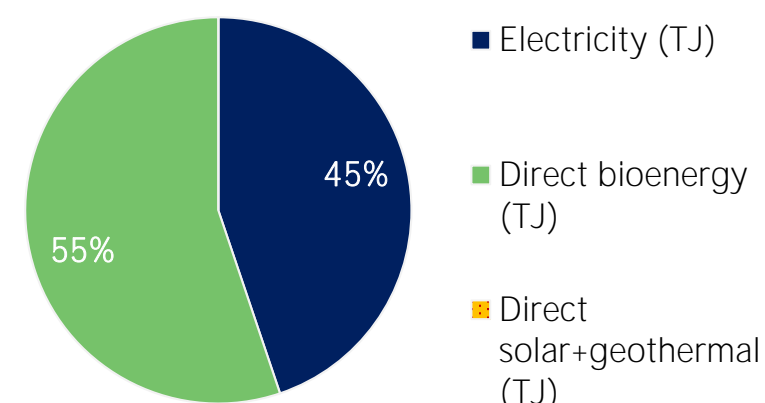
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2011	2016
Electricity (TJ)	146 784	176 362
Direct bioenergy (TJ)	123 299	217 094
Direct solar+geothermal (TJ)	0	0
Total (TJ)	270 083	393 456
Electricity share (%)	54	45

Consumption growth	2011-16	2015-16
Renewable electricity (%)	+20.2	+22.1
Other renewables (%)	+76.1	+33.7
Total (%)	+45.7	+28.2

Consumption by sector	2011	2016
Industry (TJ)	98 521	134 272
Transport (TJ)	22 208	23 626
Households (TJ)	101 471	169 376
Other (TJ)	47 883	66 182
Renewable share of TFEC	26.8	28.5

Renewable energy consumption in 2016

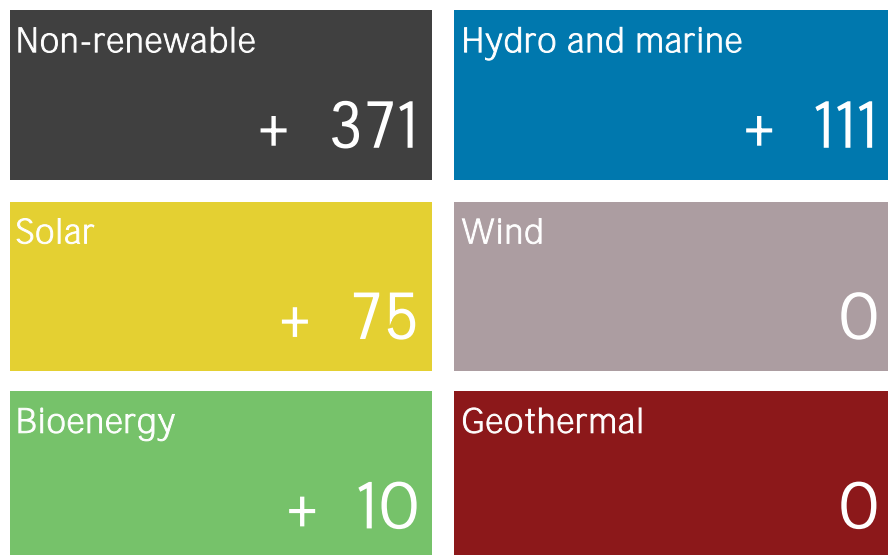


ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	5 540	31
Renewable	12 267	69
Hydro/marine	11 842	67
Solar	86	0
Wind	18	0
Bioenergy	320	2
Geothermal	0	0
Total	17 808	100

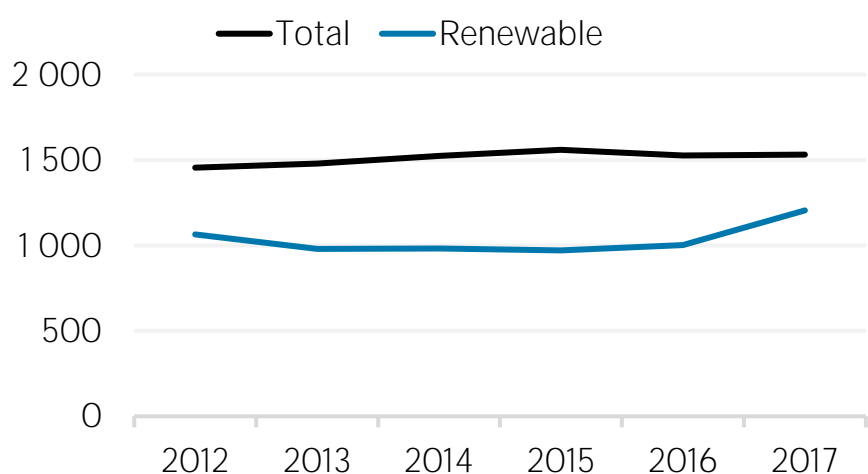
Capacity change (%)	2013-18	2017-18
Non-renewable	+ 17	+ 7.2
Renewable	+ 22	+ 1.6
Hydro/marine	+ 20	+ 0.9
Solar	+ 6 147	+ 663.2
Wind	0	0.0
Bioenergy	+ 72	+ 3.2
Geothermal	0	0.0
Total	+ 20	+ 3.3

Net capacity change in 2018 (MW)

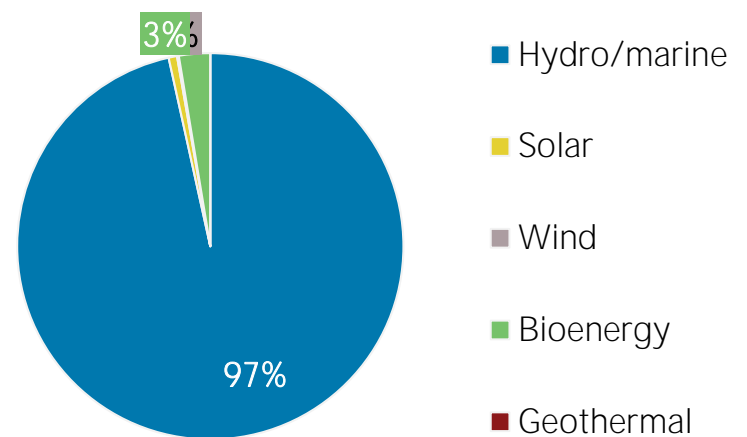


Generation in 2017	GWh	%
Non-renewable	15 904	21
Renewable	58 928	79
Hydro and marine	57 349	77
Solar	14	0
Wind	3	0
Bioenergy	1 562	2
Geothermal	0	0
Total	74 832	100

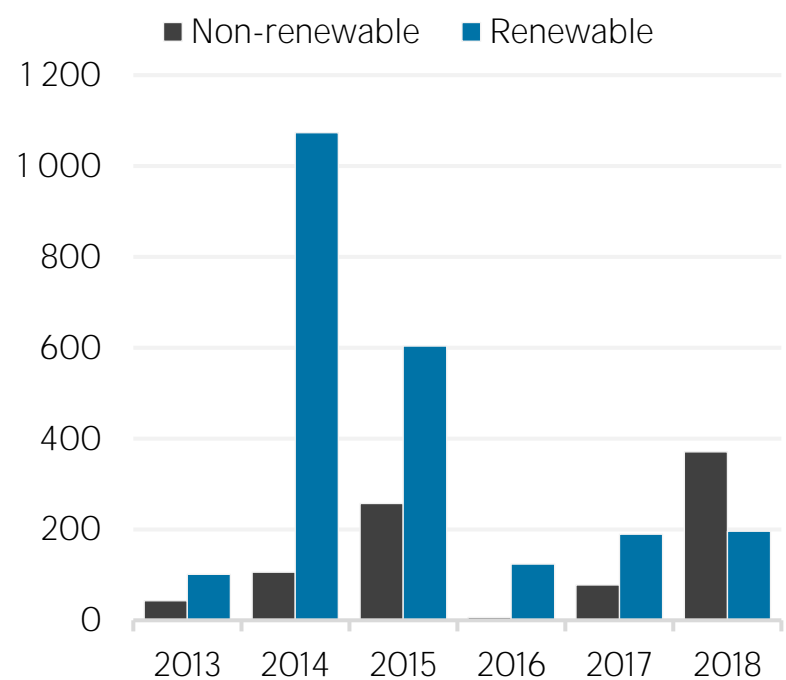
Per capita electricity generation (kWh)



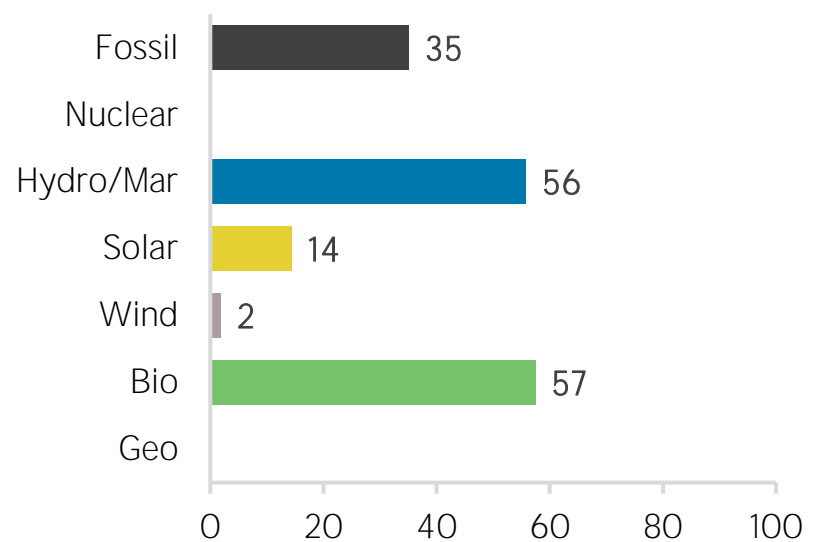
Renewable capacity in 2018



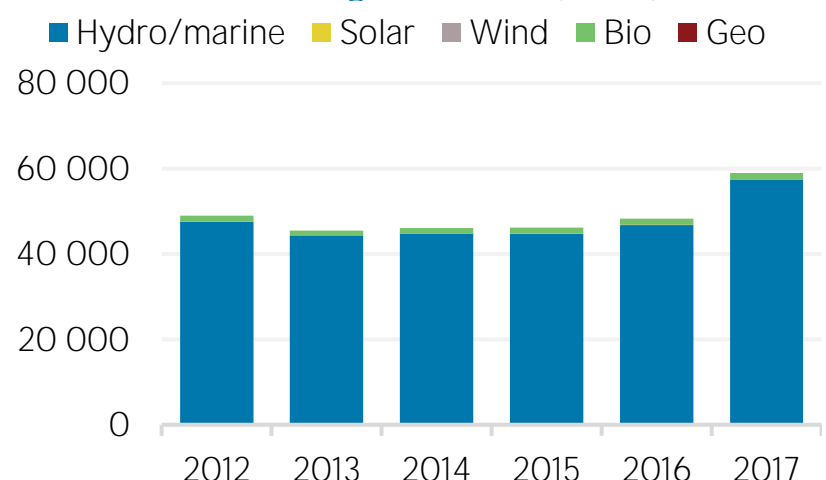
Net capacity change (MW)



Capacity utilisation in 2017 (%)



Renewable generation (GWh)



TARGETS, POLICIES AND MEASURES

Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:	2050	100	%
Renewable electricity:	2020	77	%
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

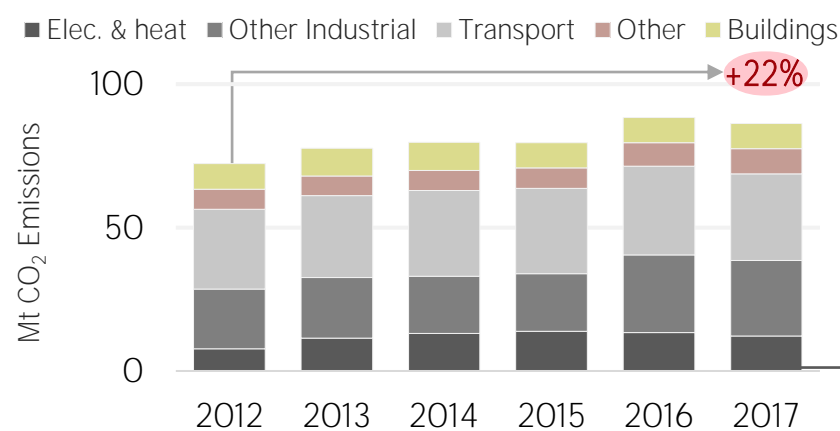
1	Electric Coverage Expansion Plan 2016-2020 (Plan Indicativo de Expansión de Cobertura de Energía Eléctrica PIEC 2016-2020, PIEC)	2017
2	Generation and Transmission Expansion Plan 2016-2030 (Plan de Expansión de Referencia Generación Transmisión 2016-2030)	2017
3	Law approving the "Paris 2015 Agreement". Presidential Law of the Republic 1844/2017.	2017
4	Public Policy on efficient management and surpluses of small scale self-generation (Decree 348 of 2017)	2017
5	Energy Plan 2050 (Plan Energético Nacional Colombia: Ideario Energético 2050)	2016

References to sustainable energy in Nationally Determined Contribution (NDC)

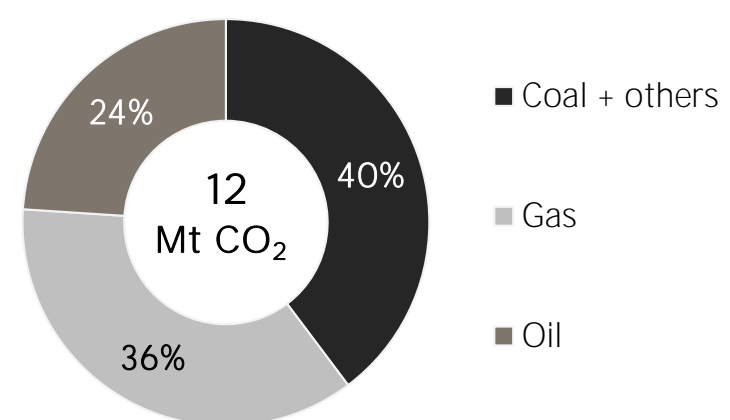
- | | Conditional | Unconditional | unit |
|---------------------------|-------------|---------------|------|
| - Renewable energy | | | |
| - electricity | | | |
| - transport | | | |
| - heating/cooling | | | |
| - Energy efficiency | | | |

ENERGY AND EMISSIONS

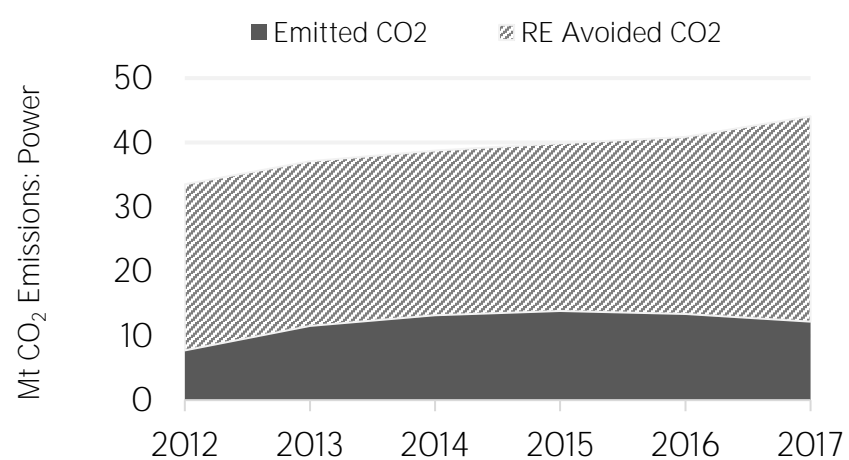
Energy-related CO₂ emissions by sector



Elec. & heat generation CO₂ emissions in 2017

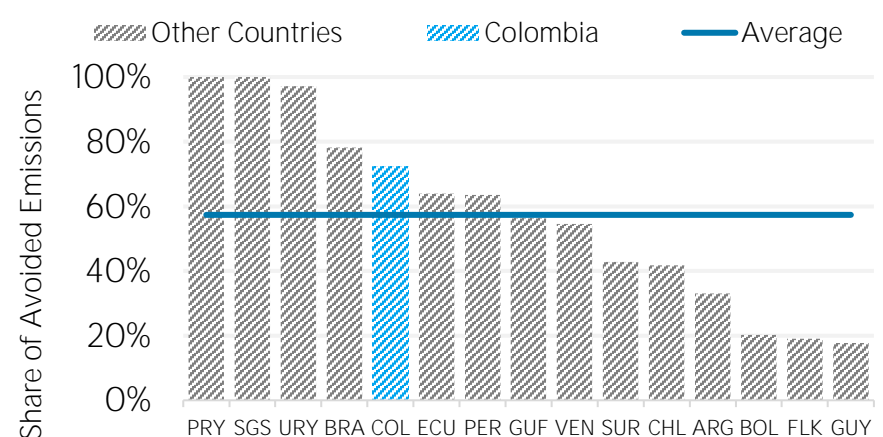


Avoided emissions from renewable power



Avoided emissions based on fossil fuel mix used for power

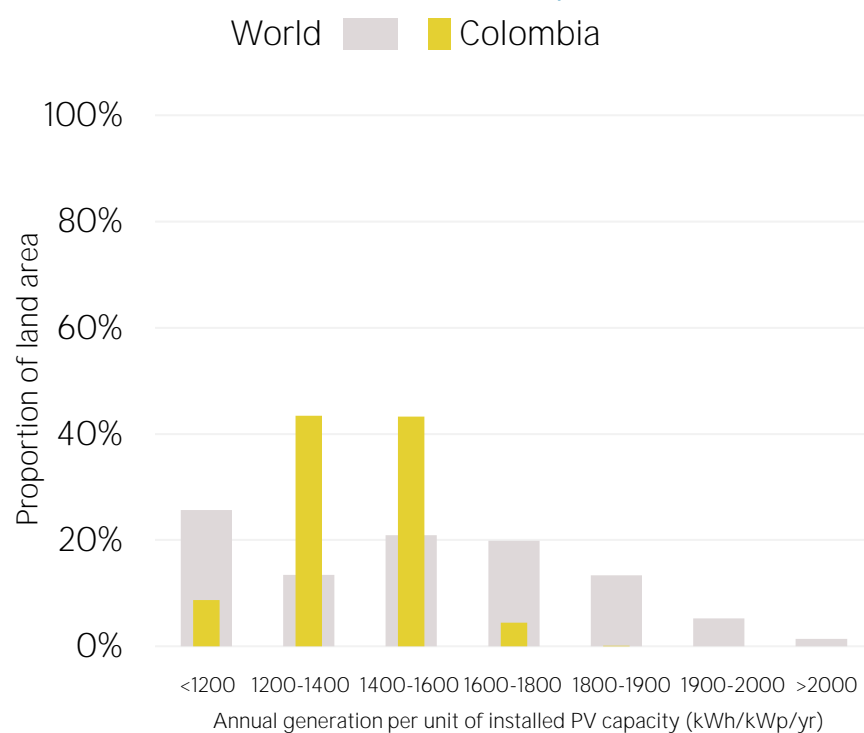
Reduction in power emissions due to RE in 2017



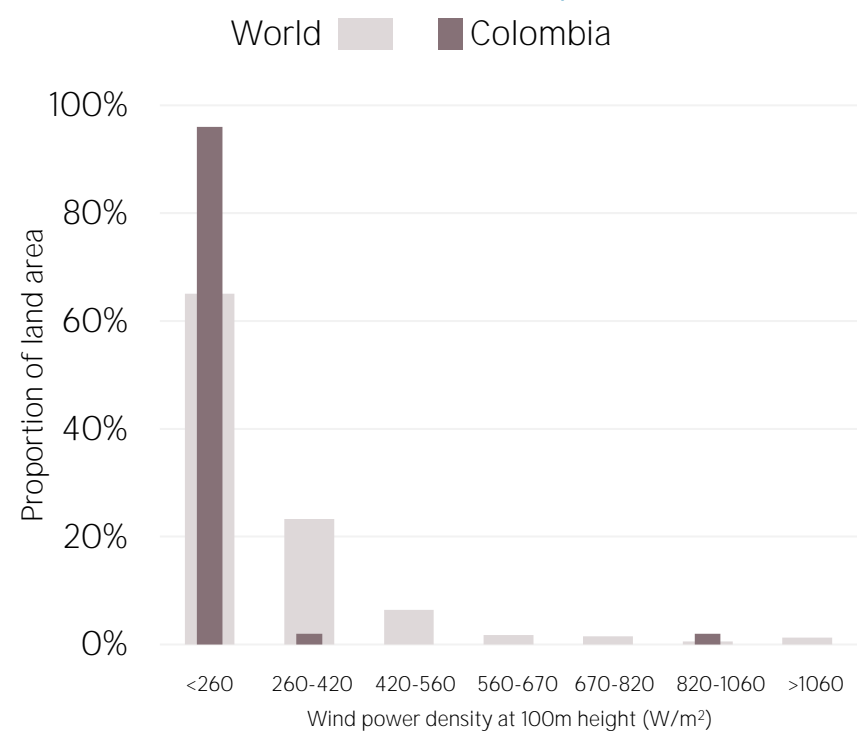
Reduction is RE Avoided divided by sum of avoided and emitted

RENEWABLE RESOURCE POTENTIAL

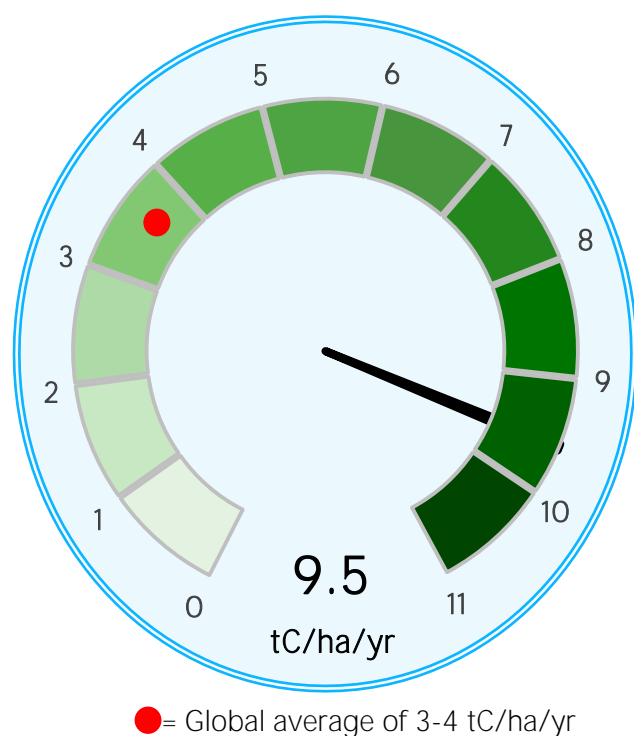
Distribution of solar potential



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 \times 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.

Last updated on: 26th May, 2020