

Lao People's Democratic Republic

Sustainable Development Goal 7.2: Energy Indicators (2016)

Renewable energy (% of TFEC)	51.9	Access to electricity (% of population)	90.8
Energy efficiency (MJ per \$1 of GDP)	5.9	Access to clean cooking (% of population)	<5

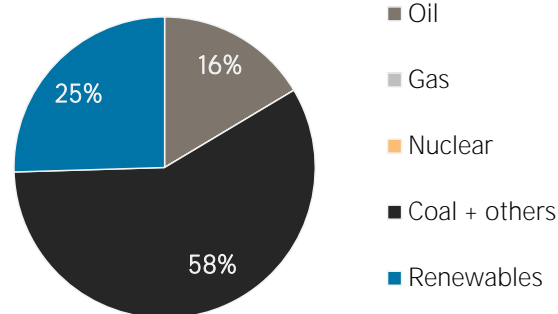
TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	34 619	186 792
Renewable (TJ)	66 305	63 851
Total (TJ)	100 924	250 642
Renewable share (%)	66	25

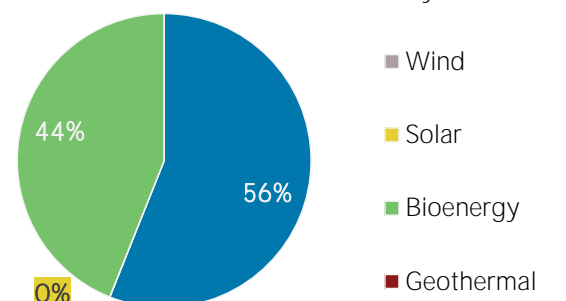
Growth in TPES	2011-16	2015-16
Non-renewable (%)	+439.6	+96.4
Renewable (%)	-3.7	-26.7
Total (%)	+148.3	+37.6

Primary energy trade	2011	2016
Imports (TJ)	30 891	45 488
Exports (TJ)	43 010	67 295
Net trade (TJ)	12 119	21 807
Imports (% of supply)	31	18
Exports (% of production)	38	25
Energy self-sufficiency (%)	113	109
Net trade (USD million)	- 502	- 610
Net trade (% of GDP)	-5.7	-3.9

Total primary energy supply in 2016



Renewable energy supply in 2016



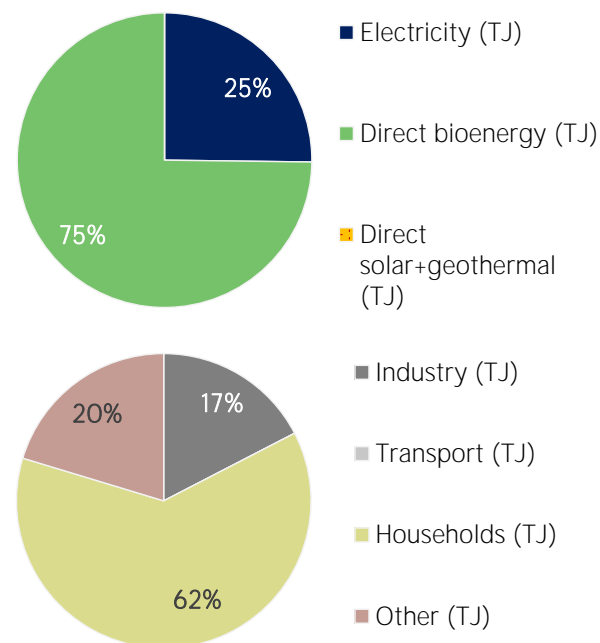
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2011	2016
Electricity (TJ)	8 662	17 504
Direct bioenergy (TJ)	51 362	51 957
Direct solar+geothermal (TJ)	0	0
Total (TJ)	60 024	69 461
Electricity share (%)	14	25

Consumption growth	2011-16	2015-16
Renewable electricity (%)	+102.1	-32.4
Other renewables (%)	+1.2	-0.4
Total (%)	+15.7	-11.0

Consumption by sector	2011	2016
Industry (TJ)	5 767	12 095
Transport (TJ)	0	0
Households (TJ)	42 196	43 252
Other (TJ)	12 061	14 113
Renewable share of TFEC	63.7	51.9

Renewable energy consumption in 2016

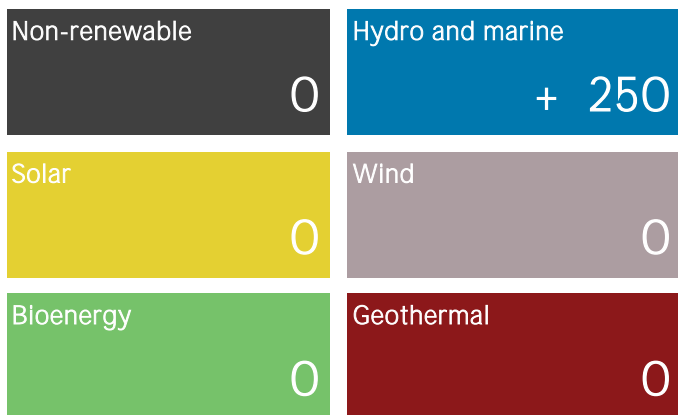


ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	1 878	26
Renewable	5 302	74
Hydro/marine	5 256	73
Solar	7	0
Wind	0	0
Bioenergy	40	1
Geothermal	0	0
Total	7 180	100

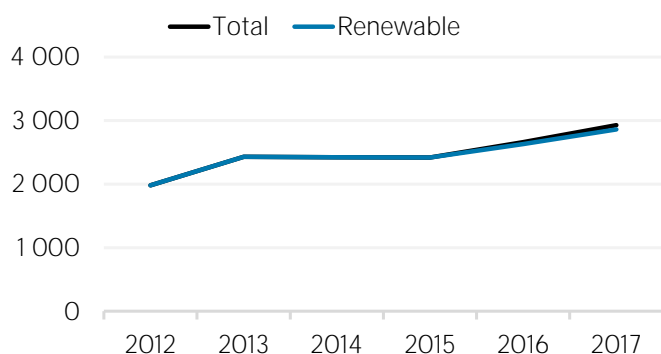
Capacity change (%)	2013-18	2017-18
Non-renewable	+8 942 857	0.0
Renewable	+ 76	+ 4.9
Hydro/marine	+ 77	+ 5.0
Solar	+ 1 309	0.0
Wind	0	0.0
Bioenergy	0	0.0
Geothermal	0	0.0
Total	+ 139	+ 3.6

Net capacity change in 2018 (MW)

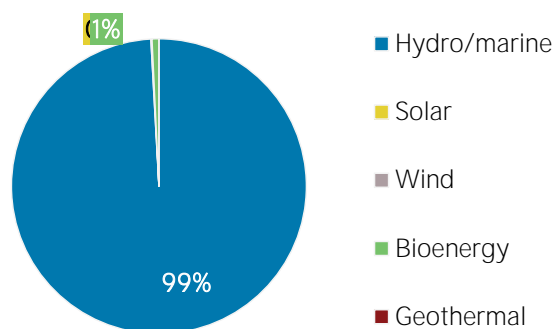


Generation in 2017	GWh	%
Non-renewable	467	2
Renewable	19 893	98
Hydro and marine	19 858	98
Solar	9	0
Wind	0	0
Bioenergy	26	0
Geothermal	0	0
Total	20 360	100

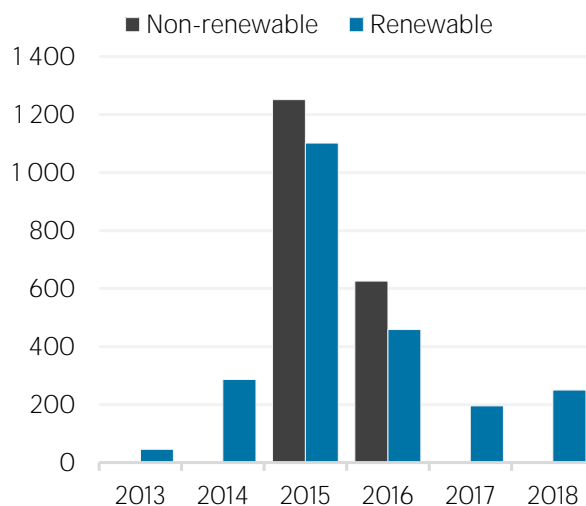
Per capita electricity generation (kWh)



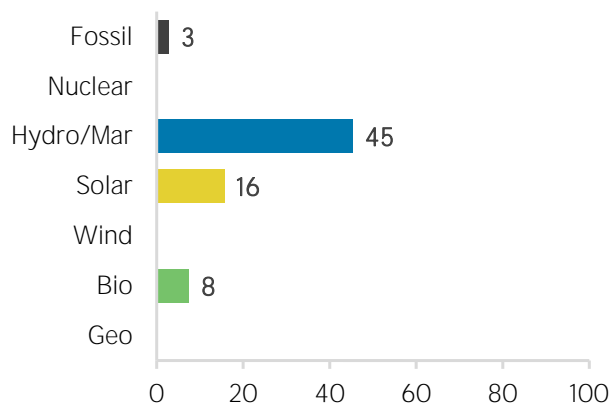
Renewable capacity in 2018



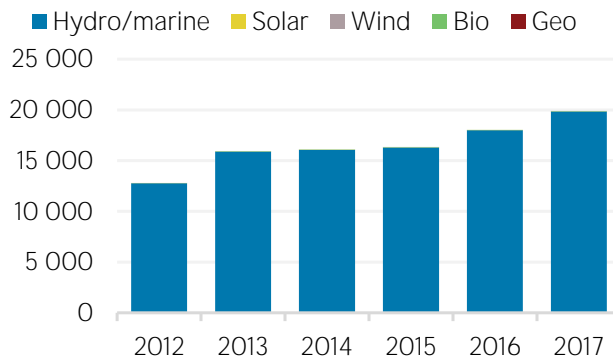
Net capacity change (MW)



Capacity utilisation in 2017 (%)



Renewable generation (GWh)



Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:	2025	30	%
Renewable electricity:			
Renewable capacity:			
Renewable transport:			
Liquid Biofuel blending mandate:	2025	10	% of demand
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 Policy on Sustainable Hydropower Development in Lao PDR	2015
2 Renewable Energy Development Strategy in Lao PDR	2011
3 Law on Investment Promotion	2009
4 National Policy on Environmental and Social Sustainability of the Hydropower Sector in Lao PDR	2006

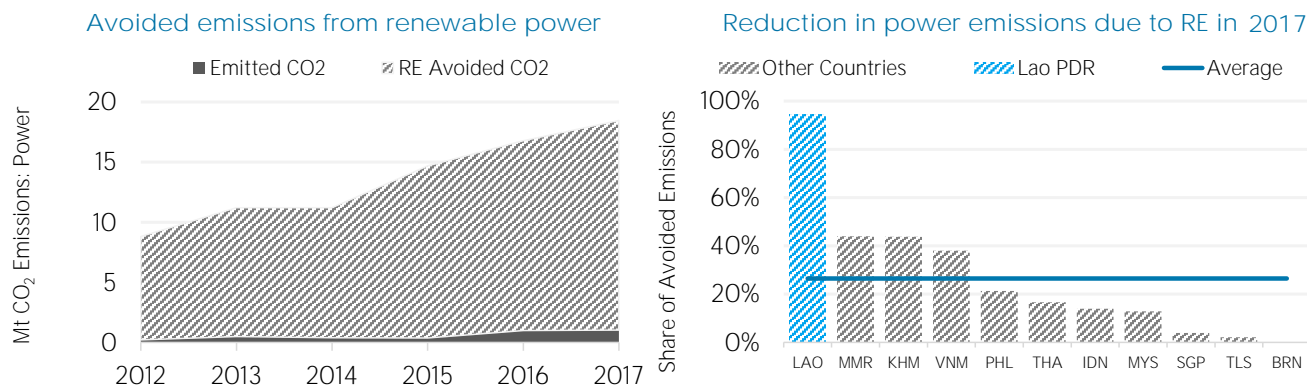
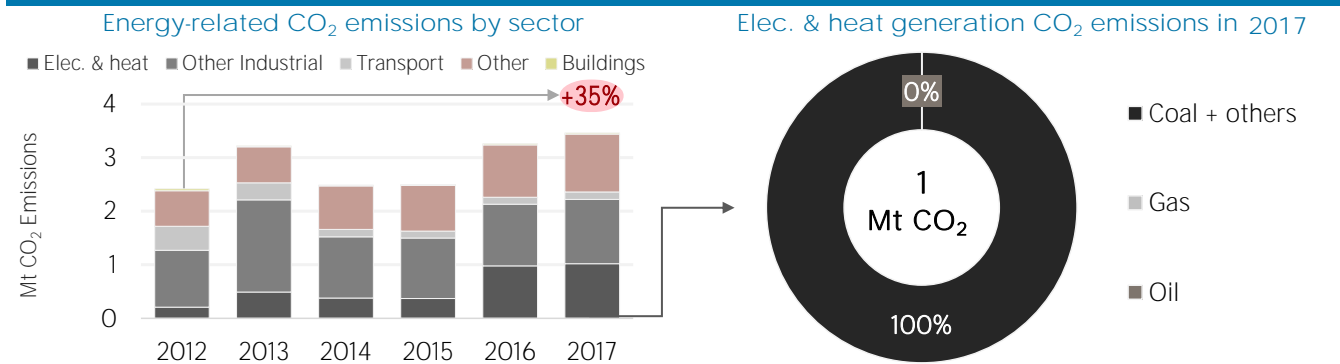
References to sustainable energy in Nationally Determined Contribution (NDC)

- Renewable energy

- electricity
- transport
- heating/cooling
- Energy efficiency

Conditional Unconditional
30 10 unit
% % of demand

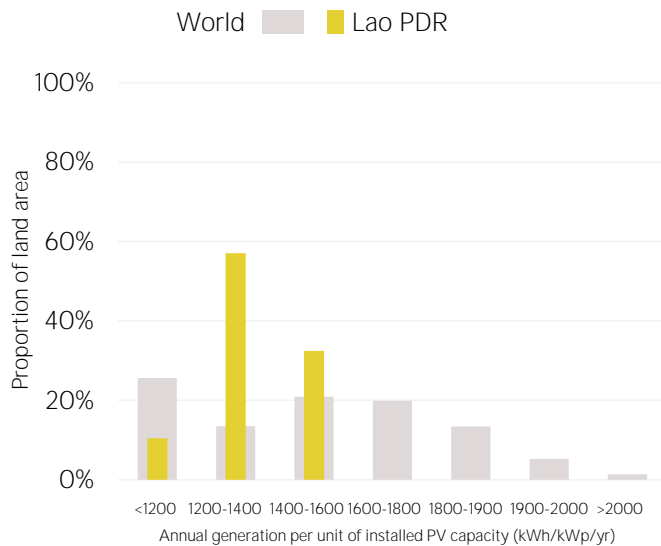
ENERGY AND EMISSIONS



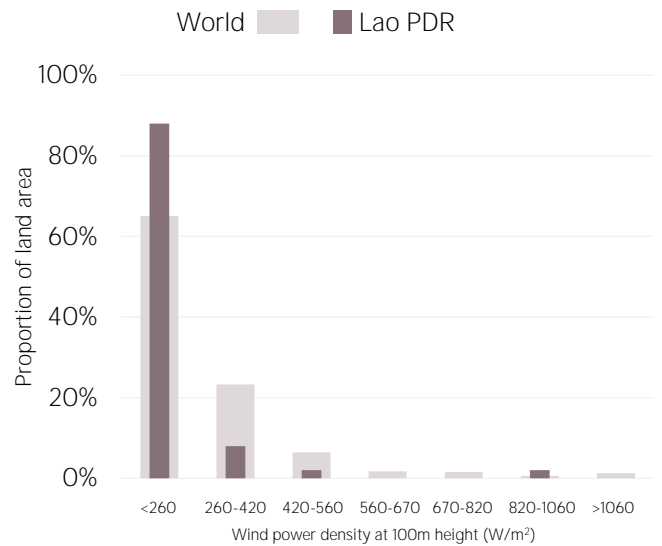
Avoided emissions based on fossil fuel mix used for power

Reduction is RE Avoided divided by sum of avoided and emitted

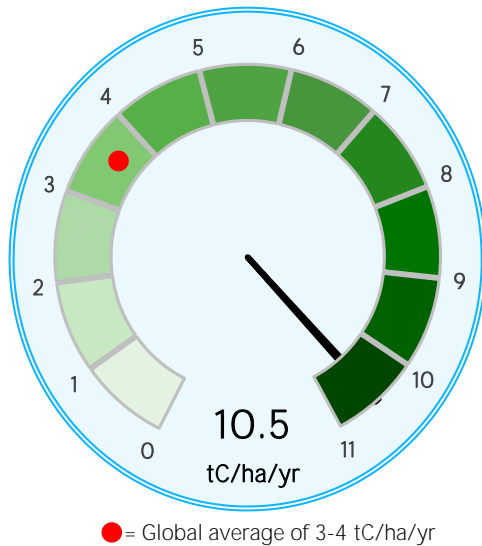
Distribution of solar potential



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