Syrian Arab Republic

IRENA — International Renewable Energy Agency

Sustainable Development Goal 7.2: Energy Indicators (2016)

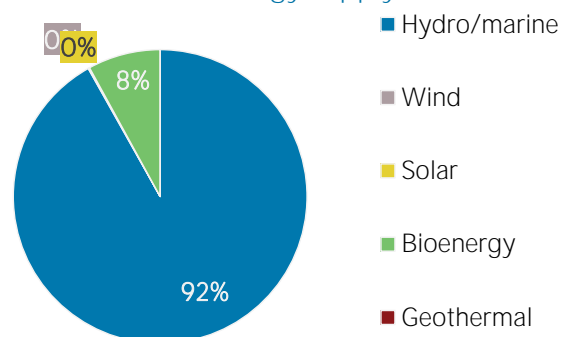|				
Renewable energy (% of TFEC)	1.1	Access to electricity (% of population)	89.7
Energy efficiency (MJ per $1 of GDP)	11.8	Access to clean cooking (% of population)	>95

TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2011	2016
Non-renewable (TJ)	824 593	414 155
Renewable (TJ)	11 846	2 943
Total (TJ)	836 439	417 098
Renewable share (%)	1	1

Growth in TPES	2011-16	2015-16
Non-renewable (%)	-49.8	-0.8
Renewable (%)	-75.2	-17.5
Total (%)	-50.1	-1.0

Primary energy trade	2011	2016
Imports (TJ)	174 146	276 114
Exports (TJ)	306 937	28 222
Net trade (TJ)	132 791	- 247 892
Imports (% of supply)	21	66
Exports (% of production)	29	16
Energy self-sufficiency (%)	126	42
Net trade (USD million)	n.a.	n.a.
Net trade (% of GDP)	n.a.	n.a.

Total primary energy supply in 2016

Oil 69%, Gas 30%, Nuclear, Coal + others -0%, Renewables 1%
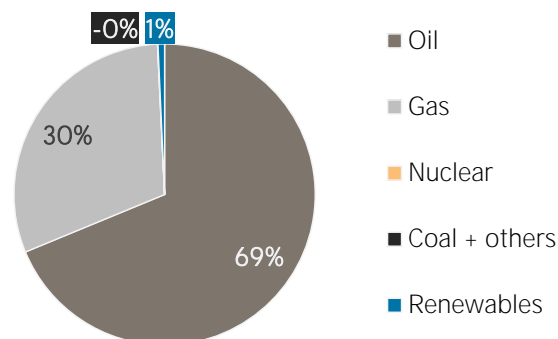
Renewable energy supply in 2016

Hydro/marine 92%, Wind 0%, Solar 0%, Bioenergy 8%, Geothermal

RENEWABLE ENERGY CONSUMPTION

Consumption by source	2011	2016
Electricity (TJ)	8 539	2 053
Direct bioenergy (TJ)	247	211
Direct solar+geothermal (TJ)	0	0
Total (TJ)	8 786	2 264
Electricity share (%)	97	91

Consumption growth	2011-16	2015-16
Renewable electricity (%)	-76.0	-19.3
Other renewables (%)	-14.6	-4.1
Total (%)	-74.2	-18.1

Consumption by sector	2011	2016
Industry (TJ)	2 872	690
Transport (TJ)	0	0
Households (TJ)	3 906	939
Other (TJ)	2 008	634
Renewable share of TFEC	1.9	1.1

Renewable energy consumption in 2016

Electricity (TJ) 91%, Direct bioenergy (TJ) 9%, Direct solar+geothermal (TJ)

Industry (TJ) 30%, Transport (TJ), Households (TJ) 41%, Other (TJ) 28%
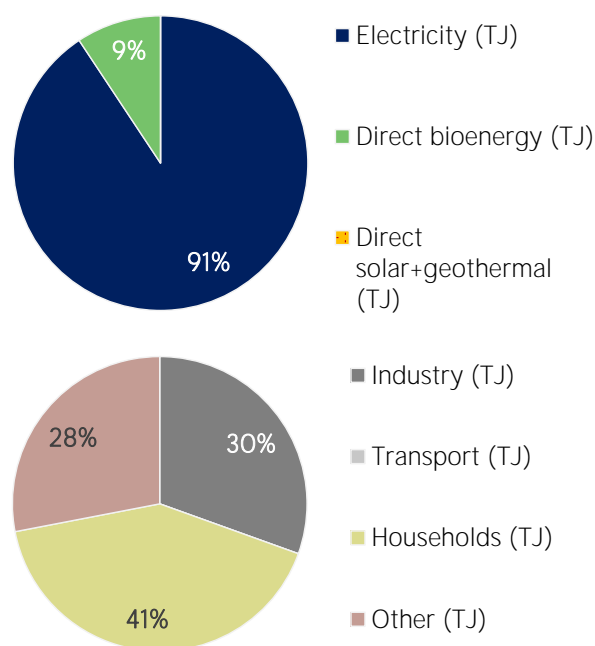
ELECTRICITY CAPACITY AND GENERATION

Capacity in 2018	MW	%
Non-renewable	8 352	85
Renewable	1 503	15
Hydro/marine	1 494	15
Solar	1	0
Wind	1	0
Bioenergy	7	0
Geothermal	0	0
Total	9 855	100

Capacity change (%)	2013-18	2017-18
Non-renewable	+ 14	+ 2.0
Renewable	+ 75	+ 0.1
Hydro/marine	+ 76	0.0
Solar	0	+ 984.3
Wind	0	0.0
Bioenergy	0	0.0
Geothermal	0	0.0
Total	+ 20	+ 1.7

Net capacity change in 2018 (MW)

Non-renewable	Hydro and marine
+ 160	**0**

Solar	Wind
+ 1	**0**

Bioenergy	Geothermal
0	**0**
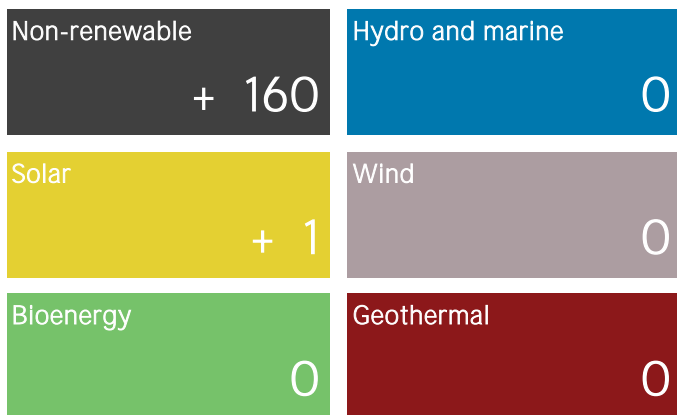
Generation in 2017	GWh	%
Non-renewable	20 859	96
Renewable	789	4
Hydro and marine	754	3
Solar	0	0
Wind	1	0
Bioenergy	33	0
Geothermal	0	0
Total	21 648	100

Renewable capacity in 2018

Pie chart: Hydro/marine 99%, Bioenergy 0%, Solar, Wind, Geothermal.

Net capacity change (MW)

Bar chart (Non-renewable, Renewable) 2013–2018.
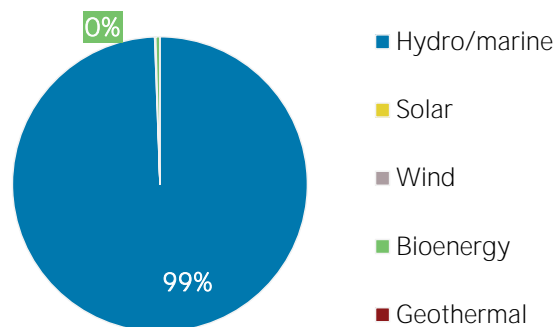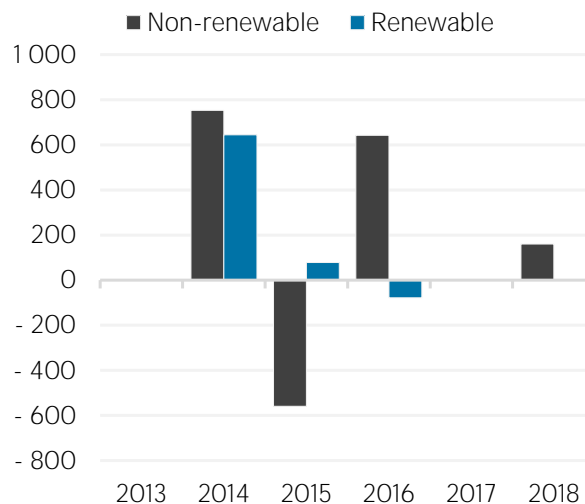
Capacity utilisation in 2017 (%)

	%
Fossil	29
Nuclear	
Hydro/Mar	6
Solar	20
Wind	20
Bio	57
Geo	

Per capita electricity generation (kWh)

Line chart (Total, Renewable) 2012–2017.
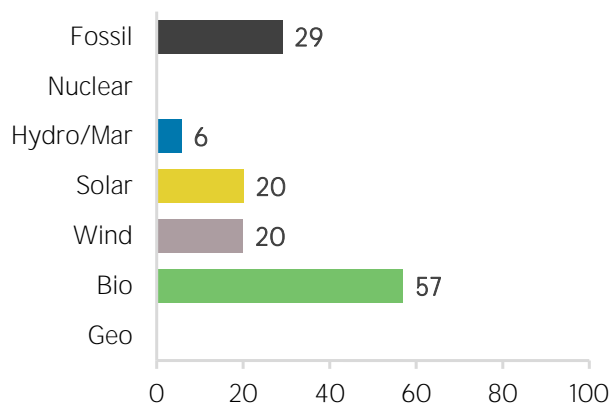
Renewable generation (GWh)

Bar chart (Hydro/marine, Solar, Wind, Bio, Geo) 2012–2017.
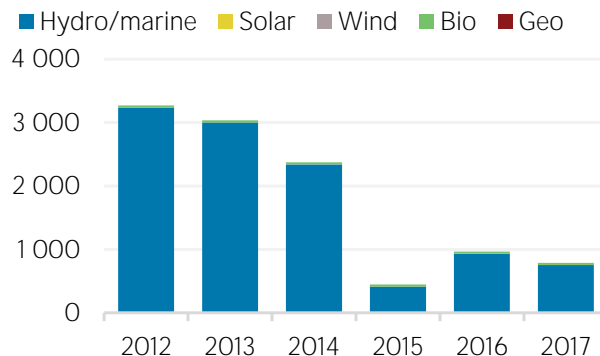
Most immediate clean energy targets & NDCs

	year	target	unit
Renewable energy:			
Renewable electricity:	2030	10	%
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 Law 03 on Energy Conservation 2009

References to sustainable energy in Nationally Determined Contribution (NDC)

	Conditional	Unconditional	unit
- **Renewable energy**			
- electricity	10		%
- transport			
- heating/cooling			
- Energy efficiency			

Energy-related CO_2 emissions by sector

Legend: ■ Elec. & heat ■ Other Industrial ■ Transport ■ Other ■ Buildings

-36%

Mt CO_2 Emissions — years 2012, 2013, 2014, 2015, 2016, 2017

Elec. & heat generation CO_2 emissions in 2017

11 Mt CO_2

- 0%
- 45%
- 55%

■ Coal + others
■ Gas
■ Oil

Avoided emissions from renewable power

Legend: ■ Emitted CO2 ▨ RE Avoided CO2

Mt CO_2 Emissions: Power — years 2012, 2013, 2014, 2015, 2016, 2017
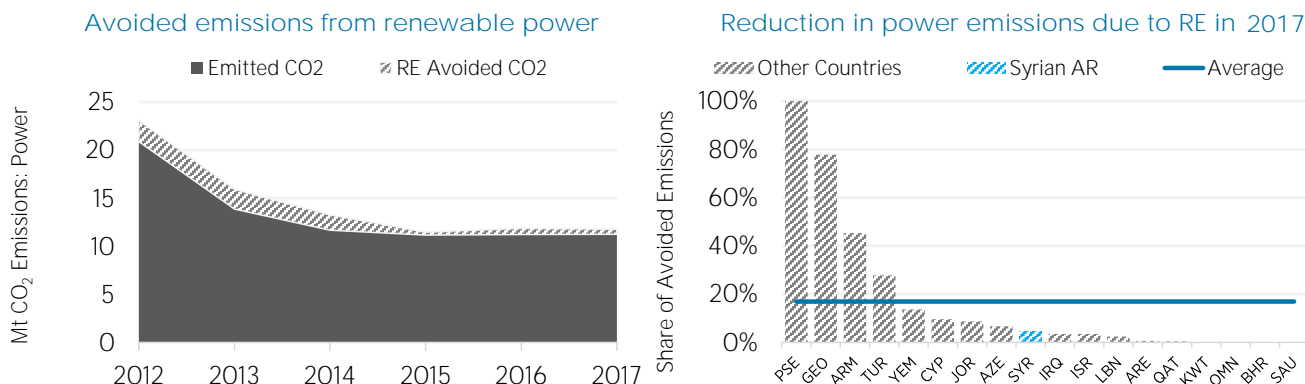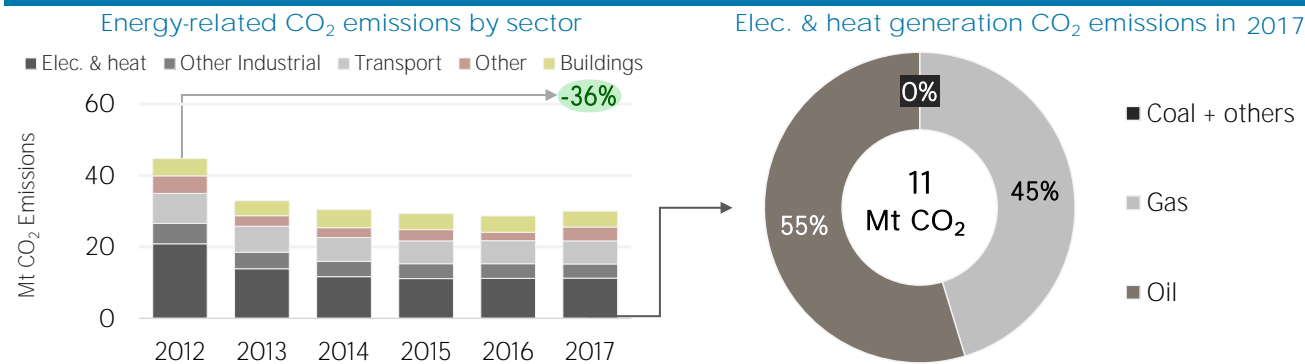
Avoided emissions based on fossil fuel mix used for power

Reduction in power emissions due to RE in 2017

Legend: ▨ Other Countries ▨ Syrian AR — Average

Share of Avoided Emissions — PSE, GEO, ARM, TUR, YEM, CYP, JOR, AZE, SYR, IRQ, ISR, LBN, ARE, QAT, KWT, OMN, BHR, SAU

Reduction is RE Avoided divided by sum of avoided and emitted

Distribution of solar potential

World ▨ Syrian AR ▉

Proportion of land area

Annual generation per unit of installed PV capacity (kWh/kWp/yr)
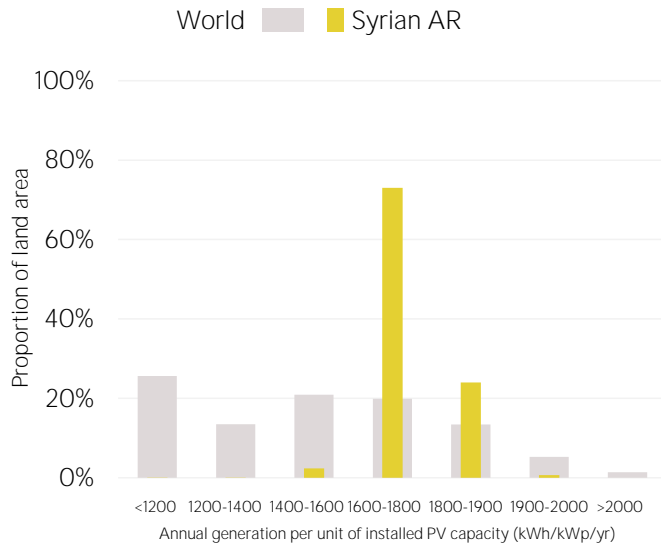
Distribution of wind potential

World ▨ Syrian AR ▉

Proportion of land area

Wind power density at 100m height (W/m^2)
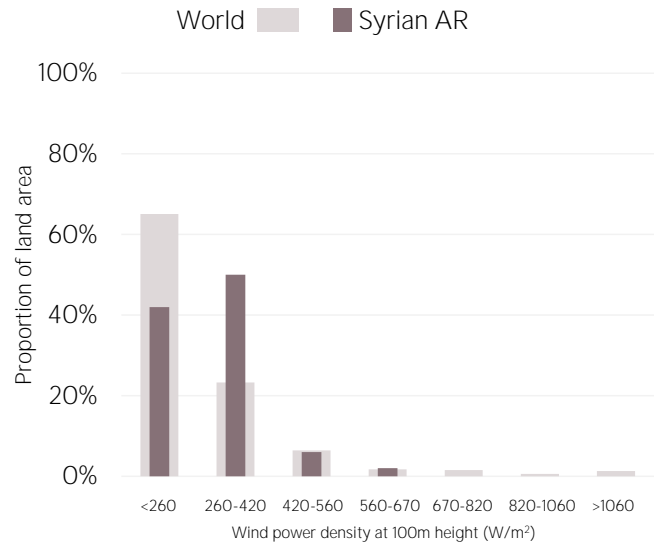
Biomass potential: net primary production

0.5
tC/ha/yr

● = Global average of 3-4 tC/ha/yr
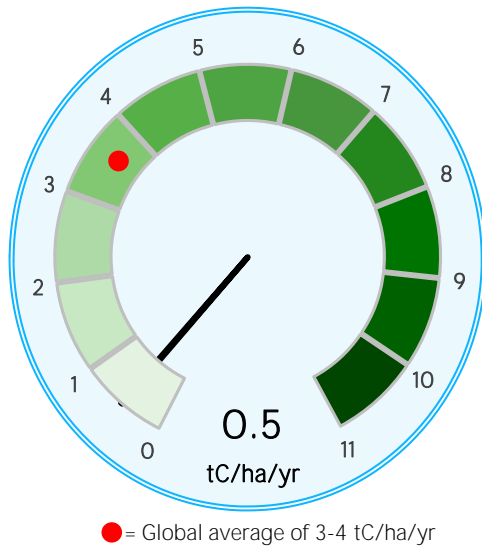
Indicators of renewable resource potential

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.

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