Mongolia

SUSTAINABLE DEVELOPMENT GOAL 7: ENERGY INDICATORS (2018)

|			
Renewable energy (% of TFEC)	3.4	Access to electricity (% of population)	98.0
Energy efficiency (MJ per $1 of GDP)	6.4	Access to clean cooking (% of population)	50
Public flows renewables (2018 USD M)	91.4	Per capita renewable capacity (W/person)	79.306

TOTAL PRIMARY ENERGY SUPPLY (TPES)

TPES	2013	2018
Non-renewable (TJ)	492 025	535 506
Renewable (TJ)	6 312	8 300
Total (TJ)	498 336	543 806
Renewable share (%)	1	2

Growth in TPES	2013-18	2017-18
Non-renewable (%)	+8.8	+37.7
Renewable (%)	+31.5	+11.4
Total (%)	+9.1	+37.2

Primary energy trade	2013	2018
Imports (TJ)	56 293	66 734
Exports (TJ)	382 519	929 372
Net trade (TJ)	326 226	862 638
Imports (% of supply)	11	12
Exports (% of production)	48	67
Energy self-sufficiency (%)	161	257
Net trade (USD million)	+ 19	+ 1 896
Net trade (% of GDP)	+0.2	+14.5

Total primary energy supply in 2018

- Oil
- Gas
- Nuclear
- Coal + others
- Renewables
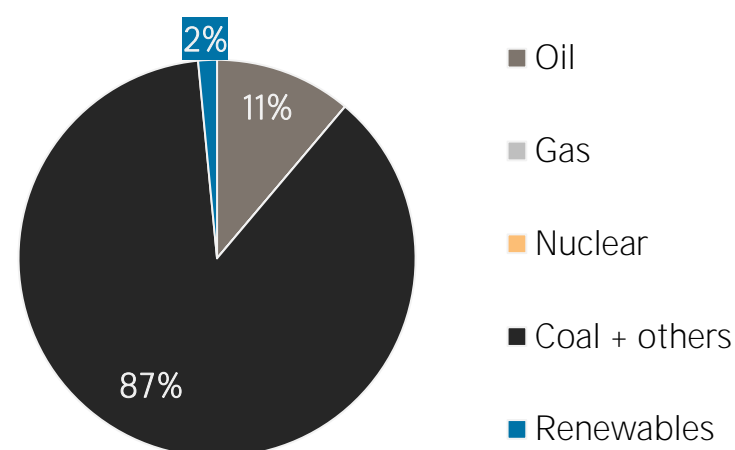
Renewable energy supply in 2018

- Hydro/marine
- Wind
- Solar
- Bioenergy
- Geothermal
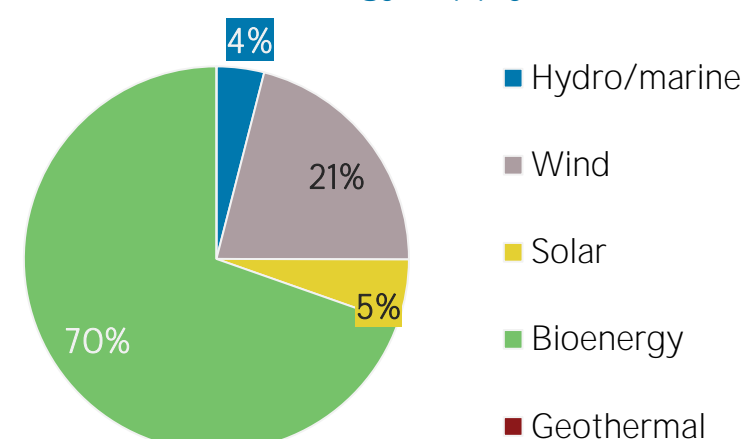
RENEWABLE ENERGY CONSUMPTION

Consumption by source	2013	2018
Electricity (TJ)	689	2 364
Heat (TJ)	0	0
Bioenergy (TJ)	5 481	5 481
Solar + geothermal (TJ)	0	0
Total (TJ)	6 170	7 845
Electricity share (%)	11	30

Consumption growth	2013-18	2017-18
Renewable electricity (%)	+243.1	+38.6
Other renewables (%)	0.0	0.0
Total (%)	+27.1	+9.2

Consumption by sector	2013	2018
Industry (TJ)	427	1 467
Transport (TJ)	29	98
Households (TJ)	5 647	6 048
Other (TJ)	68	232
Renewable share of TFEC	3.0	3.4

Renewable energy consumption in 2018

- Electricity
- Heat
- Bioenergy
- Solar + geothermal

- Industry
- Transport
- Households
- Other
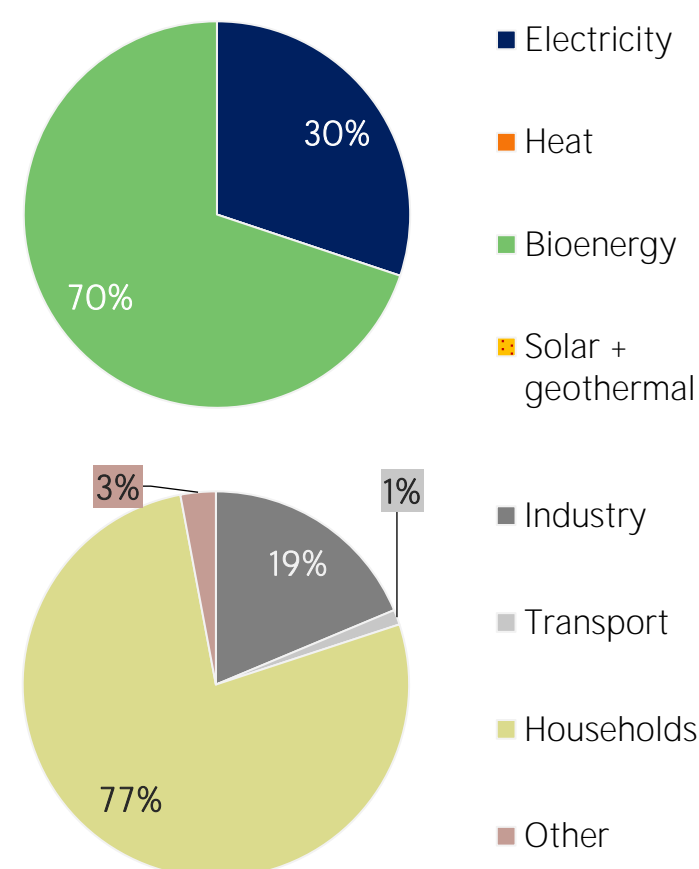
ELECTRICITY CAPACITY AND GENERATION

Capacity in 2020	MW	%
Non-renewable	1 199	81
Renewable	277	19
Hydro/marine	31	2
Solar	90	6
Wind	156	11
Bioenergy	0	0
Geothermal	0	0
Total	1 476	100

Capacity change (%)	2015-20	2019-20
Non-renewable	+ 12	- 0.0
Renewable	+ 227	+ 0.1
Hydro/marine	+ 7	0.0
Solar	+ 1 685	+ 0.4
Wind	+ 208	- 0.0
Bioenergy	0	0.0
Geothermal	0	0.0
Total	+ 28	- 0.0

Renewable capacity in 2020

Net capacity change in 2020 (MW)

Non-renewable	Hydro and marine
- 0	0
Solar	**Wind**
+ 0	- 0
Bioenergy	**Geothermal**
0	0

Net capacity change (MW)
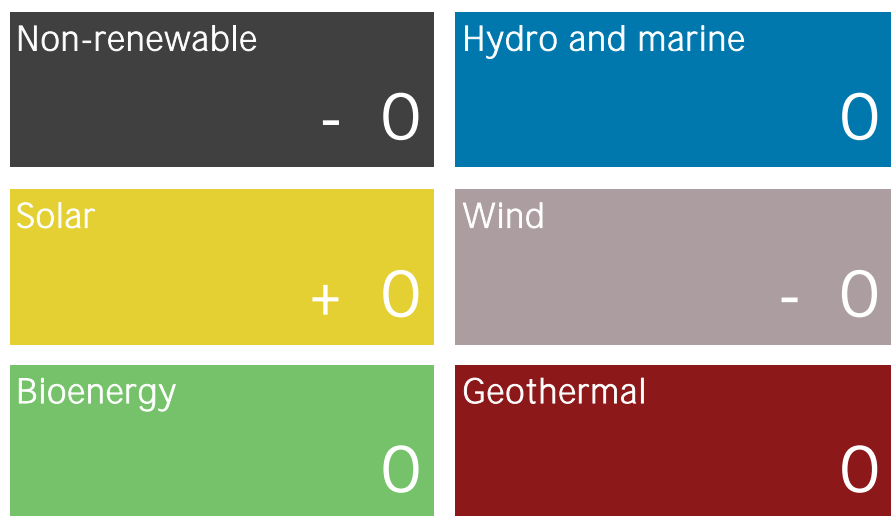
Generation in 2019	GWh	%
Non-renewable	6 236	90
Renewable	664	10
Hydro and marine	87	1
Solar	117	2
Wind	460	7
Bioenergy	0	0
Geothermal	0	0
Total	6 900	100
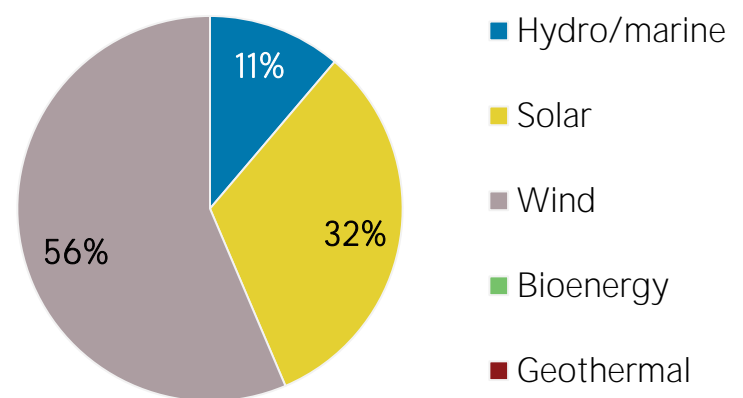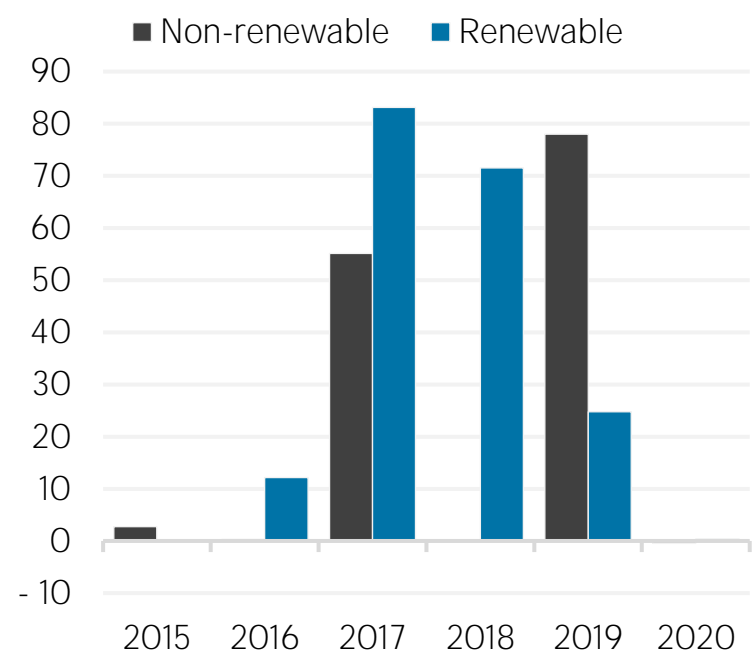
Capacity utilisation in 2019 (%)

Per capita electricity generation (kWh)
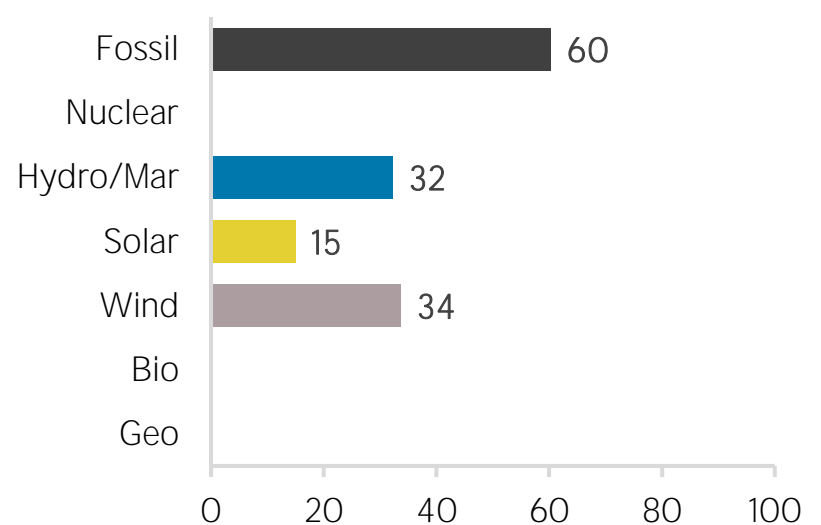
Renewable generation (GWh)
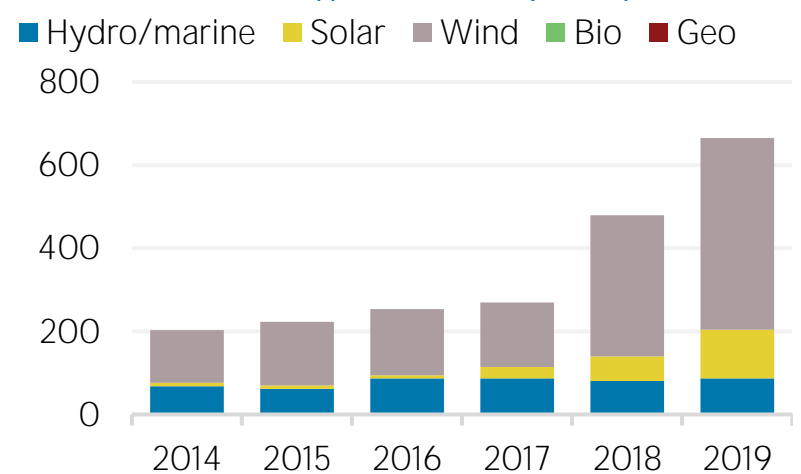
TARGETS, POLICIES AND MEASURES

Most immediate clean energy targets & NDCs

	year	target
Renewable energy:	2050	100 %
Renewable electricity:	2020	20 %
Renewable capacity:		
Renewable transport:		
Liquid Biofuel blending mandate:		
Other transport targets:		
Renewable heating/cooling:		
Renewable Hydropower	2030	675 MW (additional)
Off-grid renewable technologies:		
Energy efficiency (Energy):		
Energy efficiency (Electricity):		

Latest policies, programmes and legislation

1	Mongolia State Policy on Energy 2015-2030	2015
2	Mongolian Law on Investment	2013
3	Mongolia Concession Law	2010
4	Mongolia renewable energy feed-in tariff	2007
5	Renewable Energy Law	2007

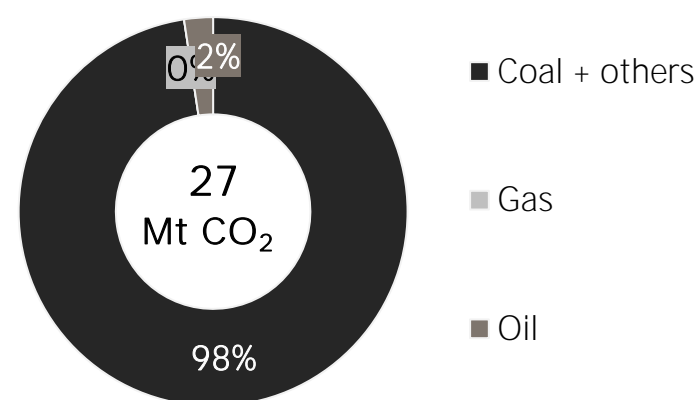## References to sustainable energy in Nationally Determined Contribution (NDC)

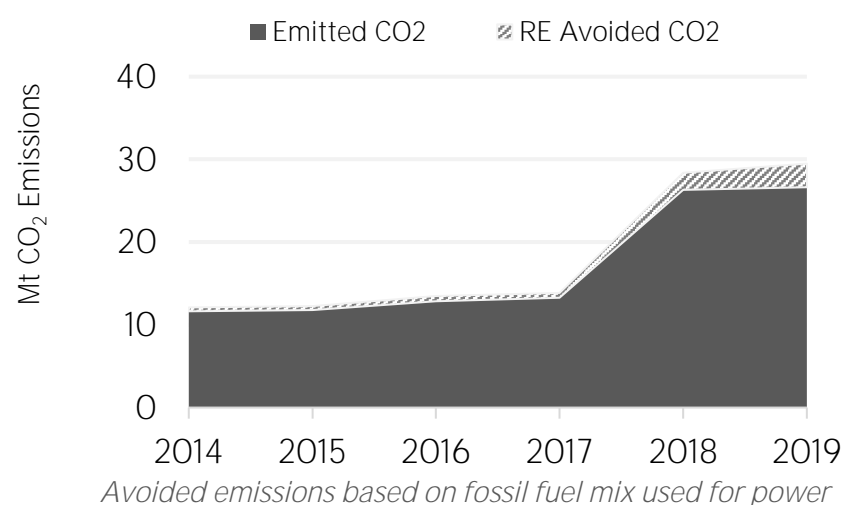|	Conditional	Unconditional	unit
- Renewable energy			
- electricity	20		%
- transport			
- heating/cooling			
- Energy efficiency			

ENERGY AND EMISSIONS

Energy-related CO_2 emissions by sector

+93%
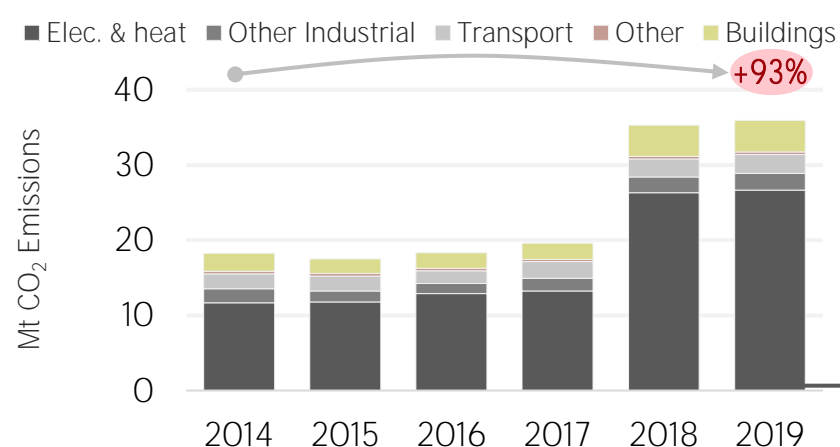
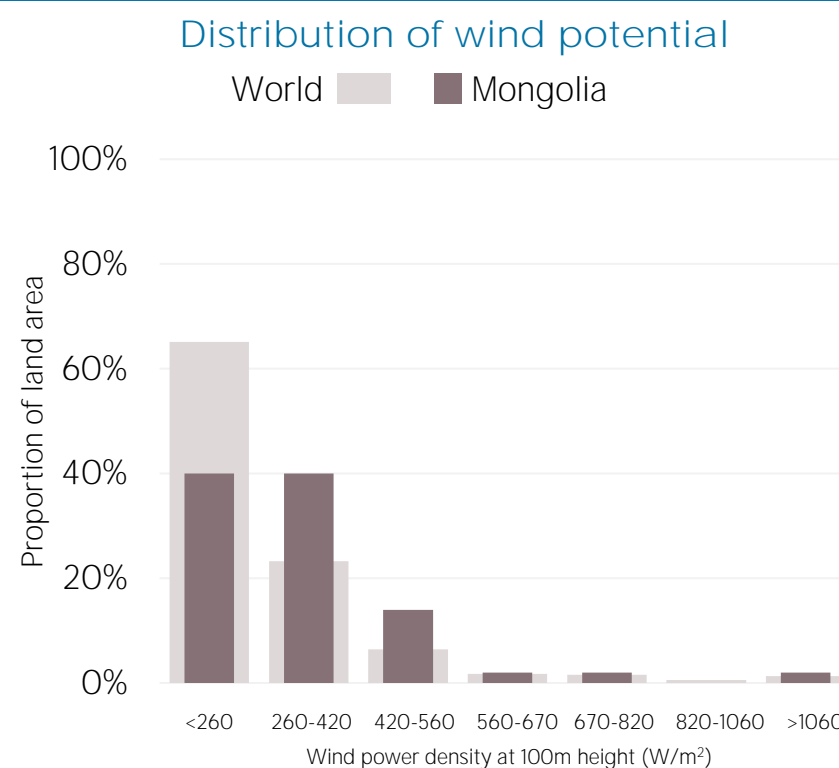## Elec. & heat generation CO_2 emissions in 2019

27 Mt CO_2

- Coal + others
- Gas
- Oil

98%

0% 2%

Avoided emissions from renewable elec. & heat

Avoided emissions based on fossil fuel mix used for power

CO_2 emission factor for elec. & heat generation

MNG — Asia — World

2,155

3,862

Calculated by dividing power sector emissions by elec. + heat gen.

Distribution of solar potential

World ▢   Mongolia ▢ (yellow)

Proportion of land area (y-axis: 0% to 100%)

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

Classes: <1200, 1200-1400, 1400-1600, 1600-1800, 1800-1900, 1900-2000, >2000

Distribution of wind potential

World ▢   Mongolia ▢ (dark)

Proportion of land area (y-axis: 0% to 100%)

Wind power density at 100m height (W/m²)

Classes: <260, 260-420, 420-560, 560-670, 670-820, 820-1060, >1060

Biomass potential: net primary production

0.5 tC/ha/yr

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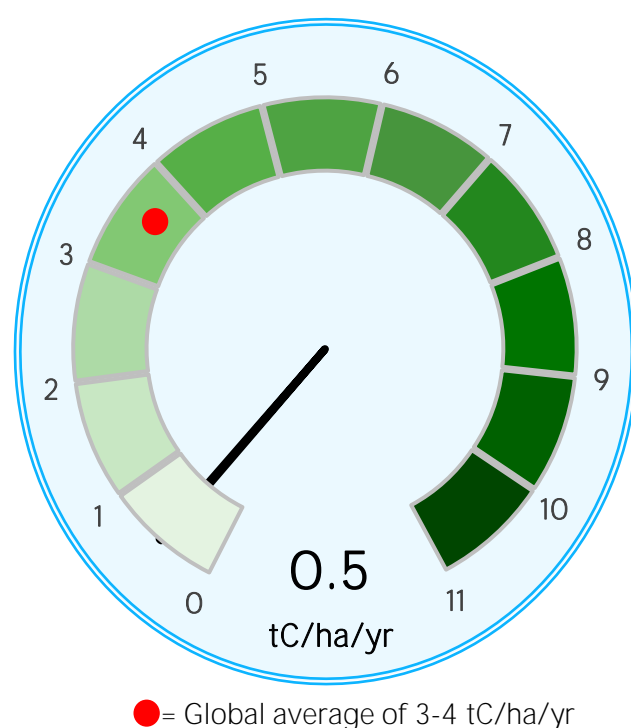
Indicators of renewable resource potential

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/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.

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