

Contribution of Renewable Energy on total energy capacity as on December 2021

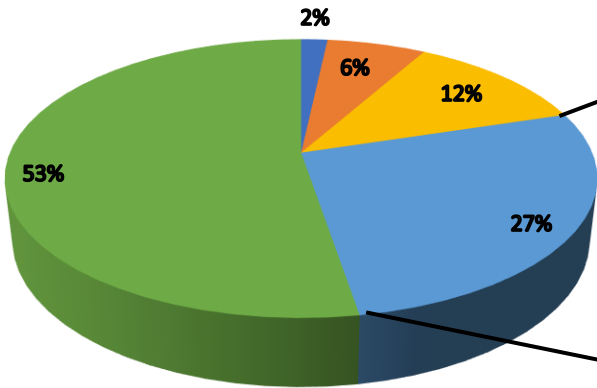
➤ Total installed capacity in India in the year 2021: 393,389 MW (as on 31.12.2021)

The Share of Renewable energy in overall installed capacity in the country is 26.66 % (as on 31.12.2021)

- Wind energy contribution – 10.2%
- Solar energy contribution – 12.5%
- Bio Mass power contribution – 2.6%
- Small hydro projects contribution – 1.2%
- Waste to Energy Plants contribution – 0.1%

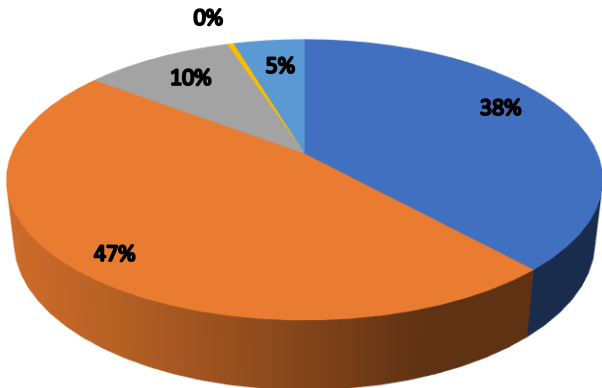
SOURCE CATEGORY	Wind	Solar	Bio-Mass	Small hydro	Waste to energy
INSTALLED GENERATION CAPACITY (MW)	40,083	49,347	10,176	4,839	434
TOTAL	1,04,879 MW				

% Contribution of All Sources in Total Power generation



■ Lignite ■ Gas ■ Hydro ■ Wind, Solar & Other RE ■ Coal

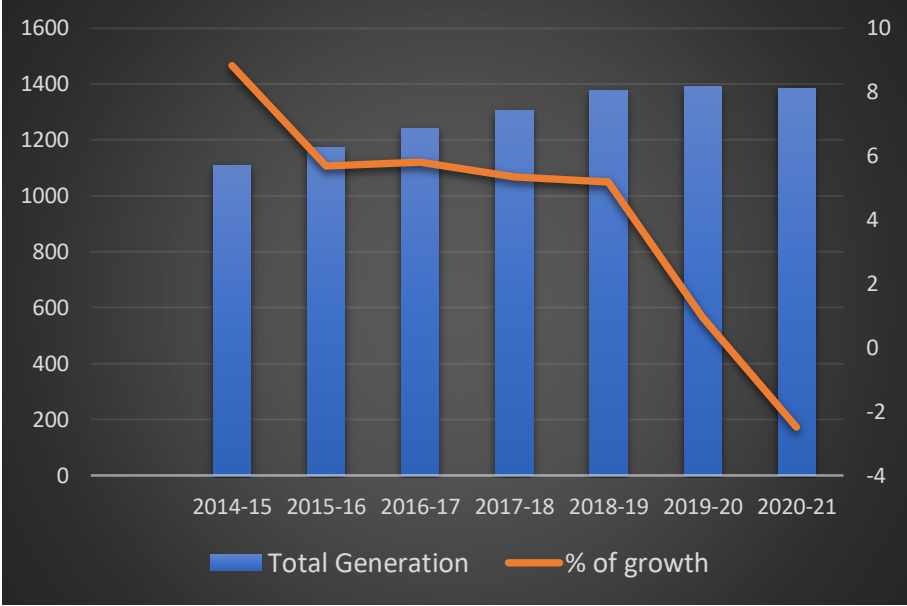
Total Non-Fossil Fuel contribution % in Power Generation



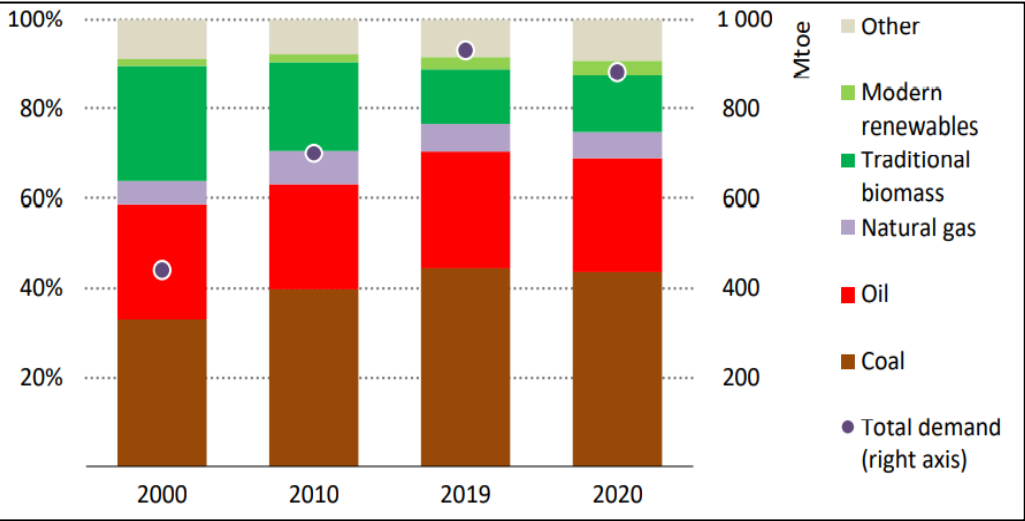
■ Wind ■ Solar ■ BM Power/Cogen ■ Waste to Energy ■ Small Hydro Projects

Total Power Generation and growth over previous years in the country during 2014-15 to 2021-22

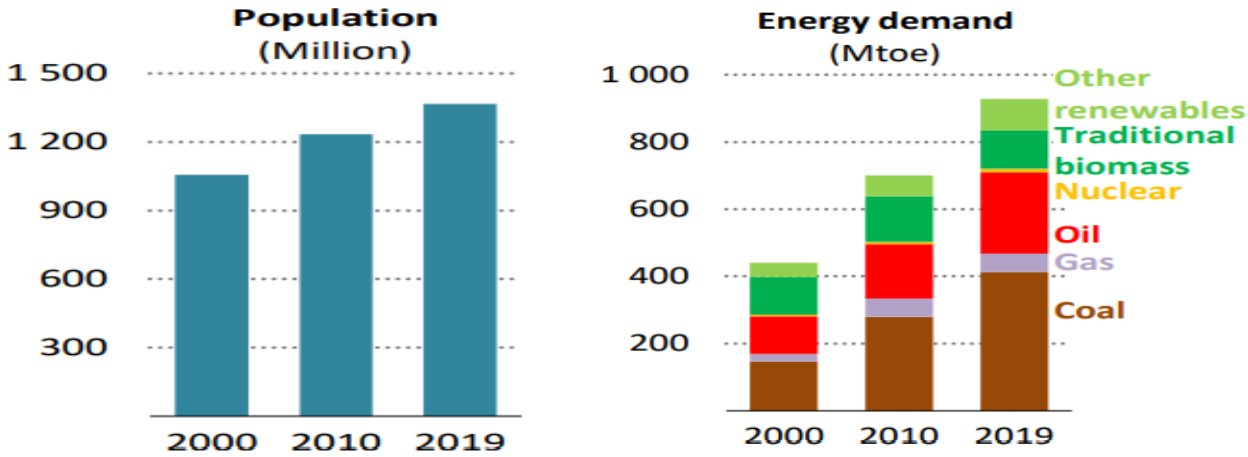
Year	Total Generation (Including Renewable Sources) (BU)	% of growth
2014-15	1,110.392	8.84
2015-16	1,173.603	5.69
2016-17	1,241.689	5.80
2017-18	1,308.146	5.35
2018-19	1,376.095	5.19
2019-20	1,389.102	0.95
2020-21	1,381.827	-2.49



Total primary energy demand in India



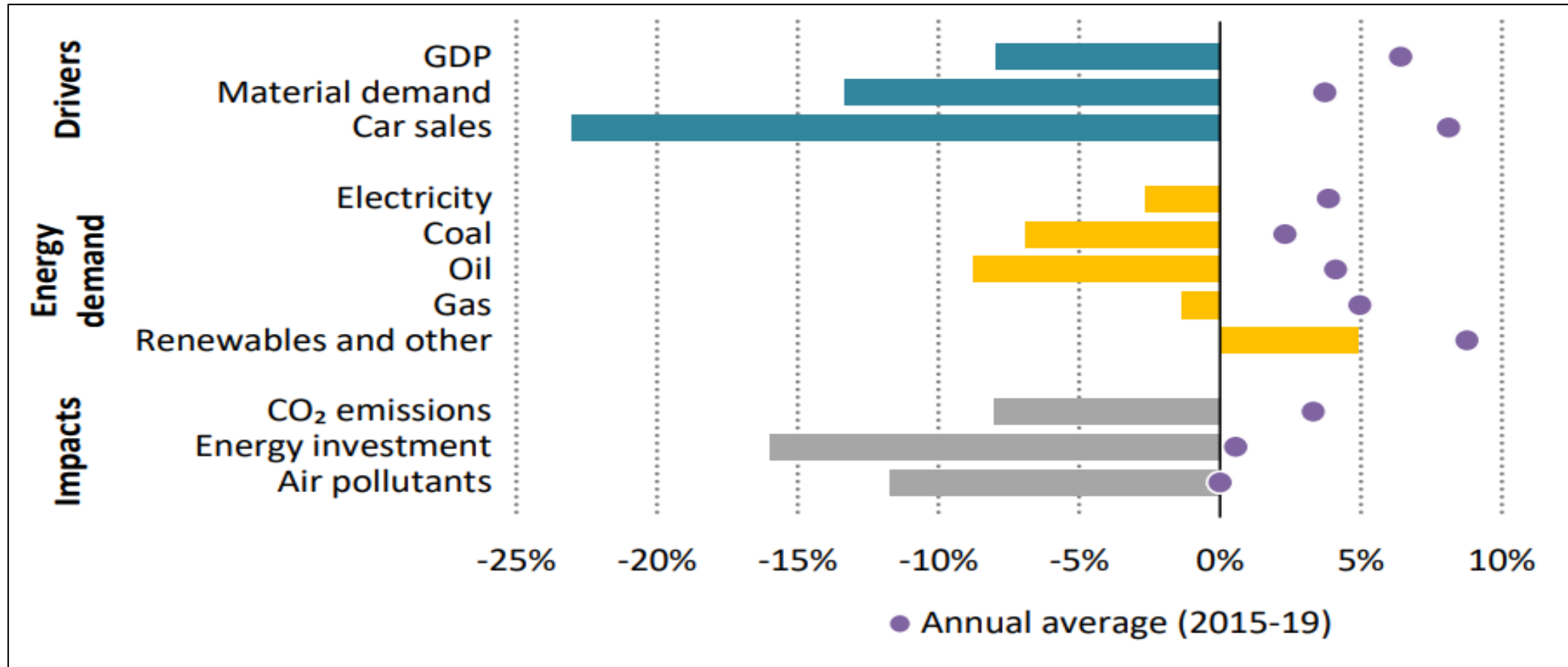
Rising population have underpinned a doubling of energy use in India



Mtoe = million tonnes of oil equivalent, BU - billion units

The impact of Covid-19

- Covid-19 has caused a significant break in India's development.
- In spite the impact of Covid-19, Renewables energy sector has been seen with a positive growth of 5% for year 2020.



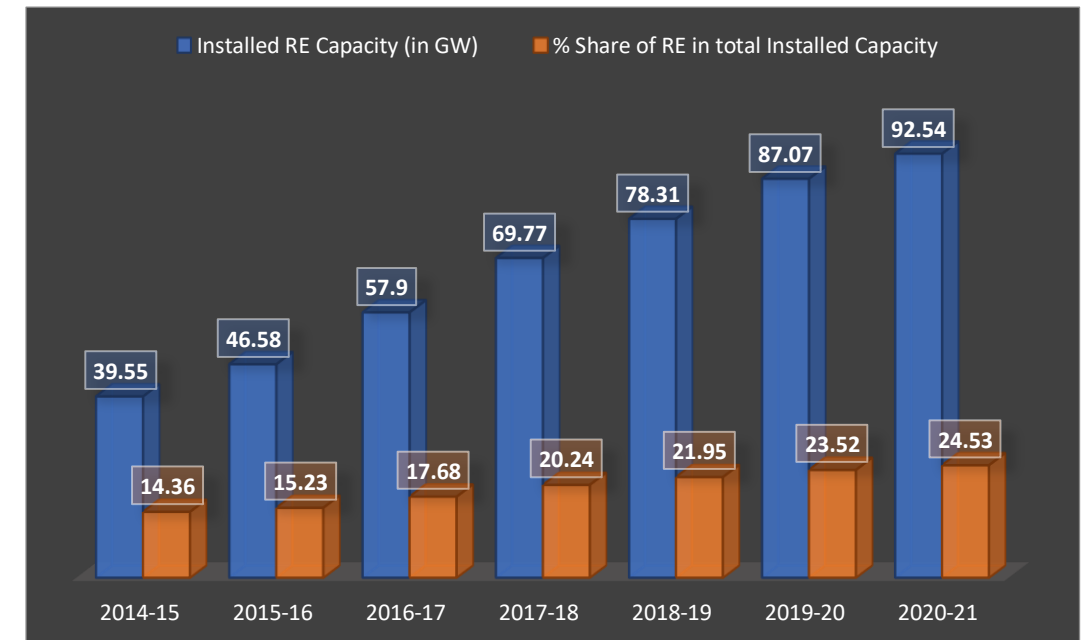
Percentage annual change in key indicators for India in 2020

(Source- [International Energy Agency \(IEA\)](#)
IEA analysis and IEA (2020b); IEA (2020c);
IEA (2021); IEA (2021b); IMF (2021); POSOCO (2021))

India's RE Sector at a Glance (Up to Jan. 2021)

- Globally, today India stands 4th in RE power capacity, 4th in Wind power, and 5th in Solar Power capacity.
- India has one of the highest rates of growth for renewable energy in the world. As per Global Trends in Renewable Energy Investment 2020 report, during the period 2014-2019, renewable energy programs and projects in India attracted an investment of US\$ 64.2 billion (Rs 4.7 lakh crore).
- India has achieved a cumulative installed renewable energy capacity of 92.54 GW of which 5.47 GW was added in the period April 2020 till January, 2021.
- During the period from April 2014 to January 2021, the installed RE capacity of India has increased by two-and-half times, and in the same period, the installed solar energy capacity has increased 15 times.
- The share of variable renewables in installed capacity has doubled since 2014.

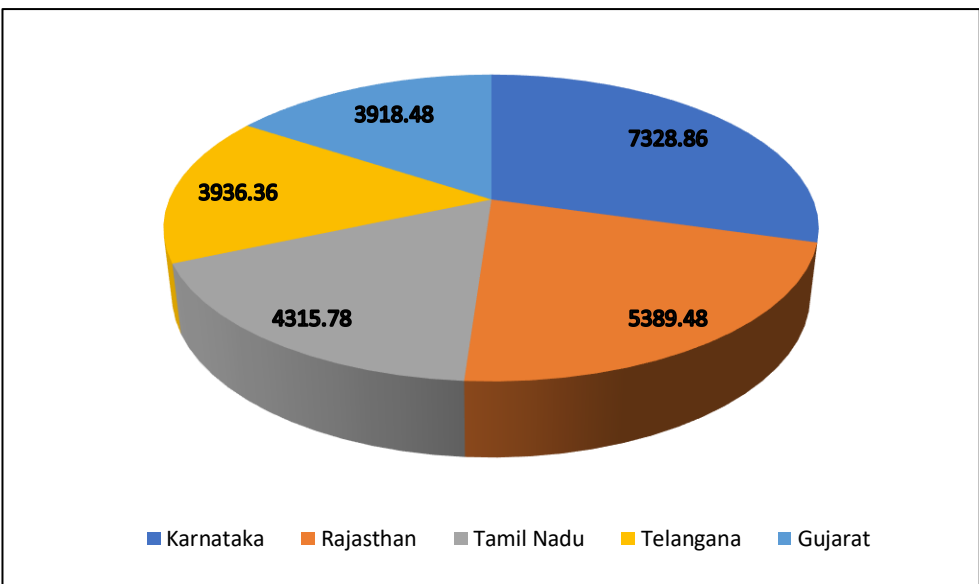
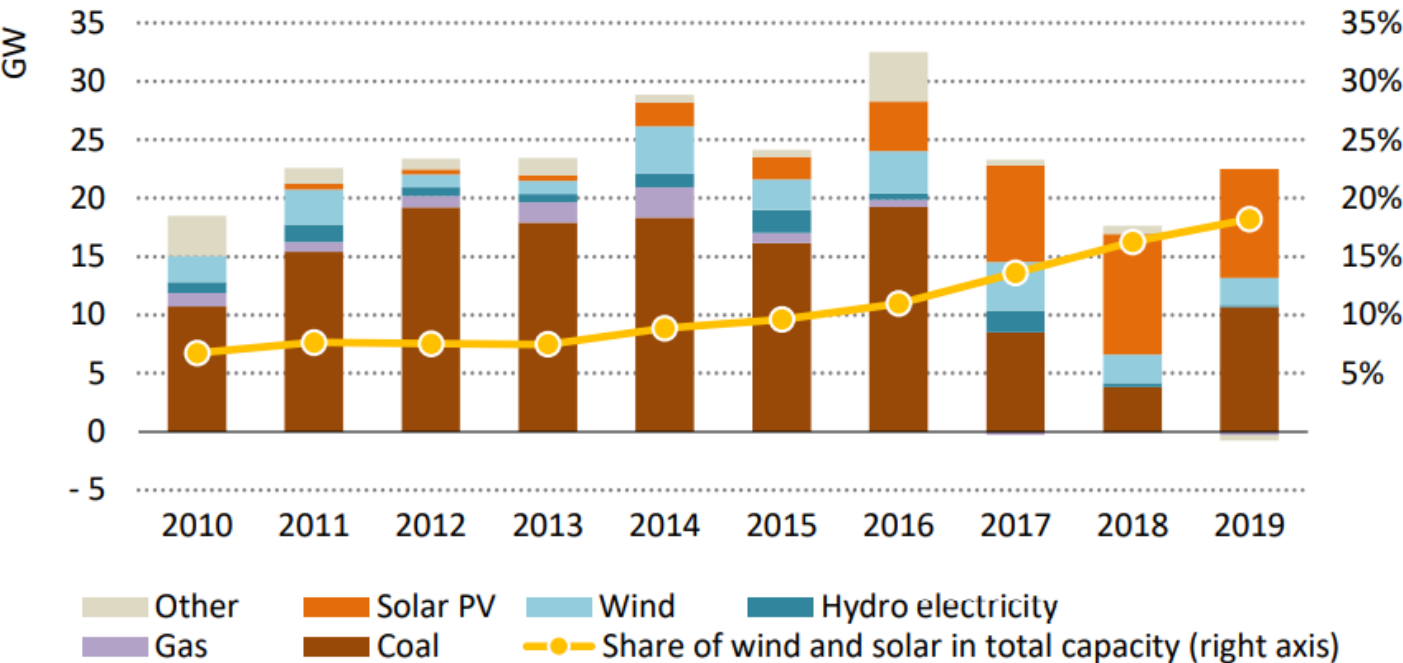
Year	Installed RE Capacity (in GW)	% Share of RE in total Installed Capacity
2014-15	39.55	14.36
2015-16	46.58	15.23
2016-17	57.90	17.68
2017-18	69.77	20.24
2018-19	78.31	21.95
2019-20	87.07	23.52
2020-21	92.54	24.53



MAJOR ONGOING SCHEMES

- Pradhan Mantri Kisan Urja Suraksha Evam Utthan Mahabhiyan (PM KUSUM)
- Roof Top Solar (RTS) Program
- Solar Parks
- Green Energy Corridors
- Greening of Islands

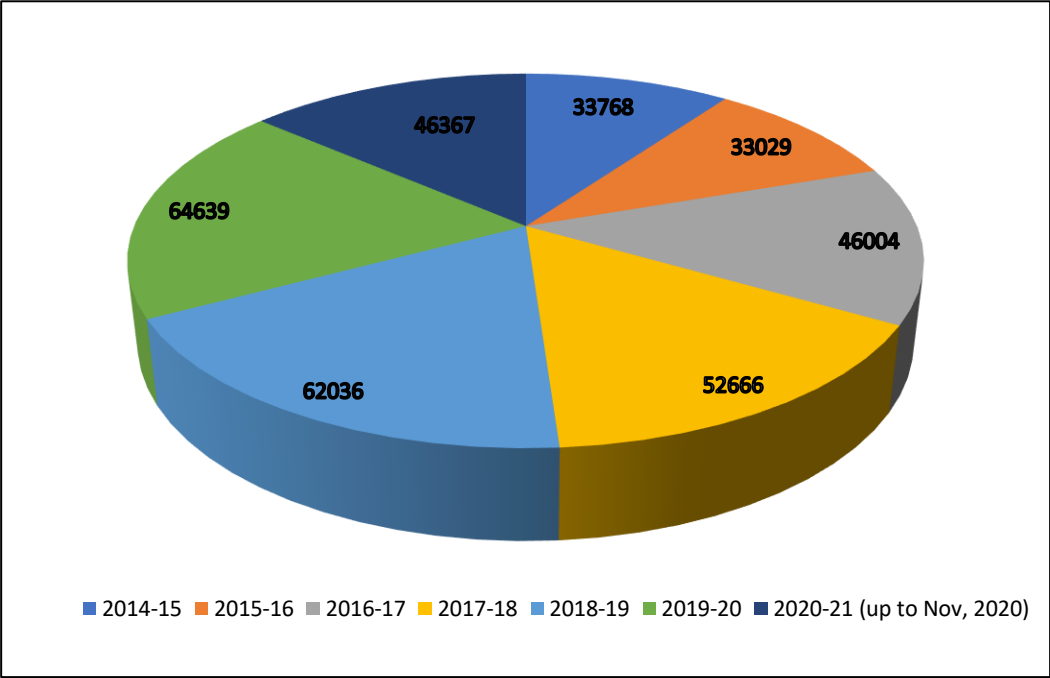
In 2015, a target of 175 GW of renewables by 2022 (excluding large hydro) was set, which included 100 GW of solar and 60 GW of wind capacity. Till 31.12.2020, a total solar power capacity installed was 37.46 GW, with wind adding a further 38.62 GW of capacity. as on 31.12.2021 the solar power capacity is 49.3 GW and wind capacity is 40 GW.



Top 5 States in Solar Installation capacity in MW as on 31-12-2020

Source- Ministry of New & Renewable Energy - Government of India
(<https://mnre.gov.in/>), (*International Energy Agency (IEA)*)

Installed capacity of Wind Power in the country



Year wise Electricity Generation in MU from Wind Energy Sources

WASTE TO ENERGY

As on 31.12.2021, the total installed capacity is 434 MW. The Product Output and Cumulative Capacity of Waste-to-Energy Projects are given in table below (till 31.12.2020):

Output product	Cumulative capacity
Biogas	7,43,508 m3 per day
Bio-CNG/CBG	97,199 kg per day
Power (Grid & O grid)	291.34 MW

State wise Wind Power installed as on 31.12.2020

STATE	Installed Capacity (MW)
Andhra Pradesh	4092.45
Gujarat	8192.52
Karnataka	4868.8
Kerala	62.500
Madhya Pradesh	2519.89
Maharashtra	5000.33
Rajasthan	4326.8
Tamil Nadu	9428.44
Telangana	128.10
Others	4.30
Total (MW)	38624.15

➤ During the year 2020-21, 4 projects have been commissioned with power generation capacity of 300 kW and corresponding biogas generation capacity of 2500000 Liter per day.