



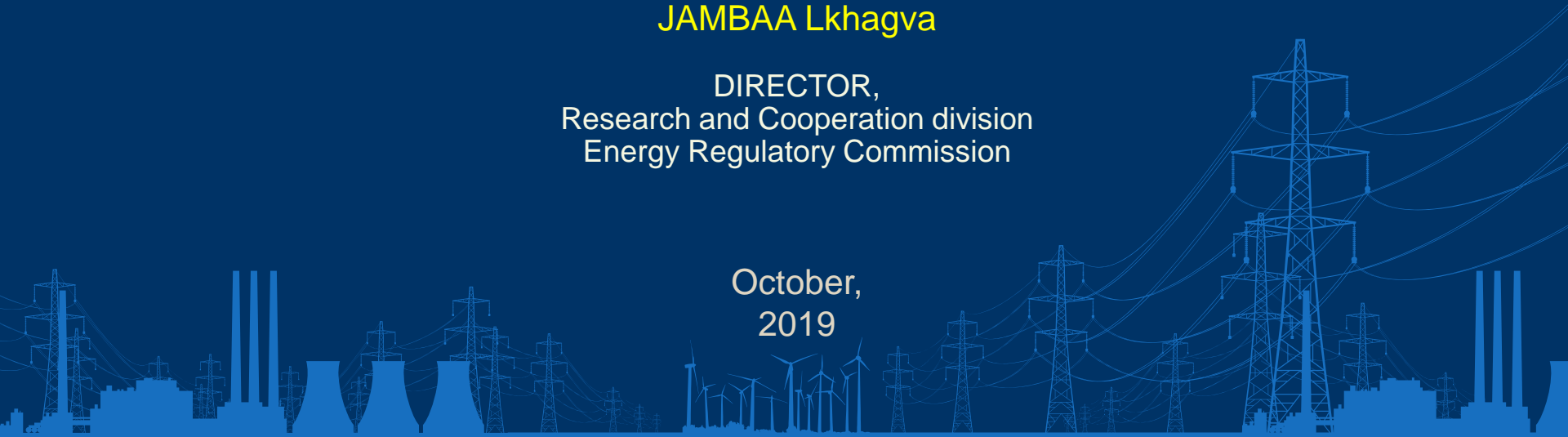
RENEWABLE ENERGY POLICY IN MONGOLIA

Feed-in tariff to Auction

JAMBAA Lkhagva

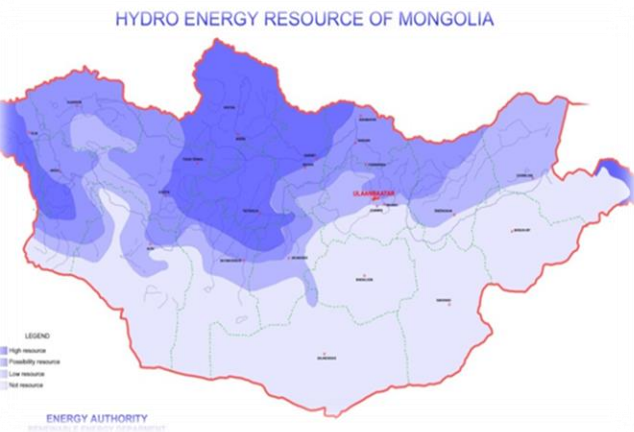
DIRECTOR,
Research and Cooperation division
Energy Regulatory Commission

October,
2019



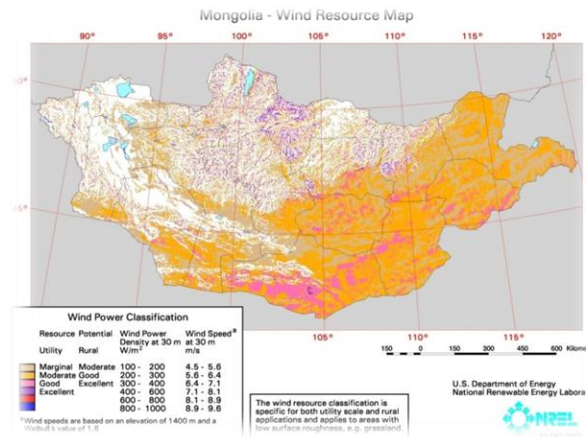
RENEWABLE ENERGY RESOURCE

HYDRO ENERGY



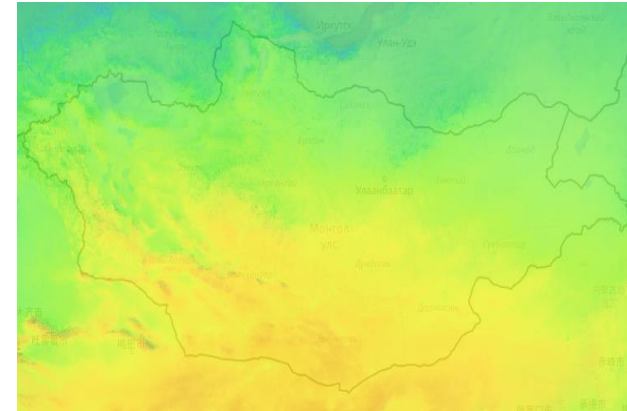
3800 small and big streams and rivers in Mongolia. Hydro power potential about **6417.7 MW**. It would produce **56.2 billion kWh** of electric energy in a year.

WIND ENERGY



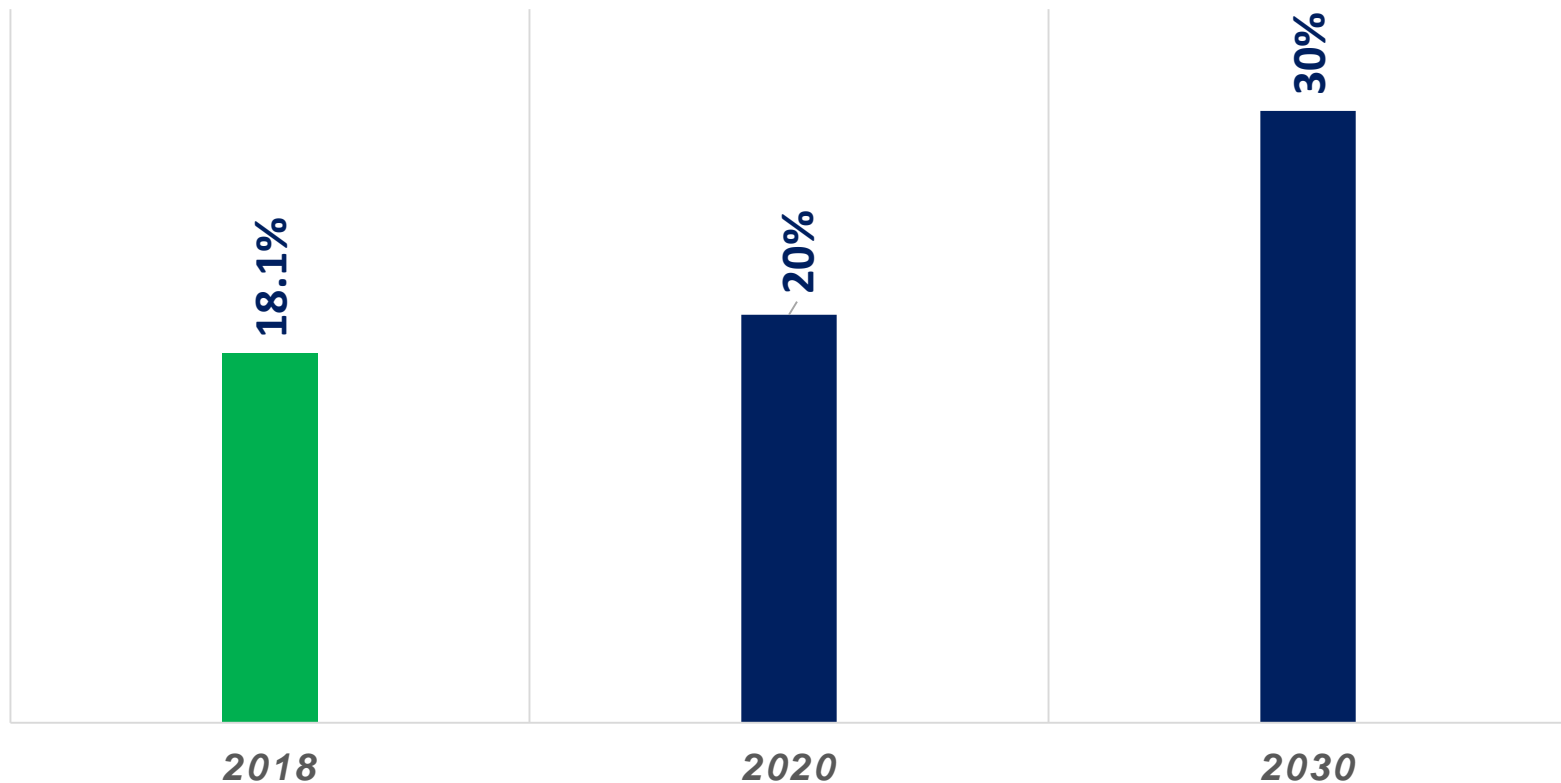
Wind resources assessment made by NREL (USA). Good-to-excellent wind resources equivalent to **1,100 GW** of wind electric potential. Potentially deliver over **2.5 trillion kWh** per year.

SOLAR ENERGY



Annual average amount of solar energy is **1,400 kWh/m²/y** with solar intensity of **4.3-4.7 kWh/m²** per day. Total annual radiation intensity equals to **2.2*10⁶ TW**.

RENEWABLE ENERGY TARGET

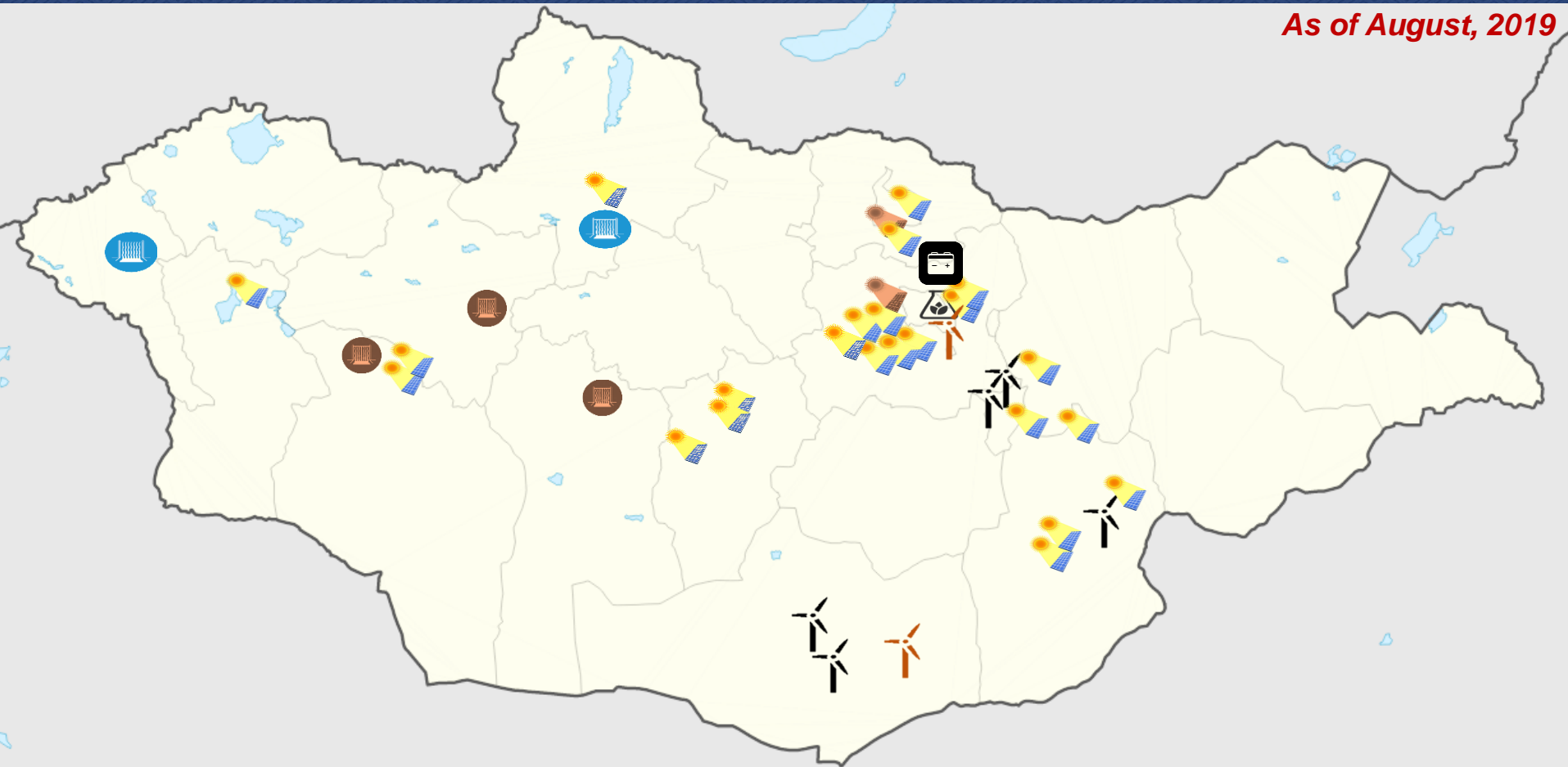







In the State policy on energy, the targets of renewables share in total installed capacity to reach at 20% by 2020, 30% by 2030.

As of end of 2018, total **240.4 MW (18.1%)** of Renewable energy systems (wind, solar and hydro) are in operation.

RENEWABLE ENERGY PROJECTS IN OPERATION AND PLANNED

As of August, 2019

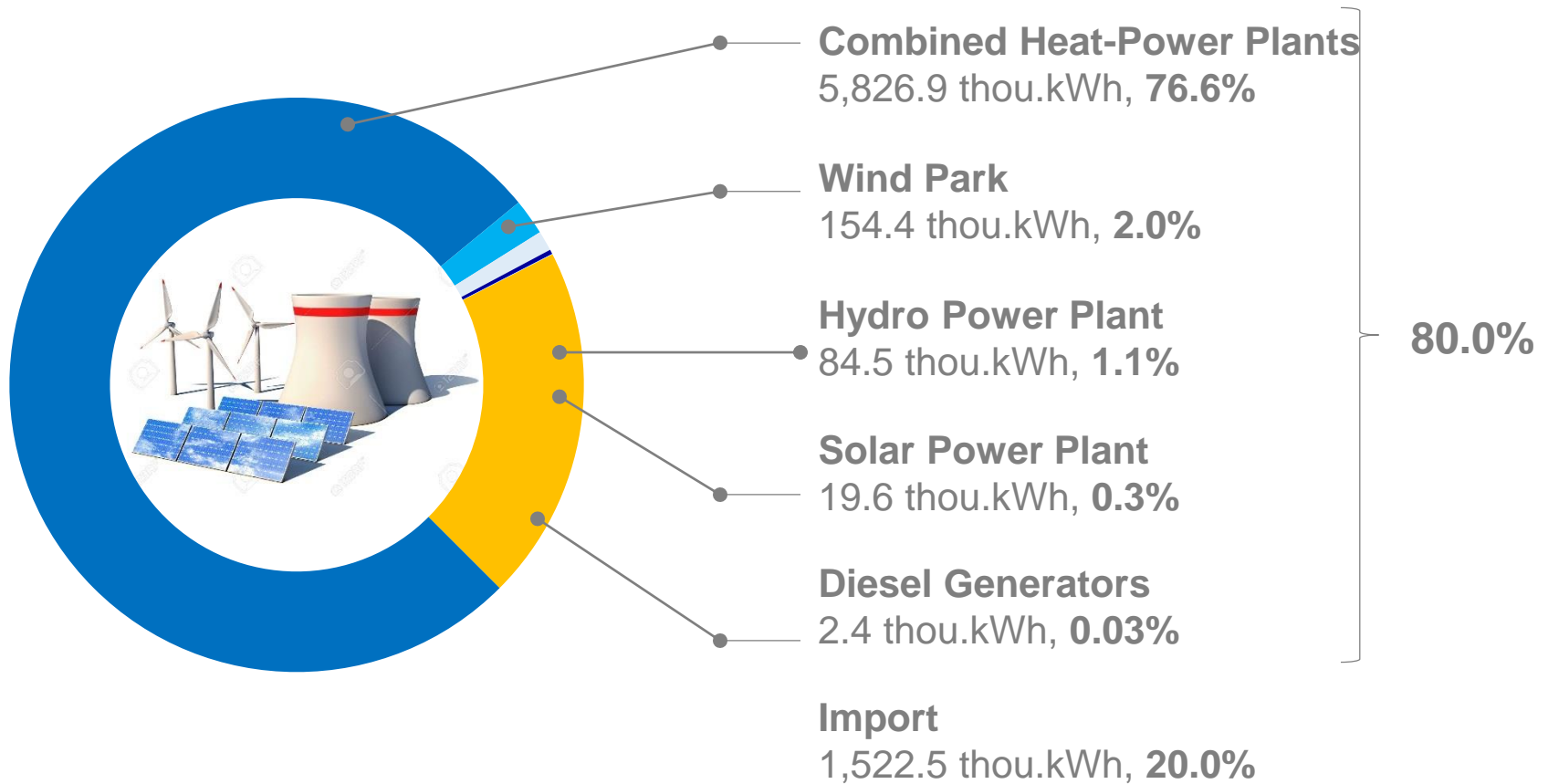


 Wind park  Hydro power plant  Solar PV system  Waste to Energy system  Energy storage

Solar energy-747 MW, Wind energy-602.4 MW, Hydro energy-217.4 MW,
Waste to Energy-32 MW, Energy Storage-50MW

TOTAL: 1648.8 MW

ELECTRICITY PRODUCTION & INSTALLED CAPACITY



Installed Power Capacity 1,239.5 MW

| | |
|----------------|--------------------------|
| CHPs: | 1,090.0 MW, 88.0% |
| REN: | 146.4 MW, 11.8% |
| Deisel: | 2.3 MW, 0.2% |

Installed Heat capacity 5,522.9 MW

| | |
|------------------|--------------------------|
| CHPs: | 3,932.3 MW, 71.2% |
| AHS: | 348.8 MW, 6.3% |
| Aimag HS: | 1,241.7 MW, 22.5% |

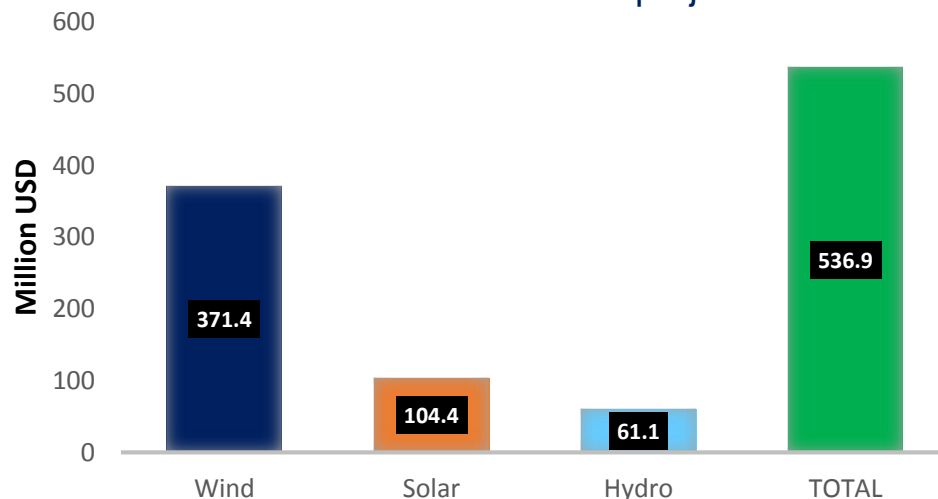
MAIN POLICY DOCUMENTS

Key Documents

| No | Document | Approved/ Last Update | Contents |
|-----------------------------|---|--------------------------|--|
| Legal Framework | | | |
| 1 | Energy Law of Mongolia | 2001/2015 | Regulate matters relating to energy generation, transmission, distribution, dispatching and supply activities, construction of energy facilities and energy consumption that involve utilization of energy resources & Tariff, License |
| 2 | Renewable Energy Law of Mongolia | 2007/2015/ 2019 | Regulate generation and supply of energy utilizing renewable energy sources & Tariff, License |
| 3 | Concession Law | 2010 | Establish the framework for granting concessions to private investors to use existing infrastructure facilities owned by the state, and to construct new infrastructure facilities for the purpose of providing services to the general public |
| 4 | Investment Law | 2013 | Protect the legal rights and interests of investors in the territory of Mongolia, to establish a common legislative guarantee for investment, to stabilize the tax environment. |
| Key Policy Documents | | | |
| 5 | Infrastructure Development Program of Southern Gobi | 2010 | Plans and actions to develop infrastructure for strategic mineral deposits in Gobi area |
| 6 | State Policy on Energy | 2015 | Government Policy for energy sector development for 2015-2030 |

INVESTMENT IN RENEWABLE ENERGY

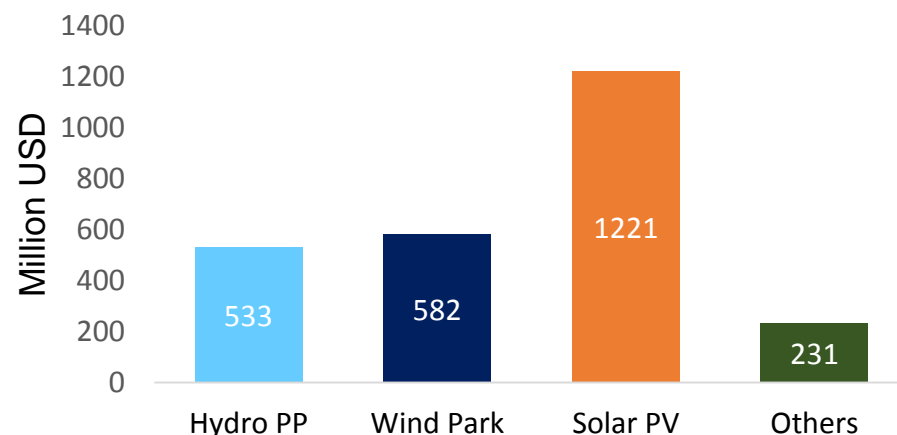
Investments in grid connected Solar and Wind projects



The planned projects are expected to attract **\$2,567 million** investment totally.

Total **\$536.9 million** of investments have been made in Renewable energy projects under **FiT mechanism** in Mongolia since 2007

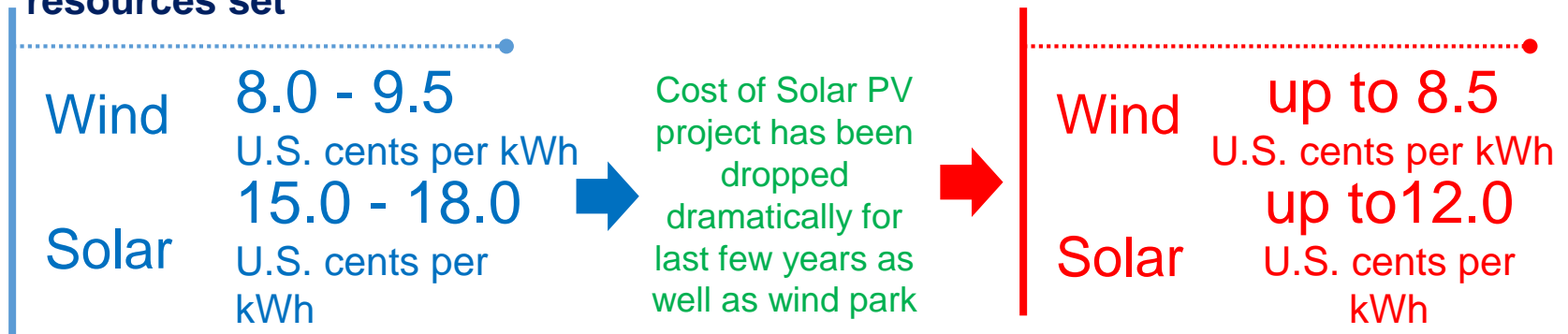
Total estimated investments to planned RE projects



“The Parliament of Mongolia approved the amendments to the Renewable Energy Law (the “Amendments”) on 6 June 2019”

- ❖ **Auction/competitive procurement mechanism introduced:** competitive procurement for construction of renewable energy plants to be connected to the central energy grid, by taking into consideration relevant technical conditions and capabilities, and electricity tariff offers made by potential project developers.

- ❖ **Upper cap of tariffs for electricity generated by solar and wind power resources set**



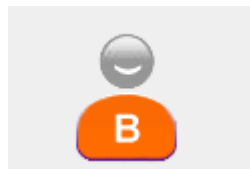
- ❖ **Regulations and tariffs for Distributed Renewable Energy Resource/Net metering are introduced:** Households and companies are now allowed to install solar PV system and wind generator at their facilities and sell excess electricity to grid at higher tariff.
- ❖ **Project implementation guarantee:** To reduce delay risks in completion of renewable energy plants in the projected timeframe.

RENEWABLE ENERGY LAW AMENDMENT

In recent years, renewable energy auction/competitive procurement is considered as the best way to select/support renewable energy projects in the around world.

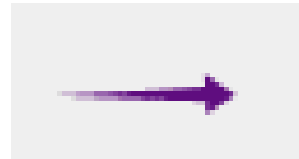
RENEWABLE ENERGY TENDERING

A buyer /Government/ announces an amount of electricity /kWh/ to buy per year and responsible for selecting a project location, and offers potential risk mitigation activity and terms of PPA to Renewable energy project developers



BUYER

Announce amount of electricity to buy per year.



Project will be awarded to developer that offers the lowest selling price.

This mechanism helps both buyer and developer to mitigate project risks in order to reduce selling price.



LICENSES + AGREEMENTS.



INVESTORS/DEVELOPERS

Compete on selling price

REASONABLE PRICE + FIXED INCOME

**THANK YOU FOR YOUR
ATTENTION**

