Renewable Energy Sector: Potential

Energy supply diversification by source

**Hydropower**
Investments of USD **1.4 bn** in 2022–2026 to develop 15 new projects and upgrade 5 existing plants

**Solar**
51 bn tons of oil equivalent

**Wind**
360 mn tons of oil equivalent for wind energy
Uzbekistan: Reforms in the electricity sector

JSC “Thermal power plants”

JSC “Uzbekhydroenergo”

JSC “Regional Electric Grids of Uzbekistan”
Distribution and supply of electrical energy to consumers through distribution networks.

JSC “National Electric Network of Uzbekistan”
Transportation of electrical energy from generation sources through high voltage networks.

Electricity market models and transition stages identified

Together with experts from the WB, ADB and EBRD, a new version of the Electricity Law is being developed

The Electricity Grid Code is being developed with technical support from the World Bank

The Concept for the provision of the Republic of Uzbekistan with electric energy for 2020-2030 was developed

Transition to IEC standards in progress

Uzbekistan: Reforms in the electricity sector
### Renewable Energy Sector: Legislative framework

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<td>create a regulatory framework to accelerate the implementation of renewable energy projects.</td>
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### Presidential Decrees

| Resolution of the Cabinet of Ministers 452 |
| Resolution of the Cabinet of Ministers 452 “On measures to ensure metering the energy produced from renewable energy sources and installations” | Regulation of the Ministry of Energy “On the rules for the placement of large photovoltaic solar power plants” | Regulation of the Ministry of Energy “On the rules of tendering auctions for lowering the starting price in the field of renewable energy sources” | Standard form of an agreement “On purchase of electricity from small renewable energy facilities” |

### Resolution of the Cabinet of Ministers

| the Regulation on connecting business entities producing electric energy, including from renewable energy sources, to the unified electric power system was approved |

### Approved long-term targets

| Approved long-term targets for RE deployment and annual commissioning capacity until 2030. |
Renewable Energy Sector: Targets and regulation

Construction of Flexible generators (Peakers)
Construction of new 500-220 kV Transmission lines
Stability of the grid
Fast responding Energy saving systems
Green Hydrogen (Future perspective)

2019
2030
Gas fired old
Gas fired new
Hydro
Wind
Solar PV
Nuclear
Load balancers, gas
Isolated stations

- Gas fired old
- Gas fired new
- Hydro
- Wind
- Solar PV
- Nuclear
- Load balancers, gas
- Isolated stations

Ministry of Energy of the Republic of Uzbekistan
In accordance with the concept of providing the Republic of Uzbekistan with electric energy for 2020-2030, the following target parameters were approved until 2030:

- **Solar power plants** - 5000 MW;
- **Wind power plants** - 3000 MW;

In accordance with the updated target parameters, as well as the instruction of the President of the Republic of Uzbekistan, new parameters for achieving RES capacity are shown accordingly:

- **2026**
  - Solar - 4000 MW
  - Wind - 4000 MW

- **2030**
  - Solar - 7000 MW
  - Wind - 5000 MW
Renewable Energy Sector: Targets

**Works done in 2019-2021**

- Announced tenders: 6
- The number of projects: 14
- The number of executed agreements: 10
- Capacity of executed projects: 2,897 MW
- Adopted normative and legal documents on projects: 10 Presidential Decrees
- The value of signed projects: 2.8 bn USD

**Commissioned project**

- Investor: Masdar (UAE)
- The capacity of project: 100 MW
- Annual energy production: 250 mn kWh
- Annual natural gas savings: 75 mn m³ of gas
- Annual decrease of CO₂: 100 thousand tons
- Funds raised by the investor under the project: 100 mn USD

**Works planned for 2022-2026**

- The total capacity of renewables: 8,000 MW
- The capacity of solar PV power plants: 4,000 MW
- The capacity of wind power plants: 4,000 MW
- Total annual energy production: 22.7 bn kWh
- Total annual gas savings: 8.8 bn m³ of gas
- Total investments: 7.6 bn USD
- Creation of permanent jobs: 2,000 new workplaces
- Prevention of CO₂ emissions: 9.1 mn tons
In August 31, 2021, there was an announcement about the next projects – “Construction of three PV stations with 250 MW in Bukhara, 150 MW in Namangan and 100 MW in Khorazm regions.

Nowadays, specialists of Ministry of Energy and ADB are doing preliminary studies of the next phase. We are aiming to announce next project with the capacity of 100 MW in Fergana region.

Nowadays, specialists of Ministry of Energy and EBRD are doing preliminary studies of the next phase. We are aiming to announce next project with 200 MW close to the first WPP project.
Next steps
to carry out scientific and technical research aimed at solving problems in the field of energy in the unique facilities and technological areas of the Institute
to develop a short and long-term national strategy for the development of hydrogen energy
to encourage the Center to attract international research grants and support the introduction of hydrogen energy technologies
to conduct the research in cooperation with leading scientific institutions of foreign countries
to involvement of foreign scientists in the development of hydrogen energy technologies in Uzbekistan
to involve the scientists working in foreign research centers in the Center's research
Thank you for your kind attention!

Ministry of Energy of the Republic of Uzbekistan