RES Potential and the Status of RES Regulation

Ministry of Economy
Republic of Uzbekistan
General Issues of Energy Security

• In the conditions of global financial crisis and non-stable prices at the markets of energy sources the question of energy security is especially important for the country importers and exporters of energy sources.
• The question of energy security can be resolved by more intensive involvement of RES into energy balance of the country.
• Use of RES is the quickest way to improve social and living conditions of the population, possibility to develop industry in environmentally acceptable way.
General Issues of Energy Security

Significant RES involvement into energy balance of the country will assist:

- to preserve energy independence of the country for a long time;
- to improve energy supply for economy;
- to improve energy supply to the rural and remote areas;
- to reduce emissions of pollutants into atmosphere;
- to provide sustainable development of the country economy;
- to provide additional export of traditional energy sources to foreign markets;
- to get additional funds when implementing RES projects in the framework of CDM.
RES potential of Uzbekistan

According to evaluation the total RES potential is about 51 billion tons of oil equivalent, technical – 179 mln tons of oil equivalent. At present only 0,6 mln tons of oil equivalent (0,3%) of technical potential is utilized due to the usage of hydro energy of natural and artificial water reservoirs.
Solar Energy - power generation

The total potential of solar energy is evaluated approximately as 99.9% of the total in RES, the technical one is 98.9% of the total.

The use of solar energy could help solving the problem of energy supply in rural and remote areas.

Calculations show that electricity supply to remote rural areas by way of transmission lines construction is about 20 times higher in cost than installation of photovoltaic power plant.
Solar energy- power generation

In 2005-2006 Ministry of economy together with UNDP in Uzbekistan has implemented UNDP project “Clean energy for rural communities of Karakalpakstan” successfully.

In the framework of the project 25 photovoltaic plants have been installed with the capacity of 100-200W, which generate electricity for households and support pumps operation to raise water to remote shepherds settlements.
Solar Energy-Water Heating

A good prospect for the projects in the field of solar energy could be the use of solar collectors to heat water.

In the republic a number of pilot projects dealing with production and use of solar collectors to supply hot water was implemented.
The projects implemented:

- **Tacis EUZ9602 project “Pilot project on energy efficiency in housing sector”** – In the framework of project implementation a system of heat supply was installed in the house in Chekhov St., Tashkent with a field of solar collectors (48м2).

- **Tacis EUZ9803 project “Technical assistance in restructuring heat supply system in Uzbekistan”** – in the framework of the project a pilot project was implemented on use of solar collectors of various producers (including local ones) with a total area of 820 м2 for preliminary heating of feeding water at the “Vodnik” boiler of Bektemirsky district of the city of Tashkent.

- **UNDP project “Technology transfer for local production of solar panels for water heating”** – In the framework of the project European technology and equipment on water heating solar systems production to supply hot water were transferred to two local enterprises- OAO “FOTON” and scientific and production enterprise “ENCOM”
Only some of Uzbekistan zones could be used to install modern wind generators.

But in each particular case a detailed research of wind velocity at various heights should be organized.

In Uzbekistan there is a practice of using wind installations, including hybrid solar-wind one for TV and sound broadcasting station close to Tashkent.
Biogas Usage

Annually in Uzbekistan 6.5mln tons of solid household waste is accumulated, 2.1mln of which is stockpiled and processed at retrofitted landfills (Tashkent), the rest is stockpiled at ordinary dumps.

Waste could be used to get biogas and also composting.

Potential source of getting biogas could be active sludge at the city sewage treatment plants. The total quantity of active sludge being formed annually at aeration stations is more than 1mln tons.
Expert assessment shows that the total annual potential of biogas recovery from animal industry waste is 4.1 bln $m^3$, technical potential is 1.9 bln $m^3$.

In 2006-2007 Ministry of economy together with UNDP in Uzbekistan successfully implemented UNDP project “Assistance to develop biogas technologies in Uzbekistan”. In the framework of this project a pilot biogas installation at the farm “Milk-Agro” in Zangiatinsk district of Tashkent region was built with productive capacity of 300 $m^3$ of biogas per day.

In 2009-2010 in the framework of TACIS project “Support in implementation of Kyoto Protocol” assessment was conducted on possibility of CDM projects implementation on usage of gas from animal industry waste in some regions of Uzbekistan.
Renewable Energy Sources

The following is in demand in Uzbekistan today:

- Autonomous micro HPP in remote areas;
- Wind generators, connected to slightly loaded network of power system, supplying remote areas;
- Solar water heating installations for households;
- Biogas installations for electricity and heat generation;
- Combined wind-solar installations for low capacity devices in the areas of grassland farming.
Thank you!