TAJIKISTAN TOWARDS DEVELOPMENT SUSTAINABLE ENERGY

Energy Charter
Regional Energy Cooperation in Central and South Asia meeting
Astana 7 October, 2013
REPUBLIC OF TAJIKISTAN

- located in the south-east of Central Asia
- Bordering with Kyrgyzstan, Afghanistan, China, Uzbekistan
- Territory – 143,1 km²
- Population - 8 million.
- 93% of territory is mountainous.
- Population density - 47,5 human per 1 km²
- General hydropower potential reserves – 527 billion kW/h per year (8th in the world)

- Technically of hydropower potential possibility to development - 317.82 billion kW/h per year.

- Tajikistan has 4% of the world hydropower potential
### POTENTIAL OF HYDROPOWER RESOURCES OF THE RIVER BASINS OF THE REPUBLIC OF TAJIKISTAN

<table>
<thead>
<tr>
<th>River basins</th>
<th>Average Annual Power in MW</th>
<th>Average Annual Power in TW</th>
<th>Share in total of capacity, in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panj</td>
<td>1430</td>
<td>122.9</td>
<td>23.2</td>
</tr>
<tr>
<td>Gunt</td>
<td>2260</td>
<td>19.8</td>
<td>3.73</td>
</tr>
<tr>
<td>Bartang</td>
<td>2969</td>
<td>26.01</td>
<td>4.93</td>
</tr>
<tr>
<td>Vanj</td>
<td>1191</td>
<td>10.34</td>
<td>1.96</td>
</tr>
<tr>
<td>Kizil-Su</td>
<td>845</td>
<td>7.40</td>
<td>1.39</td>
</tr>
<tr>
<td>Yazgulom</td>
<td>1087</td>
<td>9.52</td>
<td>1.78</td>
</tr>
<tr>
<td>Vakhsh</td>
<td>28670</td>
<td>251.15</td>
<td>48.00</td>
</tr>
<tr>
<td>Kofarnihon</td>
<td>4249</td>
<td>37.22</td>
<td>7.00</td>
</tr>
<tr>
<td>Karo-Kul Lake</td>
<td>103</td>
<td>0.90</td>
<td>0.17</td>
</tr>
<tr>
<td>Surkhan-Daryo</td>
<td>628</td>
<td>5.50</td>
<td>1.03</td>
</tr>
<tr>
<td>Zarafshon</td>
<td>3875</td>
<td>33.94</td>
<td>6.38</td>
</tr>
<tr>
<td>Sir-Daryo</td>
<td>260</td>
<td>2.28</td>
<td>0.43</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>60167</strong></td>
<td><strong>527.06</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
List of existing Hydro Power Plants (HPP) | Installed capacity in MW
--- | ---
1. Nurek HPP | 3000.0
2. Baipaza HPP | 600.0
3. Sangtuda-1 HPP | 670.0
4. Sangtuda – 2 HPP | 220.0
5. Cascade of HPPs on Vakhsh river | 285.05
   including
   5.1. Golovnaya HPP | 240.0
   5.2. Perepadnaya HPP | 29.95
   5.3. Centralnaya HPP | 15.1
6. Kairakkum HPP | 126.0
7. Cascade of HPPs on Varzob river | 25.43
8. Pamir HPP-1 | 28
9. Khorog HPP | 8.7
- Sangtuda HPP-1. Installed capacity 670 MW. The project was successfully completed in 2009 with equity participation of the Russian Federation.

- Sangtuda-2, 220 MW, the construction of which has been successfully implemented with the Islamic Republic of Iran. First aggregate has been already commissioned.

- In 2009 was successfully completed and put into operation transmission lines:
  - 500 kV "South-North". Length - 386 km, capacity - 8.6 billion kWh per year.
  - Transmission line 220 kV "Lolazor-Khatlon." Length - 90 km.
  - double circuit transmission lines - 220 kV "Sangtudah (Tajikistan) - Puli Khumri (Afghanistan)."
TECHNICAL DATA:

- INSTALLED CAPACITY: 200 MW
- 4 x 50MW plants

PROVIDING HEATING TO 1.300 MILLION SQUARE METERS
The main goals of the Republic of Tajikistan in the framework of the UN initiative "Sustainable Energy for All is" :

1. Full access to reliable electricity to 5.6 million people living in rural area of Tajikistan.

2. Energy efficiency: reduction of energy losses in electric networks up to 10%, in heating systems up to 20% and increase energy efficiency in all sectors, including irrigation systems and consumers, at least to 20%.

3. Renewable energy sources: by using 20% of RES to increase production of electricity.
• Government of the Republic of Tajikistan is heading towards deeper cooperation with the world economic community.

• Tajikistan signed the Energy Charter Treaty and Protocol on Energy Efficiency and related Environmental Aspects

• Tajikistan is member of the Energy Council of the CIS

• Recently Tajikistan became a member of the World Trade Organization

• Government is progressing towards country membership to IRENA (International Renewable Energy Agency)
After adoption of the State program for the construction of small hydro power plants (2.02.2009, #73) total amount of small HPP’s come to 306 units ranging from 5 to 4300 kW.

That is, along with the construction of large facilities, for the construction of small hydro power plants is also given importance.
Thank you for your attention

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