

JICA TRAINING AND Dialogue Program

Energy Policy Training

Country: Tajikistan

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Tajikistan





Policies for Development of Energy Sector

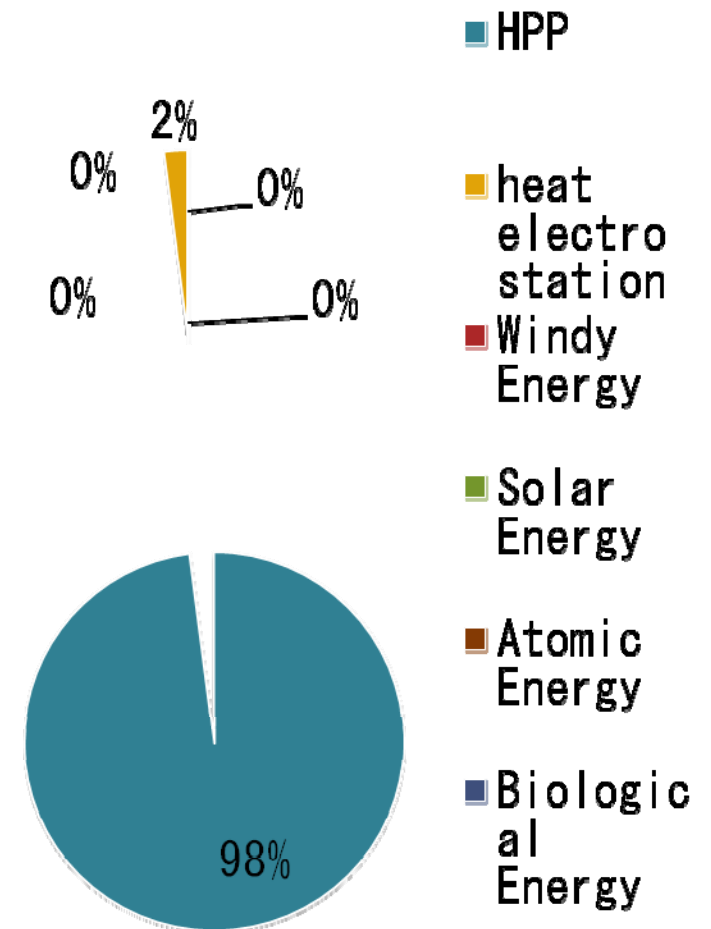
Government has adopted:

- ❖ A Medium Term Tariff policy for electricity (and gas)
- ❖ A concomitant Social Protection Policy
- ❖ Measures to improve financial discipline
- ❖ Private sector participation is sought in distribution, and in smaller generation plants
- ❖ Large projects will of course be developed with private sector participation

OBJECTIVE

- Hydro-power engineering in the Republic of Tajikistan: current situation and prospects
- Coal sector of the Republic of Tajikistan: current situation and prospects

Energy sector RT





Hydro-power: current situation

- Tajikistan is the basic water recourse in Central Asia region
- High hydro-potential recourse
- Tajikistan has the 8th highest hydro recourse in the world
- Tajikistan possesses of 4% of hydro energy potential
- Value of potential hydro energy 527,06 billion kw.h in year

Hydro-power: current situation

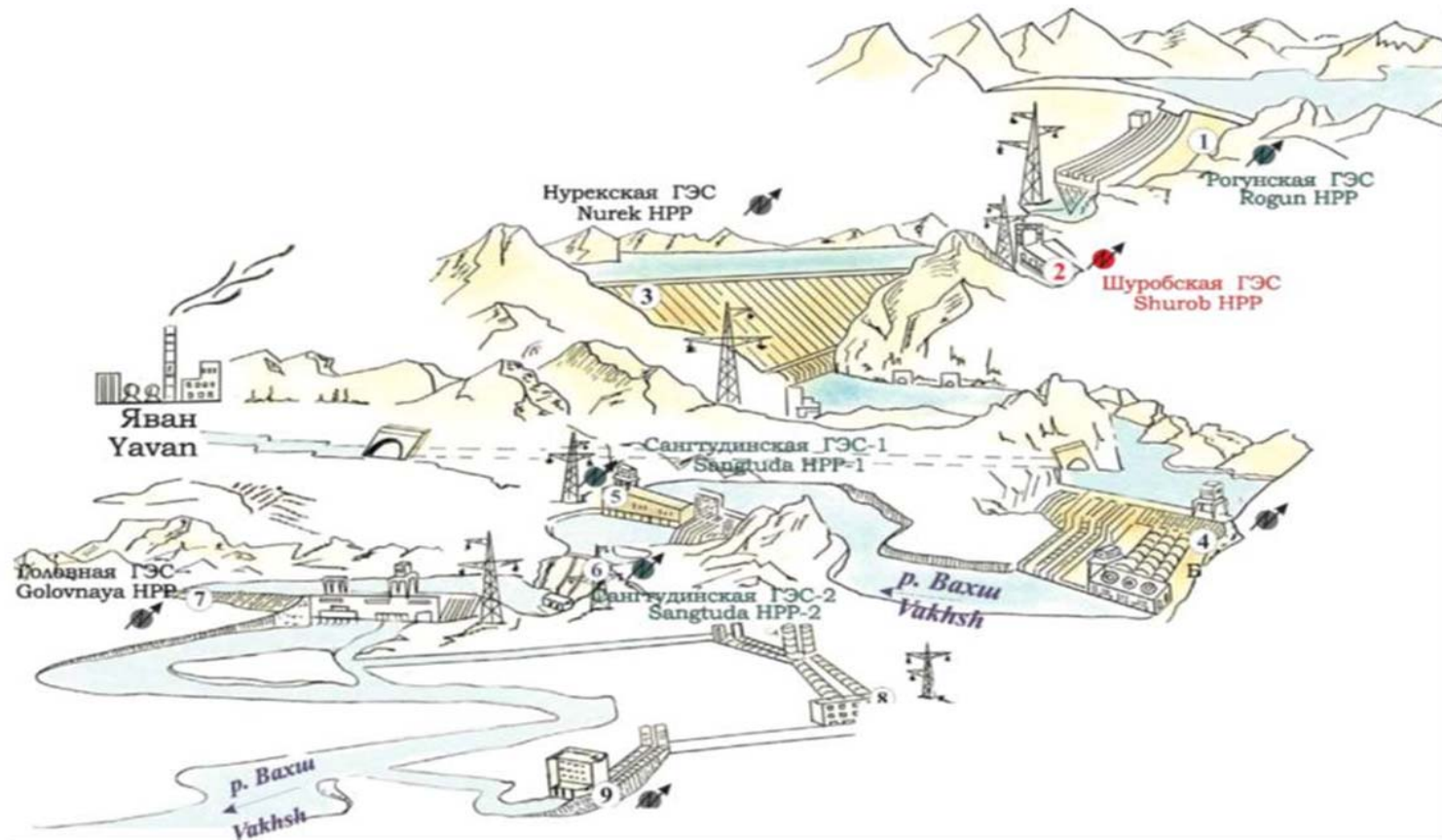
#	Power stations	Install capacity, Mwt	Maximum head.m	Average annual output, kW-h
1	Nurek	3000	275	10,8
2	Baipaza	600	70	1,8
3	Sangtuda - 1	670	60	1,8
4	Sangtuda - 2	220	20	0,49
5	Golovnaya	210	31	1.1
6	Perepadnaya	29.6	40	0.25
7	Central	18.0	27	0.11
8	Total			16,7*



Hydro-power: current situation

- Sangtuda-1 – 670 Mwt successfully realized by Russian company Rusal (2010)
- Sangtuda-2 –first generator 220 Mwt successfully realized by Islamic Republic Iran (the second generator planned by 2013)
- Increasing generation to 2,3 billion kwt/h

Hydroelectric resource river Vahsh





Hydro-power: problems

- Depreciation of the equipment's from its long use
- Lack of electricity in winter
- Detachment of the power system of Tajikistan form the unified energy system of SAZ
- Shortage of the qualifies specialists in the energy sector
- Lack of alternative electric energy sources in the country.



Prospective energy system of Tajikistan

❖ **Program for Development of Fuel and Energy complex Subsectors during 2007-2015:**

- Calls for continuation of implementation of projects on rehabilitation and modernization of major facilities of the energy system, incl. power plants, transformer substations, transmission lines
- Energy Loss reduction, efficiency improvement and conservation

❖ **Projects on upgrade of power plants, concurrently with their rehabilitation:**

- Increase in the capacity of units by an incremental 10%
- Increase in the design capacity of HPPs by 350-400 MW
- Works are completed on:
 - ❖ Rehabilitation of Centralnaya HPP (30 MW, ADB credit), development of feasibility study for modernization of Kairakum HPP(126 MW), Varzob HPP cascade (25 MW) [USTDA grant].
- Preparation of Nurek HPP (3000 MW) upgrade and rehabilitation feasibility study is nearing completion

Hydro-power: prospective and construction small power stations

#	Power stations	Average annual consumptions of water, m3	The useful volume of the reservoir, km3	Established capacity, km	Generation billion, kw h
1	Rogun	628	8,6	3600	13,3
2	Shurabskaya	628	0,02	850	3,0
3	Sangtuda-2 (second generator)	658	0,05	220	0,93
4	Modernization all existence HPP's	10%		300-400	1,7
5	Total				26.4



Development of Small Hydro

- **Program of Micro-HPP Construction with Involvement of Domestic and Foreign Investors during 2007-2020:**
- Was adopted by the GoRT in October 2006
- 71 small HPPs with aggregate capacity of 75.6 MW and generation output of 800 million kWh per annum.
- IsDB, ADB, UNDP and others already financing 23 (micro-HPPs (should be commissioned by (2014)



Coal sector of the Republic of Tajikistan: current situation and prospects

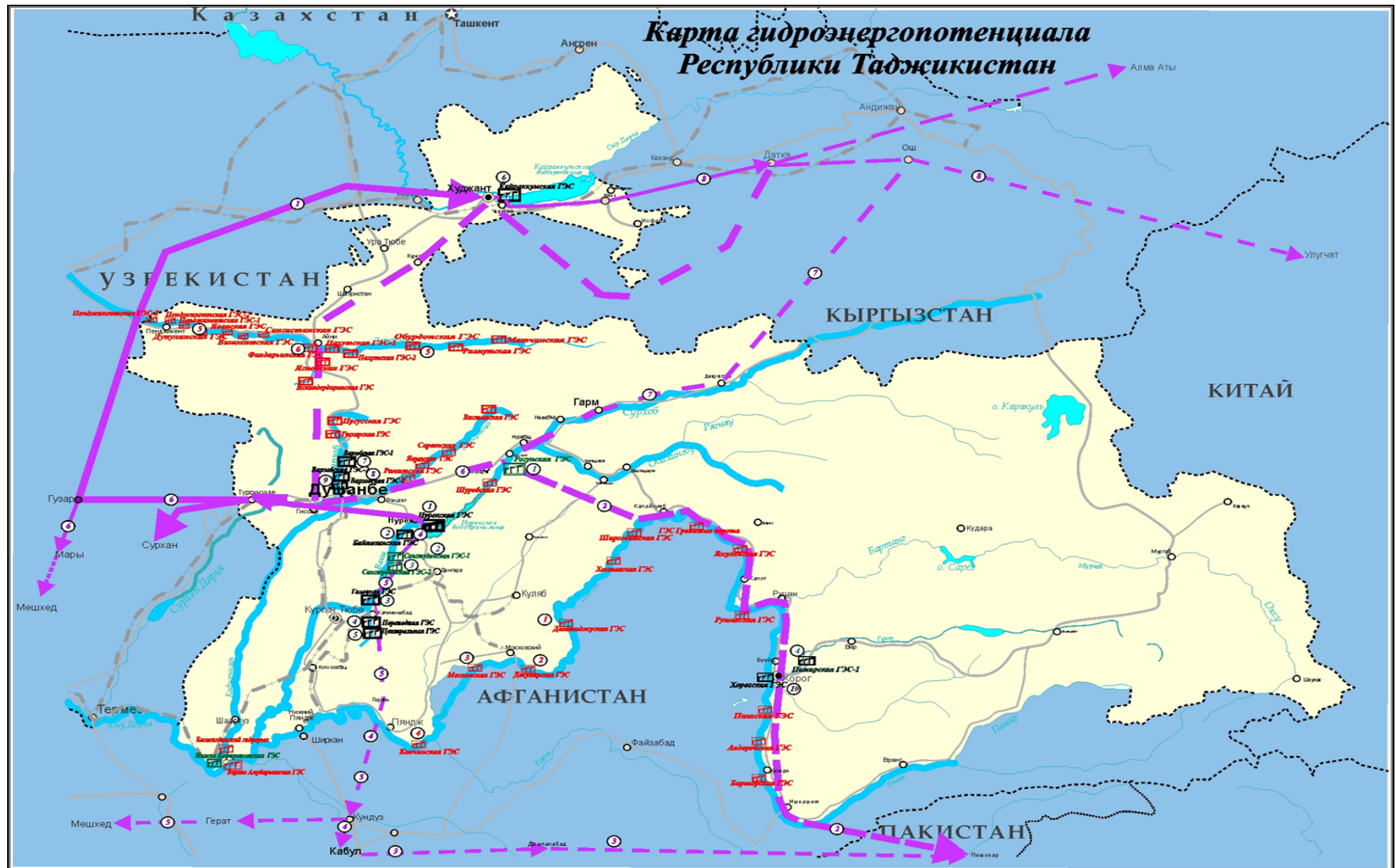
- To date, more than 36 coal mines and coal
 - expressions have been identified and
 - partially explored. Almost all coal varieties
 - are represented, as enumerated below:
-
- Brown coal - 144,5 mln.t
 - Coking coal - 904,9 mln.t
 - Mineral carbon - 2292,7 mln.t
 - Anthracite - 254,8 mln.t
 - Total: - 3,597 mln.t



Coal sector of the Republic of Tajikistan: prospective

- integrated development of coal deposits and the construction of power plants
- Integrated approach promotes the development of coal industry and will complement our export capital
- Modernization of the technical and production of coal enterprises
- Study of the coal using, as alternative relative to oil products and natural gas in republic

Tajikistan: Prospective of future





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