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Prague, 11 to 13 September 2013

**Increasing stability and security: Improving the environmental footprint of
energy-related activities in the OSCE region**

**Session I: Strengthening policy and regulatory frameworks and fostering international
co-operation to prevent adverse environmental impacts of energy activities**

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Environmental aspects and mechanisms for implementing Tajikistan's energy
development strategy

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Concluding Meeting of the 21st OSCE Economic and Environmental Forum
"Increasing stability and security: Improving the environmental footprint of energy-related
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Global power supply forecast:

- In comparison to 2000, electric power consumption should increase twofold by 2030
and ninefold by 2050;
- More than a quarter of the world's population does not have access to electricity;
- Two-fifths are dependent on traditional sources of energy involving biomass;
- Even by 2030 1.4 billion people will still not have access to electric power.

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Potential of hydropower

Potential of global hydropower:

- Asia: 2,850 billion kilowatt hours (52 per cent);
- South America: 1,060 billion kilowatt hours (20 per cent);
- Africa: 940 billion kilowatt hours (17 per cent);
- North and Central America: 300 billion kilowatt hours (6 per cent);
- Europe: 220 billion kilowatt hours (4 per cent);
- Australia and Oceania: 60 billion kilowatt hours (1 per cent).

Structure of the production of primary fuels and energy resources in percentages (%)

Country	Gas	Oil	Coal	Hydropower	Total
Kazakhstan	16	50	33	1	100
Kyrgyzstan	2	5	11	82	100
Tajikistan	2	1	1	96	100
Turkmenistan	83	17	0	0	100
Uzbekistan	84	13	2	1	100
In total	48	33	17	2	100

Source: International Energy Agency statistics for 2004 (*Balansy topliva i energii stran po IEA, 2004*)

In the context of the Central Asian region, the Republic of Tajikistan has enormous hydropower potential, equal to 527 billion kilowatt hours. Its economic effective potential is 317 billion kilowatt hours.

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Problems with energy supply:

- Limited reserves of organic fuel;
- Dependence on imported energy;
- Electric power shortage during winter;
- Extremely negative impact on the socio-economic situation in the country;
- Additional demand (5 billion kilowatt hours or 1,500 megawatts).

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Measures being taken:

- Development of hydropower – the only way of ensuring sustainable development and solving social problems;
- Improvements to legislation;
- Large-scale programme for the construction of hydropower facilities;
- Construction of over 300 mini- and micro-hydroelectric power plants and the medium-size Sangtuda 1 and Sangtuda 2 hydroelectric power plants;
- To make up somewhat for the electric power shortage resulting from lower water levels of rivers during winter, which make small hydroelectric power plants ineffective.

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Environmental advantages of hydropower:

- Because of the difference in air temperature, the evaporation rate of water is far lower in mountainous terrain than it is in valleys;
- A smaller area of land is flooded for reservoirs of the same volume;
- Rocky soil and sandstone with low filtration properties form the base of mountain reservoirs and around 50 per cent of filtered water returns to the stream. The rate is zero per cent in lowland reservoirs owing to the high rate of filtration;
- Dams and reservoirs upstream are the most reliable means of protection against landslides, flooding and freshets;
- In view of climate change and glacier shrinkage, reservoirs in mountain gorges will play a part in compensating for diminishing glaciers.

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Strategy implementation mechanisms:

- A regional approach and joint development of Tajikistan's reserves of renewable hydropower resources;
- Creation of a hydropower consortium;
- International inspections;
- Attracting investment;

- Development of regional co-operation.

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Expected results:

- Independence of the country in terms of energy;
- Resolution of social problems;
- Improvement of regional co-operation;
- Ensuring regional security;
- Environmental stability;
- Mitigation of the consequences of climate change.

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Thank you for your attention!