

International Scientific Conference on "Energy and Climate Change"

The role of Information and Communication Technology in the implementation of the Energy Conservation program of the Republic of Uzbekistan



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Anti-crisis Programme of the Republic of Uzbekistan for 2009-2014

➤ **Key Objective**

Implementation of the energy-saving policy

➤ **Measures**

- ✓ modernisation of the electric-power industry,
- ✓ decrease of power-intensity of economy and
- ✓ effective energy saving

approved on 13th of April, 2009 by the Cabinet of Ministers of the Republic of Uzbekistan

Role of the ICT in Energy Efficiency Policy implementation

➤ *Main principles for the energy saving policy implementation:*

1. To consider energy saving in economic terms
2. Energy saving policy an important factor of balanced development of the energy sector and economy in the long run
3. Reasonable sufficiency of consumption

Role of the ICT in Energy Efficiency Policy implementation

➤ *Criteria of scientific and technical progress in technology:*

1. **Specific consumption per unit of production**
2. **Labour productivity**
3. **Efficiency of material costs**

Role of the ICT in Energy Efficiency Policy implementation

➤ *Groups of measures, which assure effective use of fuel and power resources:*

1. scientific and technical;
2. legal;
3. technical regulation;
4. institutional and economic;
5. information

Role of the ICT in Energy Efficiency Policy implementation

➤ *Use of information and technologies related to it:*

1. **Within the technological process;**
2. **Information processing for political and financial decision making;**
3. **Ensuring good practice dissemination and securing of wider support for energy saving policy in the society**

EU Policy with regard to increase of the ICT role in transition to an Energy-Efficient, Low-Carbon Economy

*Communication of the European Commission Brussels
COM(2009) 7604 from 9.10.2009*

“ICT-enabled improvements in other sectors could save about 15% of total carbon emissions by 2020”

Public consultation

Integrated policy would be beneficial both for the ICT sector development and for the overall achievement of objectives set in the energy efficiency field

Recommendations for the EU Member States with regard to increase of the ICT role in transition to an Energy-Efficient, Low-Carbon Economy

- 1. Common minimum functional specification for smart metering**
- 2. Reliable, high-speed, broadband infrastructure to facilitate monitoring and management of consumption, distribution and production of energy**
- 3. Penetration of electric vehicles, efficient energy supply and distribution as well as integrating renewable energy sources**
- 4. Consensus among all relevant stakeholders on the requirements for the emergence of future ICT-enabled innovations**

Recommendations for the EU Member States with regard to increase of the ICT role in transition to an Energy-Efficient, Low-Carbon Economy

- 5. Promoting the dematerialisation of ICT goods and services**
- 6. use of relevant ICT tools for better understanding of the implication of different policies**
- 7. use of open digital platforms to facilitate an integrated approach to urban planning and public service delivery**
- 8. opportunities for creative forms of collaboration and problem-solving at the community level**
- 9. substituting offline administrative processes with online applications and services**

Overview of Energy Efficiency Policy of the Republic Uzbekistan

- ***Anti-crisis Programme of the Republic of Uzbekistan for 2009-2014*** - energy-saving policy
- ***Electric Power Generation Programme of the Republic of Uzbekistan up to the year 2010*** - energy pricing, institutional capability development and education and information dissemination
- ***New Energy Strategy of the Republic of Uzbekistan*** will cover period till the year 2025 - cornerstone of this strategy is the fuel and energy balance and the energy saving programme

New Energy Strategy of the Republic of Uzbekistan up to the year 2025

➤ *Main Pillars*

- ✓ Implementation of the active energy saving policy on the basis of **introduction of advanced technology and techniques in all sectors of the economy**, as well as transfer to market mechanisms of efficient energy use.
- ✓ **Institutional building**
- ✓ **Training and information dissemination**

New Energy Strategy of the Republic of Uzbekistan up to the year 2025

➤ *Main directions for use of the energy saving potential of Uzbekistan*

- improvements in technologies in industrial production
- improvements in use and structure of industrial equipment;
- use of combined cycle of electricity and heat production on the basis of combined cycle and gas-turbine plants;
- installation of meters on all stages of flow of resources;
- decrease of losses and improvement of technology of use of fuel and energy;
- improvement of quality of raw materials and use of raw materials types with lower power intensity;
- improvement of structure of fleet of motor vehicles in the country;
- decrease of waste amount in industry and increase of waste utilization level;
- implementation of temperature control in dwellings;
- development of electrified urban transport;
- implementation of more strict standards for energy consumption, etc.

Role of ICT in the Energy Efficiency Policy of the Republic of Uzbekistan

- ***Energy Efficiency Measures under implementation***
- ✓ **Energy management techniques**, including
 - energy audits,
 - consumption monitoring and use of metering devices
 - creation of databases for monitoring and analysis of the energy saving programmes implementation
- ✓ **Energy labeling**

Role of ICT in the Energy Efficiency Policy of the Republic of Uzbekistan

➤ *Results achieved so far*

- ✓ **Automated electricity generation control** in the Tashkent HS, New-Angren and Tashkent TPP, series of O'rta-Chirchiq hydroelectric power plants, substation Tashkent-500 kV, and 110 kV power lines in Qashqadaryo region
- ✓ **Automated electricity consumption remote control systems covering household electricity** in over 60,000 flats in Tashkent and Angren
- ✓ **Information dissemination and training** - Energy Management Laboratory in the Tashkent State Polytechnic University and the Energy Centre of Uzbekistan

ICT in the Energy Efficiency Policy of the Republic of Uzbekistan

➤ *Conclusions*

The role of ICT in the technology of energy (and especially electricity) generation, transmission and distribution is quite well understood in Uzbekistan. The technological implications of ICT for energy saving are rather well planned and similar to measures that are developed in the EU. **It is the administrative, institutional and financial improvements that have to be introduced for making the best use of the existing potential of ICT in energy saving.**

ICT in the Energy Efficiency Policy of the Republic of Uzbekistan

➤ **Recommendations**

- ✓ **Include use of ICT** in energy (and in particular electricity) saving **in the energy policy of Uzbekistan.**

- ✓ Create the **Energy Saving network** under the auspices of the Ministry of Energy of Uzbekistan with the objective to:
 - Increase of visibility of energy saving;
 - Consolidate and support knowledge-sharing between *professionals*;
 - Support and supervise training and operation of energy auditors;
 - To establish exchange of experience and information with the relevant networks in the EU and other parts of the world.

ICT in the Energy Efficiency Policy of the Republic of Uzbekistan

➤ *Recommendations (cont.)*

- ✓ To develop a short and long term **programme for refurbishment of metering equipment** in the industrial and agricultural sector for securing necessary funds from IFIs
- ✓ To create a **network of non-government organizations** for implementation of creative forms of collaboration and problem-solving at the community level