

CURRENT STATUS AND PERSPECTIVES OF RES DEVELOPMENT IN THE REPUBLIC OF MOLDOVA.

**National Energy Regulatory Agency
ANRE**

Kiev, Jun 2013

- Lack of own energy resources (natural gas, oil, coal);
- High energy intensity and poor energy efficiency;
- Fuel mix deviation from the optimal one (the imported natural gas prevails);
- Advanced level of wear (about 60-70%) of the equipment installed at the power plants;
- The Republic of Moldova has significant RES resources available, but RES technologies are underdeveloped;
- Insufficient investments in the energy sector;

Primary Legislation

- Renewable Energy Law (160-XVI/12.07.2007)
- Energy Efficiency Law (142/02.08.2010)
- Law on Electricity (124/23.12.2009)
- Law on Energy (1525/19.02.1998)

Secondary Legislation: ANRE Regulations

- Methodology for the calculation of tariffs for electricity and biofuels produced from renewable energy sources.

- The Renewable Energy Law set a national target for the share of renewable energy generated from RES of 20% of the amount of energy generated from traditional sources by 2020;
- In 2020 the volume of bioethanol mixed with gasoline shall reach 20% of the commercialized volume of gasoline;
- The volume of biodiesel mixed with diesel fuel in 2020 shall constitute 20% of the volume of diesel fuel commercialized during that year.

- **Ministry of Economy (policy and strategy)**
 - **National Agency for Energy Regulation (ANRE)**
 - **National Agency for Energy Efficiency (AEE)**
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According to the law, AEE is the public authority in the field of renewable energy and energy efficiency.

- Implement state policy in the field of EE and RES;
 - Participate in drafting legislative acts, programs, national action plans and standards in the field of RES;
 - Develop pilot projects;
 - Consult central and local public authorities and offers technical assistance for developing programs to improve energy efficiency and use of RES;
 - Authorize individuals and legal entities to conduct energy audits and keep records of nominated auditors and performed audits;
 - Carry out activities for dissemination of information regarding the use of RES;
 - Organize workshops, conferences and exhibits for the promotion of EE and RES utilization.
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- a) approves methodologies for the calculation of RES energy rates;
- b) approves rates for all types of renewable energy calculated by the producer;
- c) develops, as needed, acts that regulate the relations between renewable energy market participants;
- d) develops drafts of renewable energy sale agreements.

Current incentives for Renewable Energy

- **Suppliers are obligated to acquire electricity and biofuels, produced from these sources;**
- **When dispatching electricity generating installations, the TSO shall give priority to generating installations using RES;**
- **An Energy Efficiency Fund was created in order to support and promote the energy efficiency activities and renewables;**
- **Tariffs for electricity production from RES are calculated and approved according to ANRE Methodology, which provides a higher rate of return for RE projects.**

Basic principles of rates setting

- cover the real costs of enterprises needed for adequate operation of production units and normal performance of regulated activity;
- performance by enterprises of efficient and beneficial activity allowing them to recover the financial resources invested in development, modernization and reconstruction of production capacities.
- when approving tariffs for RE, prices for similar products on international markets shall be taken into consideration

Rate setting (steps):

1. According to the Methodology, enterprises shall submit to ANRE, annually, before the end of November, tariff rate calculation for the next year;
2. ANRE shall examine the submitted materials and, for proper reasons, if any, revise, approve and publish new tariff rates that shall come into force in January next year and be valid throughout the calendar year;
- 3. For the first two years of the their activity, the enterprises shall submit the required materials to establish their own costs and expenses (CD);**

Rate setting (steps):

4. Costs and expenses approved by ANRE for the second year of activity shall be considered the basis for future revision of rates during the whole period of validity of the Methodology;
5. For the following years, the base costs and expenses will be revised on an annual basis based on the consumer price indicator (IPCM) in the Republic of Moldova taking into account the performance indicator:

$$CD_t = CD_{(t-1)} \times \prod_{i=1}^t 0,99 \times \left(1 + \frac{IPCM_t}{100}\right)$$

Renewable energy profitability

- The set rate of return should ***not be more than twice as high*** as the respective level of profitability of traditional energy (Law on Renewable Energy, art. 12);
- ***The Methodology*** provides that the level of profitability for enterprises producing renewable energy shall be determined in accordance with the weighted average cost of capital method (WACC) that is set and approved by ANRE for electric distribution enterprises using the increase factor:
 - for the first five years of activity the factor shall be equal to 1.5;
 - for the next five years – 1.3;
 - for the third five year period – 1.1.
- The real profitability level by year:
2010 – 22.47%, 2011 – 22.32%, 2012 – 21.18%.

ANRE issues licenses for (according to law nr. 451):

- Electricity production
 - Production of renewable fuel.
 - **ANRE issues licenses for electricity producers that:**
 - own a PP with a total capacity of at least 5 MW, if this power is used for public consumption;
 - own a PP with a capacity of 20 MW and more, if the generated electricity is used for internal purposes.
 - **ANRE shall issues licenses for the production of biofuels from RES**
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- **There is need for grid reinforcement**
 - Resources are not where the load is;
 - Large and highly localized RES;
- **Lower load factors due to load profile specific;**
- **RES intermittence and balancing**
 - No real time balancing capability in the system;
 - Only option is the import from power system of Ukraine;
- **The risk of entry into system of used and non competitive technologies because the law doesn't specify efficiency limits.**

- **A draft law, amending the Renewable Energy Law is currently under development**
 - **The existing Law defines on principles and does not shape a market model for Renewable Energy**
 - **Possibility to obtain the license before starting the construction of the power plant**
 - **Queue management and eligibility conditions for beneficiaries of the FiT**
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Development and amendment of the legal framework for Renewable Energy

- **A “single buyer” model was considered as the most appropriate option**
 - One single supplier will have the obligation to buy all the electricity produced from RES-E plants and from CHPs (RE Supplier)
 - The RE Supplier will carry out this activity on the basis of a license for electricity supply at regulated tariffs
 - The RE Supplier shall be assigned by the Agency following a tendering procedure, organized under Power Market Rules
 - All electricity suppliers (at regulated and non-regulated tariffs) and big customers that buy electricity generated from traditional sources, will have the obligation to buy RES-E from the RE Supplier proportional to their market/consumption share at tariffs approved by the Agency.
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- **A Feed-in Tariff scheme is to be established in the Law**
 - **FiTs differentiated by technology and size of the plant**
 - **FiTs shall be offered for a period of 15 years**
 - **Capacity caps for different technologies will be established in the Law**
 - **FiTs shall be revised each 2-3 years**
 - **Recalculated FiTs will be applied to new projects and not to existing or ongoing projects that had been granted the FiT**
 - **FiTs will be adjusted to inflation and/or exchange rate**
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- What should be the balancing mechanism in case of imbalances produced by RES-E generators?
 - Who should buy electricity to cover the imbalances?
 - Who should be responsible for the forecast of produced RES-E?
 - How to incentivize more accurate forecast?
 - FiT regression mechanism
 - How to promote new and more efficient technologies?
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- **Who should handle the queue process? What should be the conditions for FiT eligibility in the context of queue management?**
 - **Network access for renewable energy projects. RES-E plant connection to the grid**
 - **Who should be responsible for grid expansion? How connection cost should be allocated?**
 - **How curtailment of RES-E generation is done? Should the generators be compensated for curtailment?**
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- Just 4 ongoing projects
- Requests for RES grid connection ≈ 1000 MW
- Issued grid connection permits require planning for grid reinforcement
- No real experience of RES operation
- Request for grid connection of mostly wind RES
- Grid permission requires the participation of RES in system frequency and voltage regulation

THANK YOU FOR YOUR ATTENTION!
