Development of Energy Service Companies in Russia

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Three Main Market Sectors:

- **Public sector**: schools, hospitals, public buildings, offices, etc.
- **Housing sector**: the apartment houses needing modernization and new heating systems
- **Private sector**: mainly industrial enterprises.
ESCO – Public Sector

Main Characteristics:

- Constant and measurable energy consumption
- Standard technological solutions
- Contracts being signed on the basis of public contracts rules
- Potentially huge market
- Possible application of performance contracts (the effect from energy saving sharing)
- Lack of local authorities’ experience complicates marketing, business development and projects implementation
ESCO – Private Sector

- **Industrial enterprises. Main characteristics:**
  - Energy consumption is closely connected with technological processes and industrial output complication of definition of "basic level"
  - Variety and specifics of technological requirements
  - The major approach – introduction of energy management systems.

- **Enterprises** are often reluctant to engage consultants, considering the concept of sharing of energy saving effect as too sophisticated

- **Opportunities** for specific products development, e.g. cogeneration installations leasing and energy facilities outsourcing
ESCO – Housing Sector

- **Clients**
  - homeowners society
  - local authorities

- **Main Characteristics:**
  - Heating improvement: isolation, double-glazed windows, systems of entire building temperature control
  - Projects are often connected with modernization of the centralized heat supply systems (especially substations)
  - Complexity of payment schemes development

- **Lack of efficiency** of projects at the level of separate households and work standards with homeowners society being not fully implemented with technologies being available

- **Community facilities sales** (not a performance contract) based operation
ESCO Models

Performance contracts conclusion

Fixed payment on the basis of expected energy savings

Financing with the third parties involvement

ESKO Trust Fund

Outsourcing

Leasing
Energy Saving in the Russian Federation during last 10 years (according to the Government Program)

- Saving in public sector: 80.39 mln TFOE
- Saving in transport sector: 72.2 mln TFOE
- Economy in agriculture: 7.9 mln TFOE
- Saving in energy: 269 mln TFOE
- Saving in housing and community amenities: 252.83 mln TFOE
- Saving in industry: 270 mln TFOE

Overall Potential: 952.32 mln TFOE
Basic Documents Determining Actions in the Field of Energy-Saving and Increase in Energy Efficiency

- The Directive of the President of the Russian Federation № 889 dated 7/4/2008 «On some measures on increase in energy and ecology efficiency of the Russian economy»;
- The Energy Strategy of Russia for the period up to 2030 (confirmed by the Government Executive Order of the Russian Federation № 1715-r dated 11/13/2009);
- The Government program on energy-saving and increase in energy efficiency for the period up to 2020;

- 35 Executive Orders admitted
- 111 self-regulatory organizations in the sphere of energy audit with more than 2000 members registered
Russia’s Energy Service Companies by Regions

- More than 100 energy service companies operating on the Russia’s territory (total number)
- Central Federal District: 1 company (Dagestan)
- North Caucasian Federal District: 34 companies
- Southern Federal District: 2 foreign energy service companies (Germany and Denmark) in the Moscow region
- Volga Federal District: 16 companies
- Urals Federal District: 1 company
- Siberian Federal District: 16 companies
- Far Eastern Federal District: 2 companies
- Northwestern Federal District: 9 companies
- Far Eastern Federal District: 7 companies (including the Leningrad region)
- Western Siberia: 7 companies
FESCO’s Place in the Structure of the System of Energy Saving Performance in the Russian Federation


- Increase in energy efficiency of the Russian Federation economy
- Monitoring of preparation of regulatory legal acts

Arrangement of corresponding measures at the regional level (including housing and community amenities)
The mission of establishment of the Federal Energy Service Company (FESCO)

- Creating conditions for dynamic development of the energy service market in the Russian Federation in accordance with the best international practices;

- Ensuring the implementation of major projects in the public sector through bringing into effect energy service agreements (contracts), as well as projects in the field of alternative energy sources;

- Supporting the development of energy saving in the Russian Federation, promoting domestic production of energy-saving products.
Goals of the Federal Energy Service Company

**Energy Service Market Development**

- Expert and informational support of technical solutions used by ESCOs to provide the required level of economy from the energy service contracts;
- Holding technical expertise and monitoring of project implementation in the field of energy efficiency under the long-term agreements with partners within the loan guarantee scheme in partnership with Energy Finance Agency in order to reduce risks;
- Playing the role of a center of implementing typical technologies and standards, a center of unification and type-design practice of engineering solutions;
- Establishing centers of competence and activity planning at the regional and municipal levels constituent entities of the Russian Federation;
- Bringing the energy service activity into accordance with the international standards.

**Implementation of major energy service contracts in the public sector and industry**

- Implementation of energy service agreements in the federal budget system and industry;
- Center of technical, technological, standard competence;
- Center of international cooperation
- Guarantor is the executor

**Promoting domestic production of energy-saving products**

- Promoting development of domestic technological base in the field of energy service and stimulating developments in the field of alternative and unconventional energy sources
Main Objectives of FESCO

- Support of regional small and medium sized ESCOs in order to achieve prompt multiplied effect;
- **Implementation of pilot projects** in the sphere of energy service for further project duplication by private ESCOs;
- **Development of frameworks and instruments**, which increase availability of financing particularly in partnership with Energy Finance Agency and its implementing into the market;
- **Technical expertise and monitoring** of project implementation in the field of energy efficiency under the long-term agreements with partners within the loan guarantee scheme;
- **Informational, analytical and methodological support** of the energy service market participants;
- **Arrangement of research and advanced development** in order to develop domestic technological base of energy-saving and energy efficiency increase;
- **Implementing international standards**, IPMVP in the field of energy service (ESCO at the regional level) and energy management in federal budget system.

**Instruments:**

Center of technical competence and **monitoring** of projects in order to prevent risks of projects’ non-compliance in partnership with Energy Finance Agency

**Establishment of joint ventures** that are regional and sectoral energy service companies, and corporate alliances for projects implementation.
Interaction System

- Working-out and performance of the Federal Energy-Saving Program
- Development of legislative frameworks, laws and regulations
- State support (co-financing, tax preferences, guarantees)

- Working-out and performance of regional programs
- Development of regional legislative frameworks, laws and regulations
- Formation of administrative leverage and management decisions
- Support from regional budgets

Federal Ministries and Departments

- Monitoring of execution of energy-saving measures
- Advocacy and training in the field of energy-saving
- Creation of personnel reserve
- Participation in creation of the State Information System of Fuel and Energy Complex (State Information System of Energy Efficiency)

Regional Administration

- Creation of conditions for the development of the energy service market
- Participation in implementation of regional programs
- Working out a reliable and efficient mechanism of financing of energy service contracts
- Import and Export of technical and technological decisions

Federal State Budget Institution "REA"

Federal State Unitary Enterprise “FESCO"
The Role of FESCO in the Scheme of Financing Energy Service Projects

FESCO functions:
1. Requirements for ESCOs, customers, projects
2. Technical expertise of feasibility study
3. Monitoring of the energy service contracts implementation
4. Implementation of ESCO projects in case of emergency

Pilot Projects and Large-scale projects in the public sector

The Market

Energy Finance Agency

ESCO
- Regional,
- Municipal,
- Departmental,
- Corporate.

CUSTOMERS

BANKS

FESCO’s PROJECTS

Financial credit, loan
Finance lease of equipment
Commodity loan
Development of Energy Service

Preparatory measures (2011-2012)

- Energy Audits
- Installation of recognition, measurement and accounting device
- Development of the monitoring system

Measures with greatest benefits (pay-off period up to 5 years)

- Typical measures:
  - Decrease in in-process losses;
  - Modernization of external and internal illumination, including installation of adjustment systems;
  - Replacement of heat producing equipment for equipment with more EFFICIENCY (over 85%)
  - Modernization of the engineering equipment of buildings and constructions.
  - Modernization of the central heat points, application of heat pumps
  - Small and co-generation
  - Installation of variable-frequency drives using electric motors of pump and other equipment
  - Nonconventional and renewable energy sources:
    - Wind, Sun, Water, Biofuel and etc.

Measures of middle pay-off period duration (pay-off period up to 10 years)

Measures of long pay-off period duration (pay-off period more than 10 years)
Priority Assignments of Energy Service Projects

By Sectors
- Facilities of housing and community amenities
- Social and public sector
- Departments
- Industrial enterprises

By types of raw materials
- Electricity industry
- Heat energy sector
- Water supply and sewerage
- Waste management
- Renewable energy sources

EFFECTS
- ECONOMIZING EXPENSES;
- REDUCTION OF ENERGY RESOURCES CONSUMPTION;
- INCREASE IN ENERGY EFFICIENCY;
- REDUCTION OF TERMS AND EXPENSES ON PROJECTS REALIZATION AND ACTIONS FOR INCREASING ENERGY EFFICIENCY;
- MODERNIZATION OF INDUSTRY;
- GROWTH OF COMPETITIVENESS OF THE RUSSIAN GOODS,
- INCREASE IN COMFORT OF LIFE, QUALITY OF WORKING CONDITIONS.
Arrangement of International Cooperation in Scientific and Methodical, Informational and Technological Spheres

International Organizations

- Associations and social organizations
- Financial Institutions
- Manufactures
- Scientific research centers
- Information and Communication Centers

REA

FESCO

Activities

- Implementation of innovative projects
- Implementation of international practice including international standards in energy service activities
- Energy-saving technologies and products, typical engineering solutions
- Renewable Energy Resources Development
- Reducing CO2 emissions in industry

Joint ventures and projects

Arrangement of financing in partnership with international financial institutions

Arrangement of information exchange via participation in conferences, round tables fairs and exhibitions
Thank you for your attention!