

Energy Efficiency: Players and Opportunities in the Russian Federation

Kamer van Koophandel Rotterdam, 27 January 2010

By: Jeroen Ketting, Managing Director of Lighthouse Russia BV

Nieuwjaarsbijeenkomst Rusland

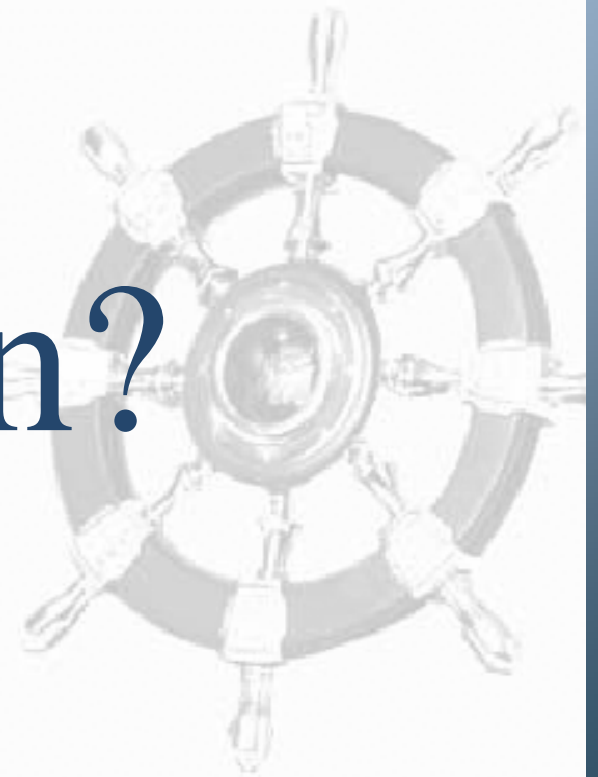


Contents

1. Why this presentation?
2. Who, What and Why?
3. Barriers
4. Opportunities
5. Suggestions
6. Conclusion and Questions



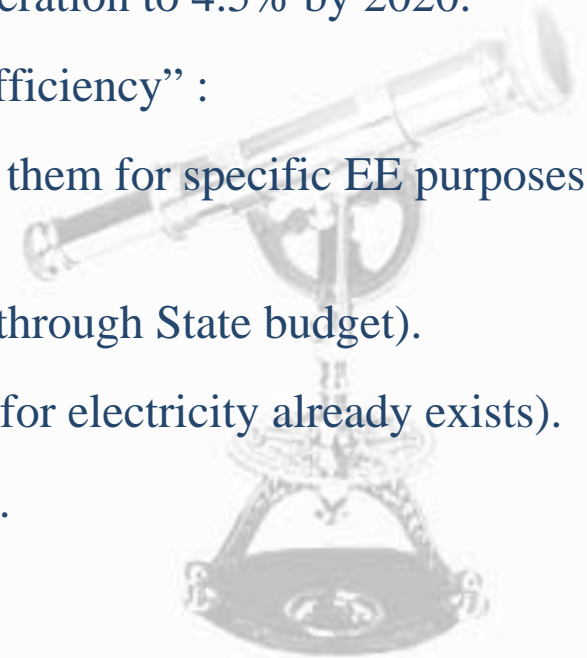
Why this presentation?



Why this presentation?:

EE is hotter than ever in Russia and EE is high on the political agenda:

1. President Medvedev linked the competitiveness of the Russian economy with increased EE.
2. Prime Minister Putin: EE and equipment modernization will be the criteria for receiving financial support from the state by Russian regions/companies.
3. Reduction of energy intensity of the Russian economy by 40%; reduction of consumption by 45% and increase of the share of renewable energy in total generation to 4.5% by 2020.
4. The Federal Law “On Energy Saving and Increasing Energy Efficiency” :
 - Possibility to accumulate savings in the budget and to use them for specific EE purposes (including EPC).
 - State procurement (EE standards for equipment procured through State budget).
 - Long term tariff setting for heat, water, waste (possibility for electricity already exists).
 - Standards and marking for appliances (including lighting).
 - Obligatory metering, measuring and audits.



Why this presentation?:

Dutch businesses can capitalize on the considerable potential for energy savings and resulting financial gains in Russia.

1. Russia uses 3 times more energy per produced dollar of GDP than other industrialized countries.
2. Post-crisis economy: more effective use of existing resources → energy conservation measures and a switch to energy efficient technologies by industrial and domestic consumers.
3. 50% of installed industrial equipment is old and inefficient.
4. Energy infrastructure (generation and distribution) is deteriorating.
5. Limited capacity to produce and to transport oil and gas (considering large oil and gas reserves). Russia's energy household is stretched to its limits by increasing domestic and international demand and by existing export commitments.
6. Electricity and gas tariffs are rising.



Why you? Why now?:

1. EE = Hot Topic!
2. It is still relatively easy to get the right contacts.
3. There is a strong demand and interest in know how, technology and experience.
 - 3.1 You can make a big impression.
 - 3.2 You can create lasting relations.
4. Niche is still open.
5. Russians are loyal to first movers.
6. There is money going around in the Russian energy efficiency sector.



Who, What and Why?



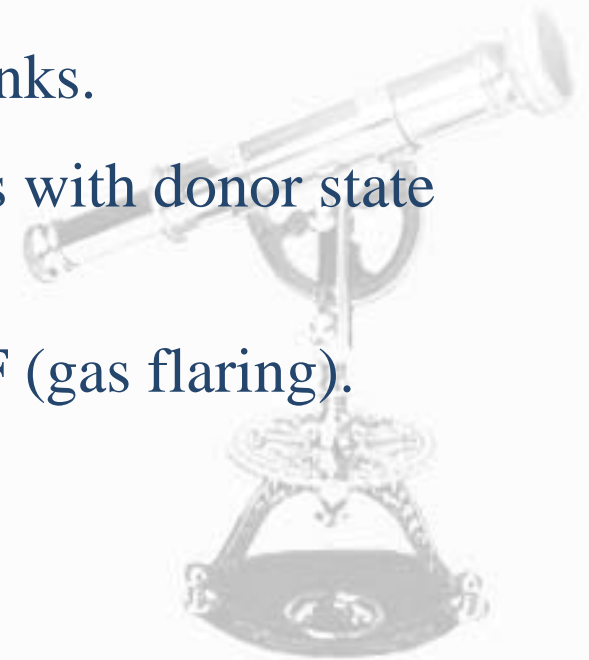
Players:

1. IFIs and International Institutions
2. Russian Federal and Regional institutions
3. EU and member states
4. Civil Society (NGOs and stakeholder groups)
5. Companies



IFIs and International Institutions:

1. **EBRD** (executes many of the projects by Int. Institutions)
 - a. Loans to industrial and natural resources companies.
 - b. Power sector loans and investments.
 - c. Municipal, water, waste infrastructure loans and investments.
 - d. EE financing facilities through Russian banks.
 - e. Technical assistance (execution of projects with donor state money and GEF money).
 - f. Carbon fund together with EIB and MCCF (gas flaring).



IFIs and International Institutions - EBRD:

| Project Name | Sector | EBRD financing | Total Project Value (Eur m) | Signed EBRD EE component (Eur m) | Signing Date |
|--|--------------------------------|-----------------------|------------------------------------|---|---------------------|
| Raven Russia Logistics, Novosibirsk | Property and Tourism | 23.7 | 54.2 | 1.0 | 27 Mar 09 |
| Can-Pack | Agribusiness | 20.3 | 79.2 | 0.1 | 31 Mar 09 |
| Ruscam-Kirishi | Agribusiness | 8.4 | 69.1 | 5.0 | 26 Jun 09 |
| Promsvyazbank - RUSEFF Energy Efficiency Loan | Bank Lending | 20.3 | 40.6 | 20.3 | 14 Jul 09 |
| Irkutsk Oil and Gas Company (Debt) | Natural Resources | 45.0 | 120.9 | 45.0 | 30 Mar 09 |
| OGK-5 Capacity Replacement | Power and Energy | 120.0 | 409.0 | 120.0 | 27 Feb 09 |
| TGK-13 Capacity Financing | Power and Energy | 50.8 | 50.8 | 50.8 | 07 Aug 09 |
| Kaliningrad Water&Environmental Rehab: District Heating | Municipal & Env Infrastructure | 12.0 | 21.8 | 12.0 | 14 May 09 |
| Khanty Mansi District Heating Project | Municipal & Env Infrastructure | 29.3 | 40.6 | 29.3 | 11 Jul 09 |
| Surgut Waste Water Collection and Rehabilitation Project | Municipal & Env Infrastructure | 4.5 | 6.8 | 0.9 | 07 Jul 09 |
| | | | 893 | 284 | |

IFIs and International Institutions:

1. World Bank

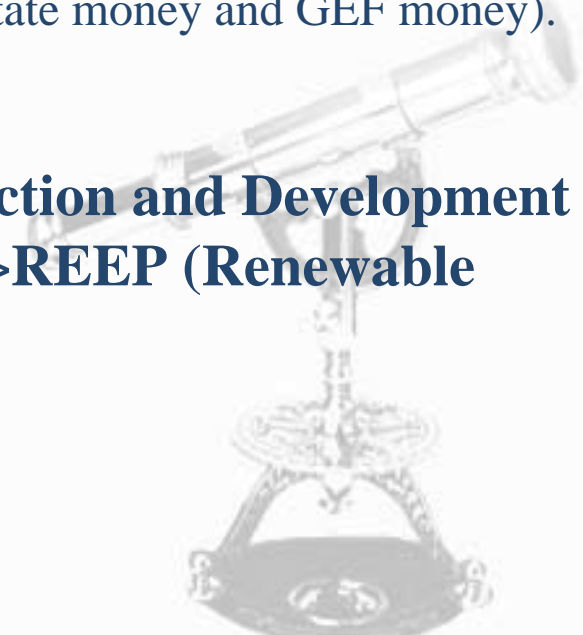
- a. GHG emissions projects in power generation and gas flaring.

2. IFC (executes many of the projects by Int. Institutions)

- a. Largely similar to EBRD activities.
- b. Technical assistance (execution of projects with donor state money and GEF money).
- c. Carbon fund together with EIB and MCCF (gas flaring).

3. UN > GEF > International Bank for Reconstruction and Development (IBRD) > Global Opportunity Fund > USAID > REEP (Renewable Energy & Energy Efficiency Partnership)

- a. Do not invest or lend.



Russian Federal and Regional institutions:

1. **Kremlin** (Commission for Modernization and Technological Development of Russia's Economy and the Presidium of the Presidential Council for Science, Technology and Education):

- a. “Energy Efficient Neighbourhood”: modernizing entire city districts and towns and replicating this experiment throughout the nation.
- b. Installing metering and measuring devices that will allow people concerned with energy saving to pay less than people who are not.
- c. “New Light”: replacing old light bulbs and lighting systems with energy efficient ones in private houses and at industrial, business, and office facilities.
- d. Energy efficient technologies in social sphere: clinics, schools and hospitals.
- e. “Integrated Small-Scale Co-Generation”.
- f. Promoting innovative, breakthrough technologies based on the use of superconductors and bio fuel, development of solar and hydrogen energy.



Russian Federal and Regional institutions:

2. Ministry of Energy:

- a. Development of regulatory framework.
- b. Formation of organizational structures (Federal energy service company, 30 regional centres of maintenance and repairs of energy efficient equipment, federal research center in sphere of energy efficiency).
- c. Energy audit of objects.
- d. Voluntary agreements on energy efficiency in enterprises.
- e. Implementation of the tests of samples of new techniques and technologies to support long-term energy-saving effect.



Russian Federal and Regional institutions:

1. Ministry of Economic Development and Trade:

- a. All issues concerning tax regulations and Tax Code.
- b. Regulation of free (disengaged) power (rules, registries, etc).
- c. Elaboration of support measures for companies implementing energy saving projects.
- d. Requirements on energy efficiency while purchase of goods and services by state and municipal organizations.
- e. Establishment of federal and territorial extra budgetary trust funds for energy savings.

2. Ministry of Industry and Trade:

- a. Responsible in sphere of production of equipment and technology.
- b. List of equipment using which companies will be exempt to pay tax on profit.

3. Ministry for Regional Development:

- a. Development of requirements for regional and municipal programs of energy savings in parts of the composition, management, monitoring and frequency of adjustments.
- b. Implementation of energy saving programs of regions and municipalities.
- c. Development of the national standard - Method for determining classes of energy efficiency projects.

4. All together:

- a. Development of specific energy efficiency requirements for technical regulations, national and industry standards.
- b. Establishment of Russia's agency for Energy Saving coordinating activities of all participants in field of energy.

Russian Federal and Regional institutions:

1. Several regional and municipal initiatives:

1.1 Moscow City Government (Department for fuel and energy)

- a. working group for creating awareness about energy efficiency.

1.2 Yekaterinburg (<http://www.ines-ur.ru>)

- a. Scientific, analytic and methodological support for regional energy efficiency policy.
- b. Development and realization of energy efficiency measures.
- c. Promotion of energy efficient technologies, materials, equipment, instrumental registration and regulation of fuel and energy consumption.
- d. Informational and educational projects.



EU and member states :

1. European Commission:

EU-Russia energy dialogue (aim: energy security of the European continent)

- Harmonisation of EU-Russia Energy Policies (terminated).
- Energy efficiency in Arkhangelsk, Astrakhan and Kaliningrad regions (terminated).
- Harmonisation of Technical Standards in the Gas Sector (terminated).
- The EU-Russia Energy Technology Centre (terminated).
- Promotion of energy efficiency investments in Russia's regions (Tver, Sverdlovsk en Rostov). (ongoing).
- Renewable Energy and Rehabilitation of Small Scale Hydroelectric Power Plants (terminated).

2. Germany (Rudea).

3. Denmark (Donor to IFC and other IFIs).

4. Nordic countries (Donor to IFC and other IFIs).

5. Netherlands (Donor to IFC and other IFIs and bilateral projects).



Civil Society (NGOs and stakeholder groups):

1. AEB.
2. RSPP.
3. Greenpeace.
4. RuGBC.
5. Cenef.
6. WWF.
7. Internet social networks (Green drinks).



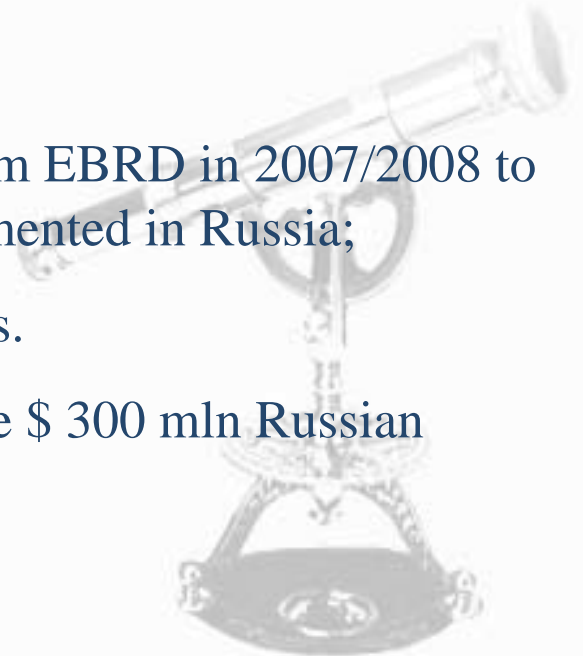
Companies:

1. Foreign Companies:

- a. Philips.
- b. Allianz with WWF.

2. Russian Companies:

- a. Country wide Energy Efficiency companies.
- b. Severstal: EUR 600 mln energy efficiency loan from EBRD in 2007/2008 to finance one of the largest EE programs ever implemented in Russia;
Other companies: EE loans and investments of IFIs.
- c. Russian banks (Promsvyazbank): \$ 60 mln from the \$ 300 mln Russian Sustainable Energy Financing Facility (RUSEFF).



Why? Raison d'être of these initiatives:

1. Security of supply
2. Relationship building
3. Development aims
4. Need to spend budgets
5. Pressure from the Kremlin
6. Commercial aims
7. Savings aims
8. Sometimes no clear reason at all



Barriers



Russia lacks the 6 Ms:

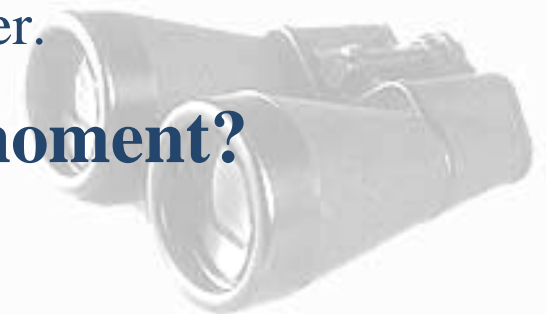
1. Mobilization (finance, organisation, information)
2. Modernisation
3. Mentality
4. Monitoring
5. Market
6. Mudrost (wisdom ;-))



Barriers:

1. Hardly any government funding (neither federal nor regional).
2. Many business still forget that a Ruble saved is a Ruble earned.
3. Still many structural, political and administrative barriers.
4. No tax incentives.
5. No subsidies.
6. No public awareness.
7. No regulatory base.
8. No common interest between consumer and producer.

So where is the money at this moment?



Opportunities



Opportunities:

1. The money is largely with the IFIs, International donors, EU member state donors and with industrial consumers.
2. Purely commercial projects are out there BUT:
 - You will need to invest time, money and effort.
3. The opportunity now is to create a market position.



Opportunities: Sectors

| Sector | Potential energy savings (Mtce) | Emission reductions (Mt CO2e) | Required investments (2010-2030, bn. \$) | Savings (2010-2030, bn. \$) | Typical measures |
|---------------------------|---------------------------------|-------------------------------|--|-----------------------------|--|
| Building and construction | 180 | 205 | 70 | 190 | EE light bulbs; Installation of thermostats and heat meters; Basic insulation measures. |
| Fuel and energy | 80 | 160 | 20 | 60 | Improved maintenance; Leakage reduction; Improvements in the operation of the gas delivery system; Reducing consumption of power plants; Decreasing losses in heating. |
| Industry and transport | 50 | 200 | 60 | 80 | Natural replacement of industrial stock; Reusing gas emitted by oxygen furnaces in steel plants. |
| Total | 310 | 565 | 150 | 330 | |

Note: Total energy consumption = 1385 Mtce (2030), Total emissions = 2928 Mt CO2e (2030). Source: McKinsey

Suggestions



Suggestions:

1. Understand the EE landscape in Russia.
2. Understand and correspond to the actual needs of the Russian EE market.
3. Understand the Russian reality.
4. Come with proven, typical, multiplicable (and certified) and economically viable solutions, e.g.:
Oxygen / Compressed air / Industrial lighting.
5. Don't try to embrace the unembracable.
6. Make sure that these solutions can be implemented in Russia.
7. Learn from each others successes and mistakes.
8. Invest in your exposure, PR and network now!



Conclusion



Conclusion:

1. The Russian trend in EE is irreversible.
2. The market for EE technologies, know how and experience will only grow.
3. There are still barriers that we do not have (anymore) in Europe.
4. But the barriers will be reduced.
5. You will have to approach the market rationally.
6. And NOW is the time to invest in the market!



Questions???

Over the years, Lighthouse has build up a unique and strong track record in Energy Efficiency (EE) projects in Russia. These projects range from developing EE strategies and financing schemes to the actual implementation of EE measures and setting up of ESCO companies. Such projects often require the implementation of Western know-how and technology in the field of EE. However, the specific situation in Russia with regards to the EE needs to be accounted for in order to ensure the successful implementation of this know-how and technology. Lighthouse uses its extensive practical experience in EE projects in Russia to bridge the gap between the Western know-how and technology on the one side and the Russian reality on the other side.

See also: http://www.thelighthousegroup.ru/gb/lighthouse_energy

For further information you can contact us by using the coordinates below.

Contact LIGHTHOUSE

| | | | |
|-----------------|--|-------------------|--|
| | Director | Jeroen Ketting | jeroen@thelighthousegroup.ru |
| | Client Relations and Information | Birgit von Oehsen | birgit@thelighthousegroup.ru |
| | Finance & administration | Elena Kabko | elena@thelighthousegroup.ru |
| Tel.: | +7 (495) 980 09 77 | | |
| Fax: | +7 (495) 502 92 86 | | |
| Website: | www.thelighthousegroup.ru | | |
| Address: | Mytnaya Ulitsa 3, office 41, Moscow, Russia, 119049 | | |