

Track record of Lighthouse in Energy Efficiency

Over the years, Lighthouse has build up a unique and strong track record in Energy Efficiency (EE) projects in Russia and Belarus.

These projects range from developing EE strategies and financing schemes to the actual implementation of EE measures and the 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.

In the past years, Lighthouse has been involved in a large number of Energy Efficiency projects in Russia and Belarus.

Project name	Client	Location	Period
Advisory Services: Legislation on Improving Energy Efficiency in Public Buildings	Ecorys B.V.	Moscow	July 2010 - Present
Advisory Services: Legislation on Improving Energy Efficiency in Residential Buildings	EBRD	Moscow	Apr. 2010 - Present
Provision of Consulting Services for Developing Incentives for Improving Energy Efficiency in the State Sector	UNDP	Minsk, Belarus	Feb. 2010 - Present
Energy Efficiency project in Publicly Financed Buildings	EVD	Mokshino, Tver region	Nov. 2009 - Present
ESCO Advisory Services	EBRD	Moscow	Nov. 2008 - Dec. 2009
Improving EE in Public Buildings	Econoler International Ltd.	Surgut, Khanty-Mansi Autonomous Okrug	Sept. 2008 - Oct. 2008
Development and Implementation of a Natural Gas Leak Detection System at the Mosgaz Distribution System	EVD	Moscow	Apr. 2007 - Nov. 2008
Due Diligence on Six Joint Implementation Projects	Climate Focus B.V.	Moscow	Dec. 2006 - Jan. 2007
Market Survey of the Russian Energy Efficiency Market for Equipment and Services	EVD	Moscow	Oct. - Dec 2005
Introduction of a Self Powered Boiler House	Gasunie Engineering B.V.	Mitishchi, Moscow Region	2004 - 2006
Due Diligence of the Reputation of 9 Russian Companies Participating in ERUPT-3, ERUPT-4 and ERUPT-5	SenterNovem	Moscow	2003 - 2005
Introduction of Energy Efficient Mobile Cascade Boiler Houses for Heating Purposes	Gasunie Engineering B.V.	Istra, Moscow Region	Jan. 2003 - June 2005
Introduction of a Mobile Energy Audit and Environmental Measurement Laboratory in the Russian ESCO Sector	Royal Haskoning B.V.	Moscow	2003 - 2009
Development of the Russian EE Strategy	IFC	Moscow	Nov. 2002 - July 2003

A more detailed description of these projects is provided below.

1. Advisory Services: Legislation on Improving Energy Efficiency in Public Buildings

Client: Ecorys B.V.

Location: Moscow, Russian Federation

Period: July 2010 - present

Scope:

This project aims at providing the Russian Ministry of Economic Development with technical assistance support in order to prepare the Secondary Legislation in respect to energy efficiency in public buildings and energy performance contracting.

Role of Lighthouse: Lighthouse assists Ecorys, the contractor of the project, in preparing the required Secondary Legislation.

2. Advisory Services: Legislation on Improving Energy Efficiency in Residential Buildings

Client: The European Bank of Reconstruction and Development

Location: Moscow, Russian Federation

Period: April 2010 - present

Scope:

This project aims at providing the Russian Ministry of Regional Development with technical assistance support in order to prepare the Secondary Legislation in respect to energy efficiency in residential buildings.

Role of Lighthouse: Lighthouse, as the contractor of the project, is preparing the required Secondary Legislation in co-operation with its consortium partners.

3. Provision of Consulting Services for Developing Incentives for Improving Energy Efficiency in the State Sector in Belarus

Client: United Nations Development Program (UNDP)

Location: Minsk, Belarus

Period: February 2010 - present

Scope:

The services under this project are provided in the framework of the UNDP/GEF project 'Removing Barriers to Energy Efficiency Improvements in the State Sector of Belarus'.

Role of Lighthouse: Lighthouse will prepare and present recommendations on incentives for institutions and individuals to improve energy efficiency in the state sector of Belarus.

4. Energy Efficiency in Publicly Financed Buildings

Client: The Agency for International Business and Cooperation (EVD) of the Dutch Ministry of Economic Affairs

Location: Moscow, Russian Federation

Period: November 2009 – November 2011

Scope:

The project aims to:

1. Provide a showcase for energy efficiency in public buildings in the Russian Federation.
2. Transfer expertise about energy efficiency audits and measures in public buildings to Russian staff.
3. Disseminate widely the benefits of the showcase to owners of public buildings.

The following project results are anticipated to be achieved:

1. A transfer-of-knowledge and training program.
2. Audits in five pilot public building(s).
3. Concrete energy saving measures in one pilot building.
4. Monitoring the start and final situation in two buildings.
5. Information dissemination.

Role of Lighthouse: Initiation of the project, Business planning, Project management, Communication support and Legal and administrative support.

5. ESCO Advisory Services for the EBRD: Russia

Client: The European Bank of Reconstruction and Development

Location of project: Moscow, Russian Federation

Period: November 2008 – December 2009

Scope: The EBRD is discussing potential ESCO projects with central and regional government authorities in Russia. In order to assist the EBRD in supporting its clients to develop ESCO projects and contributing to policy dialogue the EBRD has engaged consultants to provide advisory services on all issues relating to the development of ESCO projects. In conducting the first assignments it has become clear that local knowledge and having a broad experience in both technical EE and legal and commercial issues will be crucial to the success of the overall project. The EBRD therefore engaged an additional advisor who works with the EBRD, its other consultants and its clients in order to bridge these issues and better address technical and commercial issues which arise:

The project is aimed at:

1. Determining the scope and potential for ESCO type services to address public sector EE needs in Russia.
2. Determining what obstacles would need to be overcome to realise such potential.
3. To outline appropriate methodology(ies) and financing approach(es) which would work best in Russia and propose model contract documentation for an ESCO business.
4. To identify typical projects for ESCOs in the public sector of Russia and test the designed methodology, approach and contract; and

5. To assess the size and structure of the ESCO market in Russia.

Role of Lighthouse: Lighthouse, together with its project partners, is developing appropriate methodologies, financing mechanisms and contracts for ESCO projects. Furthermore, the size and structure of the ESCO market in Russia, as well as the scope and potential for ESCO type services is being assessed.

6. Improving EE in Public Buildings: European Bank of Reconstruction and Development (EBRD) Advisory Services

Client: Econoler International Ltd.

Location of project: Surgut, Russian Federation

Period: September – October 2008

Scope: The City of Surgut, Russian Federation approached the EBRD for assistance to prepare and finance a pilot project to develop a viable long term approach for implementing EE improvements in public buildings, i.e. schools and kindergartens. The EBRD contracted Econoler International Ltd. to assist in finding practical mechanisms and contracting methods to realize off balance sheet financing of EE improvements in the municipal public buildings in Russia, especially for the City of Surgut.

Role of Lighthouse: Lighthouse, in cooperation with the other project consortium members, first identified practical business and financing mechanisms to execute a pilot project within the existing budget and procurement legal framework. After visits to Moscow and Surgut, a specific business and financial scheme was developed for a pilot project for implementing EE improvements in public buildings in Surgut.

7. Development and implementation of a natural gas leak detection system at the Mosgaz distribution system

Client: The Agency for International Business and Cooperation (EVD) of the Dutch Ministry of Economic Affairs (as the financier of this project), GUP Mosgaz (as the recipient of this project)

Location of project: Moscow, Russian Federation

Period: April 2007 – November 2008

Scope: The aim of the project was to develop and implement a natural gas leak mitigation program at the municipal gas distribution company Mosgaz in Moscow, based on Dutch tested equipment and experience. This program enabled Mosgaz to detect and repair gas leaks in the entirety of its distribution network. Gas leakages were detected, measured and repaired in ten gas distribution stations.

Project activities included:

1. Training of Mosgaz staff through field training and seminars on the detection and measurement of gas leakages and a study tour to the Netherlands.
2. Purchasing the required gas leak detection and measurement equipment and repair materials.
3. Actual gas leak detection and measurement before and after the repairs.
4. Development and implementation of a leak repair work plan.
5. Presentation of the project results in seminars and conferences.

Role of Lighthouse: Initiation of the project, Business planning, Project management, Communication support and Legal and administrative support.

8. Due Diligence on six Joint Implementation projects

Client: Climate Focus B.V.

Location of project: Moscow, Russian Federation

Period: December 2006 – January 2007

Scope: Lighthouse assisted the client with Due Diligence on six proposed Joint Implementation projects in Russia.

Role of Lighthouse: Due Diligence.

9. Market survey of the Russian EE market for equipment and services

Client: The Agency for International Business and Cooperation (EVD) of the Dutch Ministry of Economic Affairs

Location of project: Moscow, Russian Federation

Period: October – December 2005

Scope: Lighthouse wrote a market survey of the Russian EE market for equipment and services aimed at identifying business opportunities and the best market approach for Dutch suppliers of EE related services and equipment in the sphere of EE in the Russian Federation. The survey:

1. Clarified general EE issues in Russia;
2. Identified market opportunities;
3. Clarified issues concerning market access;
4. Identified EE Programs and Financing sources for investments in EE;
5. Clarified the relevant Legal and institutional framework of EE;
6. Provided a practical guide for the market approach by Dutch suppliers of EE related equipment and services;
7. Identify key contacts in the EE sphere in Russia.

Role of Lighthouse: Collecting information for the survey, interviews with market experts and writing the survey.

10. Self powered boiler house

Client: Gasunie Engineering B.V.

Location of project: Mitishchi, Moscow Region, Russian Federation

Period: 2004 -2006

Scope: The project comprises the modernization of a boiler-house in Mitishchi, Moscow Region that will result in increase of efficiency of the boiler-house and reduction of its dependency on external electricity supply.

The project aims at demonstrating technical feasibility of a 'self-powered boiler houses' concept. It also includes the development of the 'BurnerGEN' concept and a complimentary heat exchanger for hot-water supply, which both represent a functional technology suitable for use at boiler-houses in Russia.

Role of Lighthouse: Business planning, project management, communication support and legal/administration support.

11. Due Diligence of the reputation of 9 Russian companies participating in ERUPT-3, ERUPT-4 and ERUPT-5

Client: SenterNovem

Location of project: Moscow, Russian Federation

Period: 2003-2005

Scope: Due diligence of Russian energy supplying companies that participated in the fourth and fifth Emissions Reduction Procurement Tender (ERUPT) resulted in extensive reports focused on the following issues:

1. General reputation of the company;
2. Reputation of the managers;
3. Reputation of the organisation or individuals owning the major shares;
4. Possible criminal records of the managers involved in the company;
5. Possible litigation involving the company and/or its managers;
6. Possible disputes of ownership of shares;
7. Financial and economic standing of the company.

Role of Lighthouse: Due Diligence.

12. Introduction of Energy Efficient Mobile Cascade Boiler Houses for Heating Purposes

Client: Gasunie Engineering B.V.

Period: January 2003 – June 2005

Location of project: Istra, Moscow Region, Russian Federation

Scope: Transfer of new energy efficient technology to the company Ziosab-Istra, Istra, Moscow Area, Russia. The project comprised the delivery and installation of 2 demonstration cascade mobile boiler units with a total capacity of 2.2 Mw. Components of the boiler-houses were produced by Essent in the Netherlands. Gasunie Research provided technical support, including the training of personnel. Lighthouse and Ziosab-Istra established a service company that exploits the boiler-houses, providing heat to municipal and private entities. At a later stage Ziosab-Istra will start its own production of cascade boiler systems.

Role of Lighthouse: Initiation of the project, business and financial planning, project management, communication support and legal/administration support.

13. Introduction of a mobile energy audit and environmental measurement laboratory in the Russian ESCO sector

Client: Royal Haskoning B.V.

Location of project: Moscow, Russian Federation

Period: 2003 - 2009

Scope: The project aims to realize sustainable energy savings and a substantial reduction of harmful emissions through the introduction and commercially viable exploitation of a Mobile Energy Audit Measurement Laboratory, the transfer of Dutch Energy EE know-how and the implementation of concrete energy saving measures. These actions will have a positive tangible impact on the environment. Within the project duration, a Dutch-Russian joint venture was established and an in-depth energy audit (or baseline energy audit) was

carried out at Russian industrial objects. The joint venture is the first Russian energy service company disposing of modern technology and techniques for energy audits.

The project will further: 1) demonstrate how low cost EE measures can achieve considerable results; 2) increase EE awareness; 3) improve the position of Royal Haskoning, Gasunie and Lighthouse on the Russian market; 4) create a sustainable demand for the hardware and technical assistance of the project partners and other Dutch EE suppliers.

In November 2007, the Dutch Minister President Balkenende inaugurated the mobile laboratory in Moscow. The mobile laboratory can measure emissions, harmful substances, amounts of energy and temperatures. The mobile laboratory also has an advanced data system onboard for the analysis of these tests. The laboratory has been delivered in the framework of a project financed by the Dutch government. The project partners are the Dutch companies Royal Haskoning and Gasunie and the beneficiary Lighthouse Energy Investments. The measurements carried out by the laboratory will lead to draw up energy-saving plans for Russian companies. In its first assignment, the laboratory was used to draw up an energy saving plan for the district heating company in the city of Troitsk in the Moscow region.

Role of Lighthouse: Initiation of the project, business planning, project management, communication support, management of the new service company and legal/administration support.

14. Development of the Russian EE strategy for the International Finance Corporation (IFC)

Client: International Finance Corporation

Location of project: Moscow, Russian Federation

Period: November 2002 – July 2003

Scope: The project was the first phase of an IFC technical assistance and finance program in the former Soviet Union aimed at developing private Energy Efficiency (EE) investment. The next phases of the program consisted of implementing pilot EE investments and creating financial vehicles to fund EE projects. The project used a bottom-up approach that first identified potential pilot projects for EE investments and then considered market conditions, financing structures and regulatory environment.

Based on the project results, detailed technical and financial plans were developed in the next phase, including specification of procurement needs, possible equipment and service suppliers, amount of finance, finance instruments and investors for each individual pilot project.

Role of Lighthouse: Market investigation, Due Diligence of potential recipients, business planning and financial planning.