ENERGY SAVING AND EFFICIENCY PROJECTS IMPLEMENTED BY GAZPROM PROMGAZ IN COOPERATION WITH EUROPEAN PARTNERS

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Gazprom promgaz

***Mission* – Design and implementation of integrated fuel and energy projects underlaid by applied scientific research and advanced technologies**

Activities:

- Regional energy industry, energy efficiency
- Gas supply and distribution in the Russian regions
- Reconstruction and technical re-equipment of gas distribution facilities
- Investment effectiveness
- Non-conventional carbon resources
- Energy services

Gazprom promgaz at a glance

- Major Gazprom center in natural gas distribution and utilization
- Operation in 68 regions of the Russian Federation
- Considerable scientific potential (employs 31 Doctors of Sciences and 93 Candidates of Sciences)
- 14 representative offices across the Russian Federation
- Active contribution to IGU and UNECE activities
- In 2007 turnover totaled 4,4 billion RUR (160 million USD)

Examples of Energy Projects

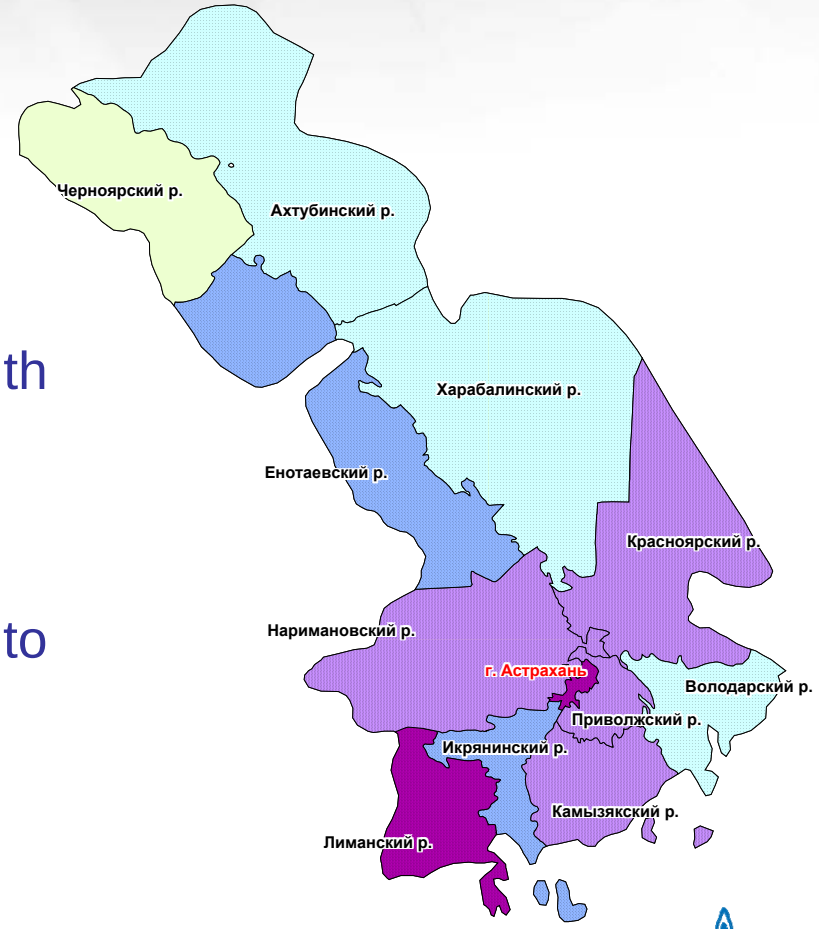
- Development of Moscow Energy Strategy for the period up to 2025
- Drawing up of the feasibility study of energy supply system in the districts of St. Petersburg
- Design of energy supply and engineering services scheme of the Gazprom mountain tourist center in Krasnaya Polyana
- Feasibility analysis of projected Gazprom investments in Greek energy assets
- Heat facilities reconstruction in the Russian Federation (including some 100 independent modular boiler houses installed in 2003-2008)

Energy Efficiency Projects Implemented by Gazprom Promgaz Jointly with Foreign Partners

- Mini cogeneration station construction in the Astrakhan Region – joint project with GDF SUEZ (France)
- High energy efficiency demo zone in Kalayazin, the Tver Region - joint project with E.ON Ruhrgas (Germany)
- Study on Gas Saving to Reduce Natural Gas Demand and Enhance Energy Security
- International forum “Week of Efficient Gas Distribution and Utilization” supported by UNECE, IGU, NGVA and MVK
- Development of a Framework for Energy Saving Projects in the Russian Federation: the Kaluga region case study – joint project with Gasunie (the Netherlands)
- Strategy study on inter fuel substitution implemented in Kolpashevo municipality of the Tomsk Region

Mini cogeneration station construction in the Astrakhan Region (2000)

- Energy supply system optimization
- Construction of three mini CHP with capacities of 2,5 and of 4 MW
- Construction of gas boiler houses with capacity of 10-30 GCal/h
- Total capital expenses $ 140 million
- Payback period of 6-9 years
- Scheme of supplying the saved gas to France



Organization of the High Energy Efficiency Demo Zone in the Tver Region, 2000-2005

Town of Kalayzin, district center in the Tver Region, is situated on the Volga right bank.

Town territory **1400 ha**,

population – **16 000**.

Small and medium size enterprises relating to food and light industries prevail in the production sector.

The district has no own energy recourses.

Organization of the High Energy Efficiency Demo Zone in Kalyazin
Implemented Activities

- ✓ Schemes of gas supply and distribution in the Kalayazin and the Kalayazin region
- ✓ Scheme of the town heat and electricity supply sources location
- ✓ Energy saving programme
- ✓ Environmental effect assessment
- ✓ Feasibility study of demo zone organization
- ✓ ESCO organization business plan



Study on Gas Saving to Reduce Natural Gas Demand and Enhance Energy Security, 2007

Study purposes

- Examining of experience and mechanisms of effective energy and gas use in Western Europe countries
- Development of practical recommendations of effective gas and energy use increase for Russia, Eastern Europe and CIS countries

Conclusions

- The growth in gas consumption outstrips forecasts
- In the developed countries the issue of energy conservation and gas use efficiency are considered as vital at gas prices increase
- Low gas prices is a significant but not the only obstacle on the way of fulfillment of energy saving potential
- Efficient gas use will permit to smooth the tendency of growing gas demand

International Forum
«Week of Efficient Gas Distribution and Utilization», 2007

- International conference “Efficient Gas Distribution and Utilization”
- 5th International Specialized Exhibition of Gas Supply and Effective Usage of Gas (GasSUF –2007)
- Meetings of IGU WOC4 “Distribution”, WOC5 “Utilization”, Task Force R&D
- Forum attendees : ~ 4000 participants from Russia and foreign countries

MVK

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International Forum «Week of Efficient Gas Distribution and Utilization» Results and Perspectives

- Official Proposal to the leadership of the Russian Federation on development and implementation of state mechanism inducing energy saving

Essential recommendations:

- o Improvement of legislative and regulation frameworks
- o Rational pricing and implementation of economic incentives
- o Intensive public awareness efforts
- o Development and implementation of federal and regional energy saving programmes

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- Organization of the next International Forum “Week of Efficient Gas Distribution and Utilization” in October 2009

Development of Framework for Energy Saving Projects in the Russian Federation on example of the Kaluga Region 2004 – present time

Project goals:

- To analyze current energy saving situation in one of the Russian regions industrial sector
- To adapt advanced approach and technologies for Russian conditions
- To form in RF favourable conditions for energy saving projects implementations (legislation, financing, state support, etc.)
- To implement pilot projects at the several enterprises of the Kaluga region
- To formalize gained experience for replication in the Russian regions

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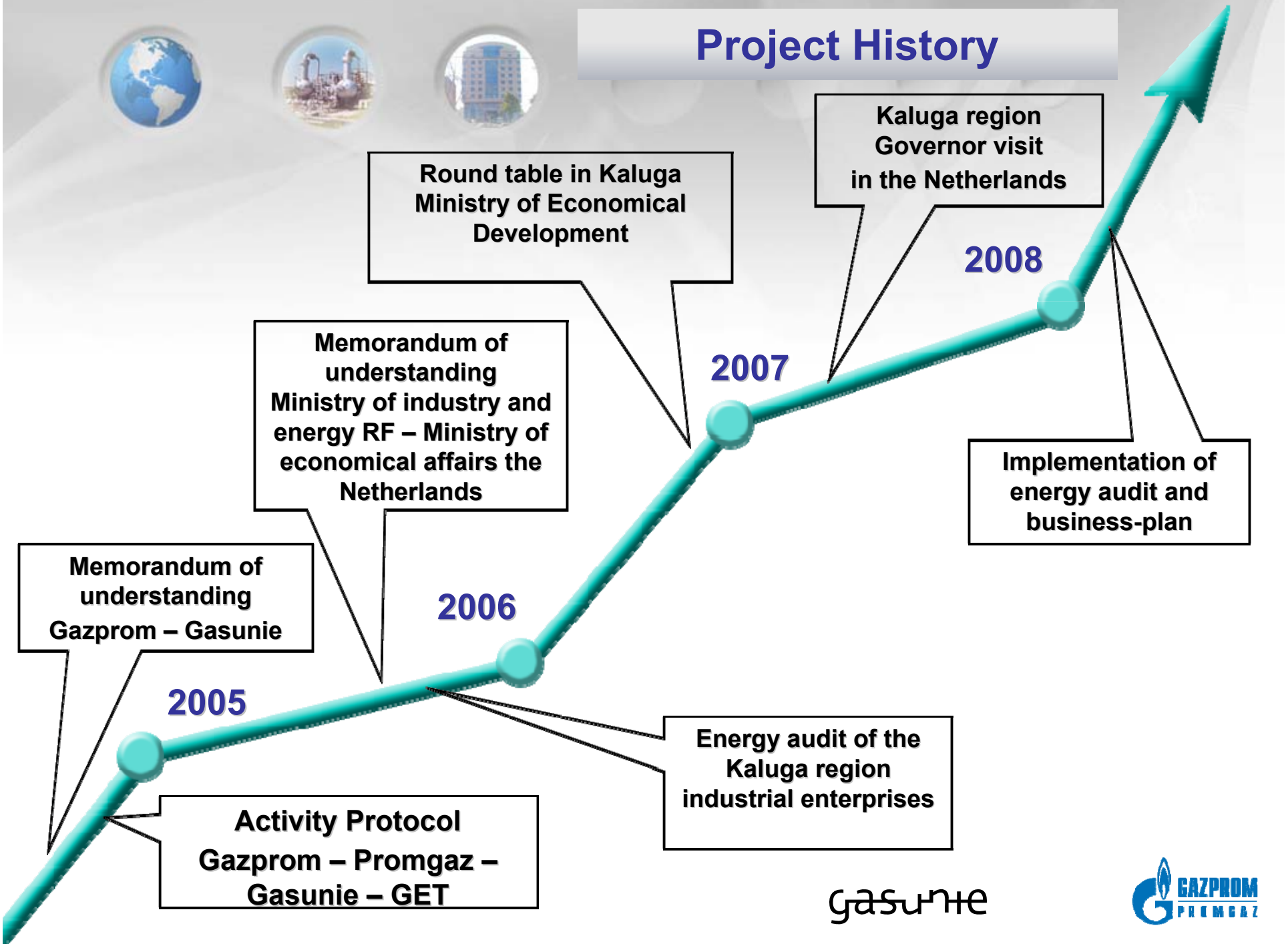
Project History



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Development of Framework for Energy Savings in the Russian Federation
Project Outlook

- Development and adoption by the Kaluga region Legislative Assembly complex of legal acts regulating energy savings
- Adoption of normative and instructional guidelines regulating fuel and energy recourses consumption
- Development of economical and financial mechanisms encouraging energy savings
- Development of feasibility studies and business plan of energy saving measures implementation on big industrial and domestic enterprises
- Development of scheme for financing of energy saving measures

Creation of Joint Enterprise with GDF SUEZ

- Gazprom Board of Directors decision of May 2008 approving creation Ecoservice LLC
- Shareholders:
  - Gazprom promgaz - 50%
  - Affiliated company GDF SUEZ - 50%
- Preliminary date of registration – 1-st quarter, 2009
- Goals of the enterprise:
  - Adaptation of advanced approach and technologies for Russian conditions
  - Introduction of advanced achievements in energy services sphere in RF territory
  - Personnel training of advanced approaches and work methods
- Scope of activity – rendering of world class energy services to European companies working in RF market
- Core activities:
  - Design of heat and power supply facilities
  - Construction and reconstruction of heat and power supply facilities
  - Operation and maintenance of heat and power supply facilities

Strategy study on inter fuel substitution implemented in Kolpashevo municipality of the Tomsk Region 2006 – present time

Estimated Effects of Kolpashevo Energy Efficiency Zone Organization:

- Provided conversion to gas, boiler efficiency rises from 40-60% to 90-92%
- Provided construction of mini CHP, fuel utilization efficiency rises to 74 – 80%
- Decrease of transportation heat losses from 15-20 % to 8-10 %
- Decrease of specific consumption rate from 275 kg c.e./GCal to 170 kg c.e./GCal
- Expected volume of energy saving in Kolpashevo ~ 35 - 40% (15 million t.c.e.)

- Strategy study on inter fuel substitution implemented in Kolpashevo is financed by European Business Congress (EBC) and UNECE
- Findings of the Strategy Paper will be presented in January 2009

Thank you for attention

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