



Major Ways of Improving Energy and Fuel Use Efficiency in the Russian Federation

A.M. Karasevich
Doctor of Technical Sciences, professor
General Director, JSC Gazprom promgaz



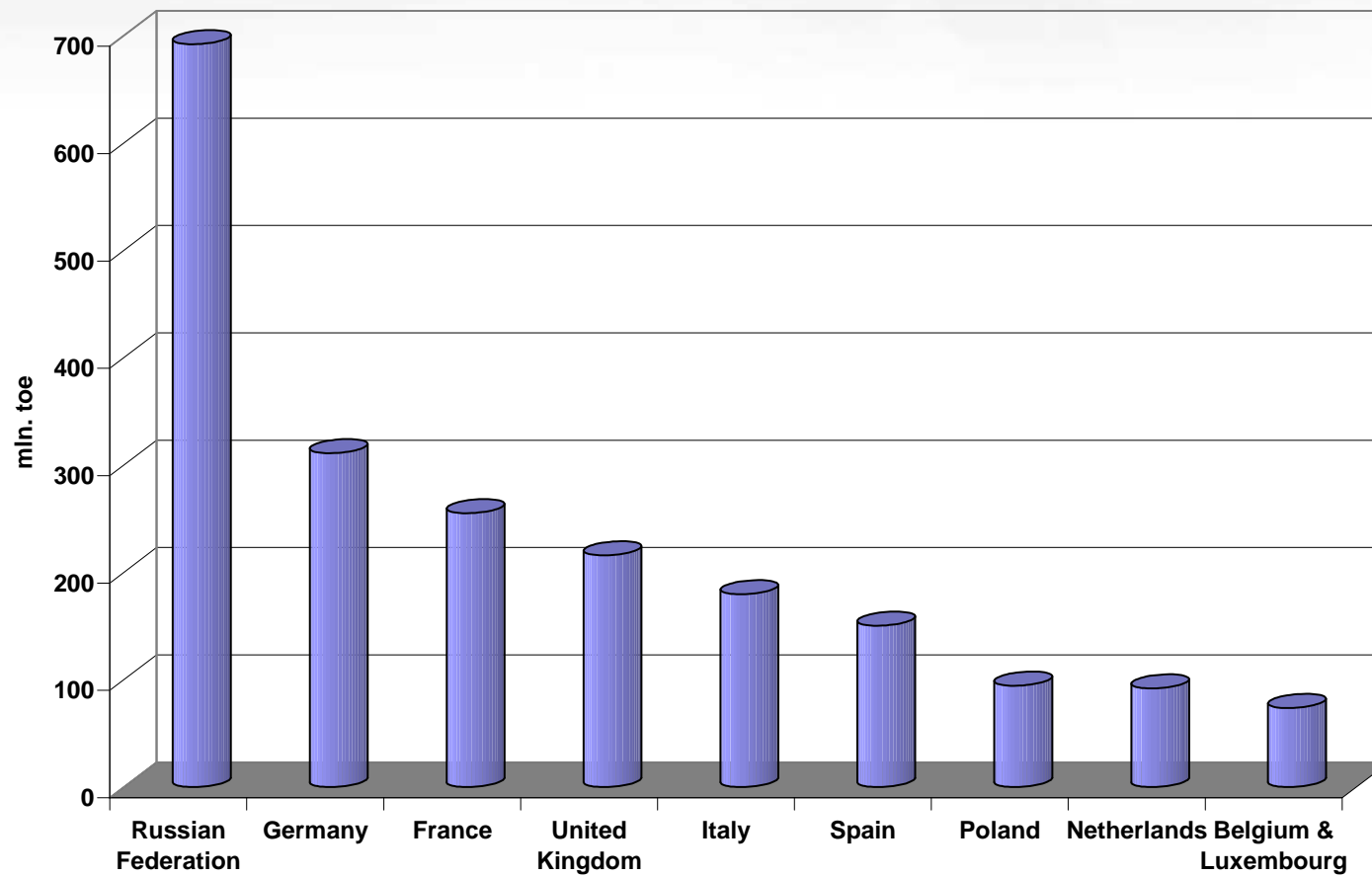


Issues for Consideration

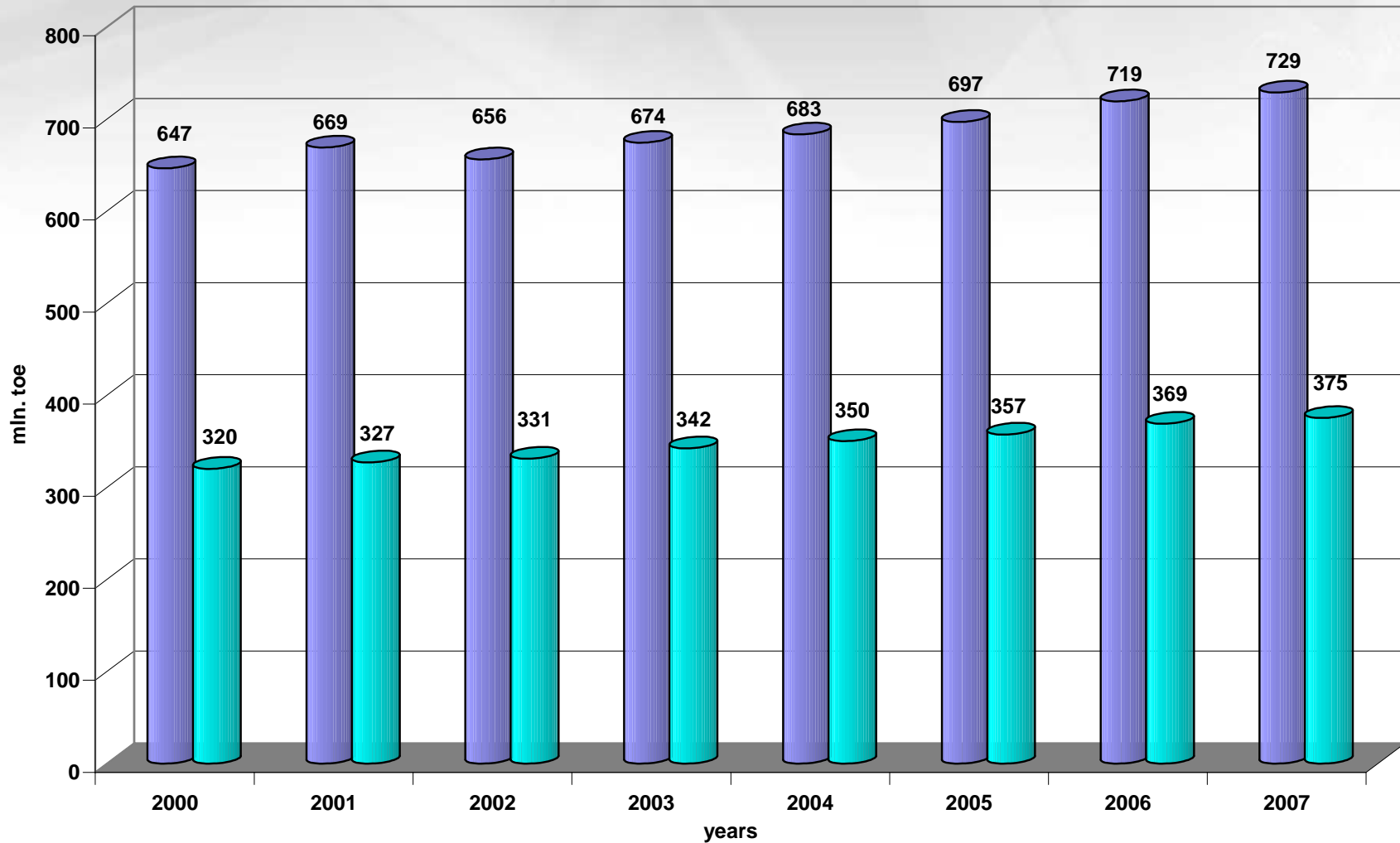
- **Consumption of fuel and energy resources in the Russian Federation**
- **Energy saving potential**
- **Energy saving projects of JSC Gazprom promgaz**
- **Major ways of enhancing efficiency of the fuel and energy use**

Consumption of Energy Resources in the Russian Federation and EU Countries

- Consumption of energy resources in the Russian Federation and biggest energy consuming countries of the EU (2007)



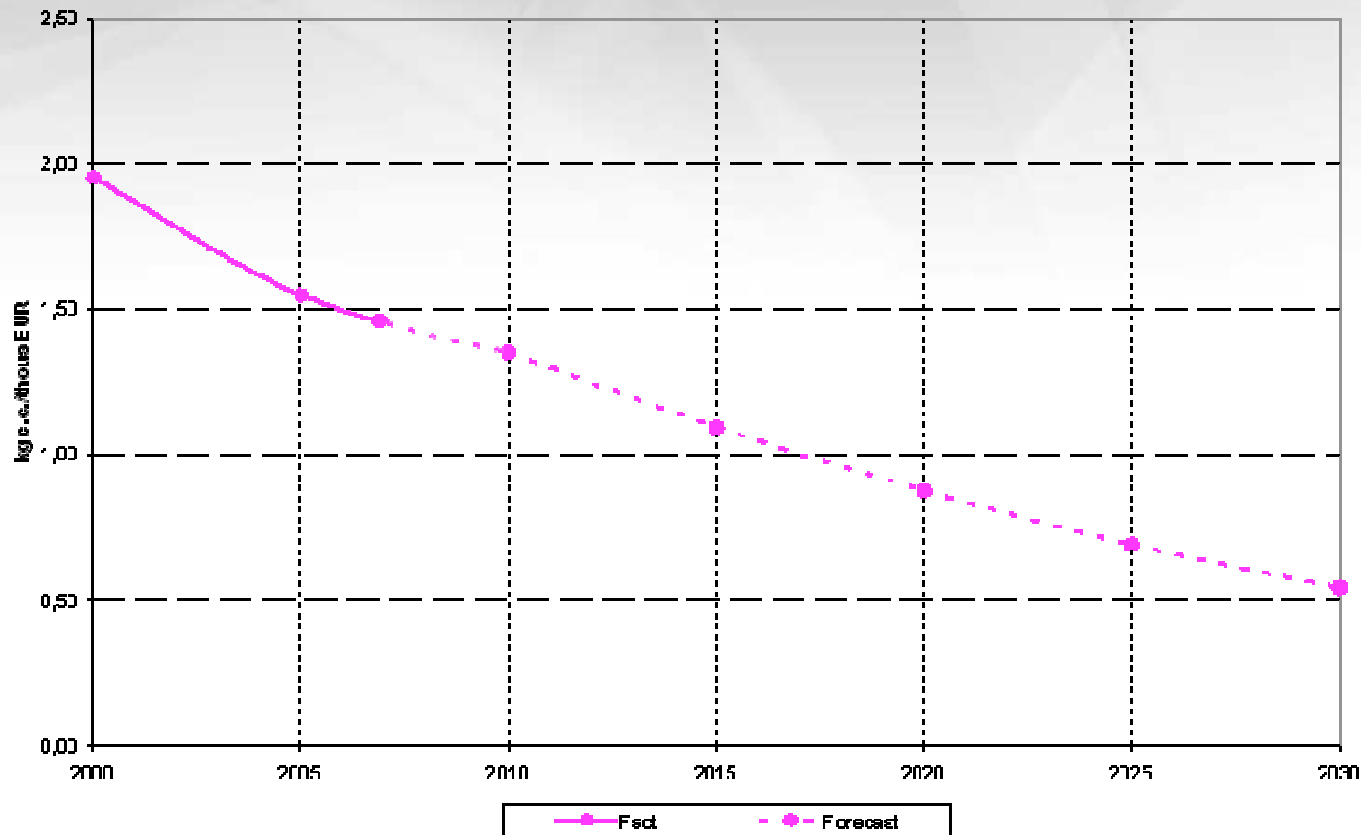
Dynamics of Energy Consumption in the Russian Federation, 2000 - 2007



■ Primary energy ■ Natural Gas



Dynamics of the Russian Federation GDP Energy Intensity

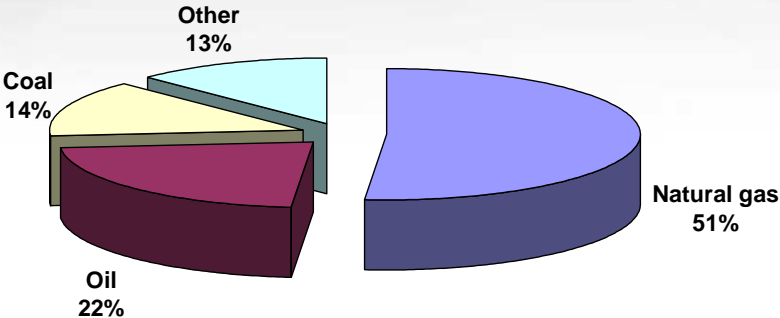


Major influences on the GDP energy intensity in 2000 – 2007:

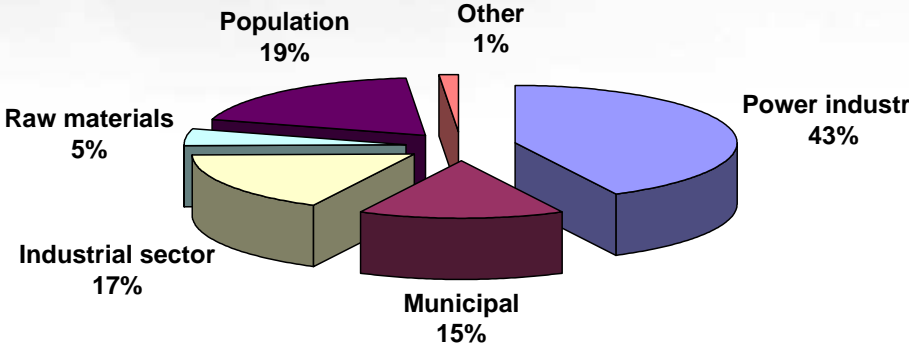
- ✓ **Structural changes in the economy - approximately 70%**
- ✓ **Organizational and technical measures – approximately 30%**

Structure of the Russian Federation Energy and Gas Consumption (2007)

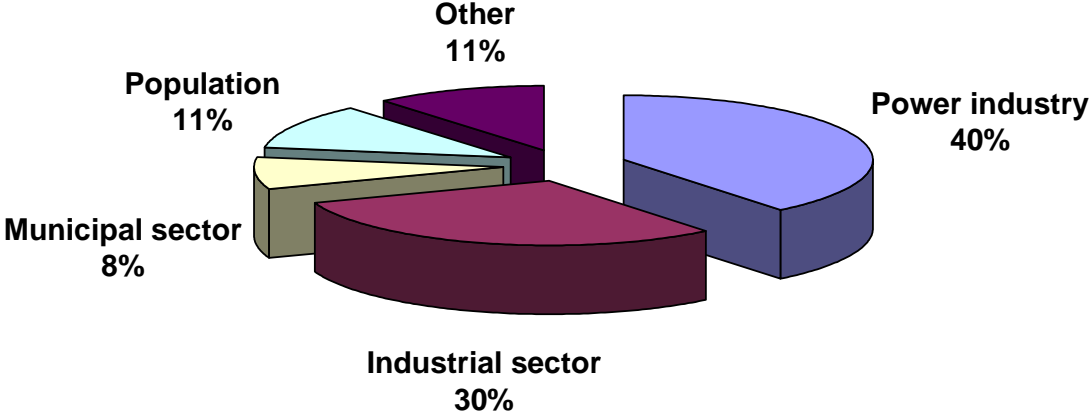
Structure of primary energy consumption by fuel type



Structure of boiler and furnace fuels consumption by the branches of economy



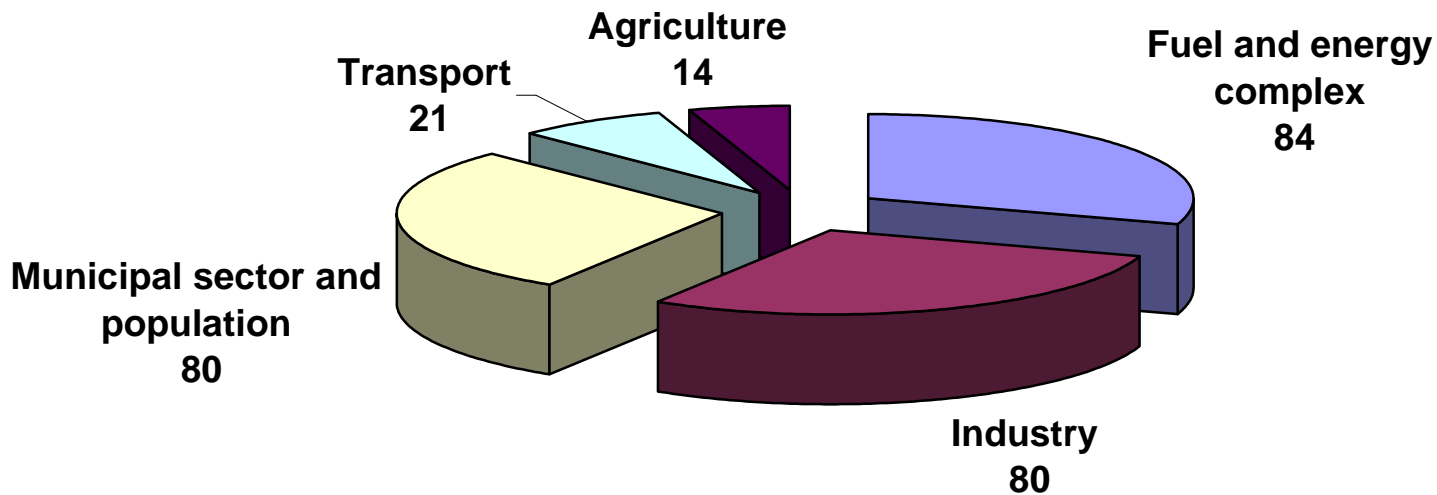
Structure of natural gas consumption by the branches of economy



Energy Saving Outlook

According to the Russian Energy Strategy technically feasible energy conservation opportunities amount to some 300 mln. tonnes of oil equivalent nationwide

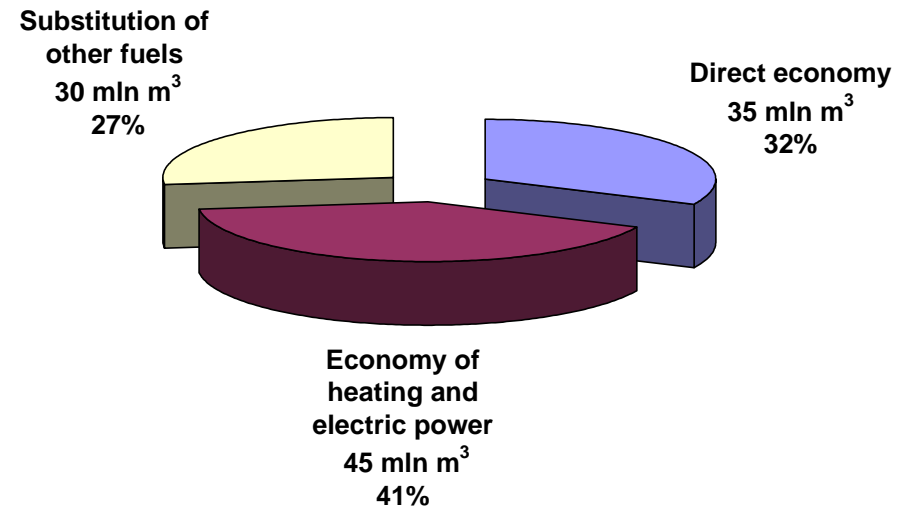
Energy saving potential by way of use , mln. toe



Potential Gas Saving

Branches of Industry and economy	Natural gas saving potential	
	mln. m ³	% for consumption
Total	109 714	26,6
Electric power industry	46 198	28,0
Industry, total, including:	31 248	25,3
- oil and gas industry	8 822	21,0
- metallurgical industry	8 556	30,0
- agrochemical industry	5 196	25,0
- cement industry	2 176	32,0
- defence industry	453	18,0
- petrochemical industry	1 965	22,0
- ministry of Defence	221	16,0
- machinery for agriculture	705	20,0
- agricultural industry	3 154	34,0
Communal and household consumption	12 095	38,0
Residential sector	9 385	19,0
Other consumers	10 788	25,0

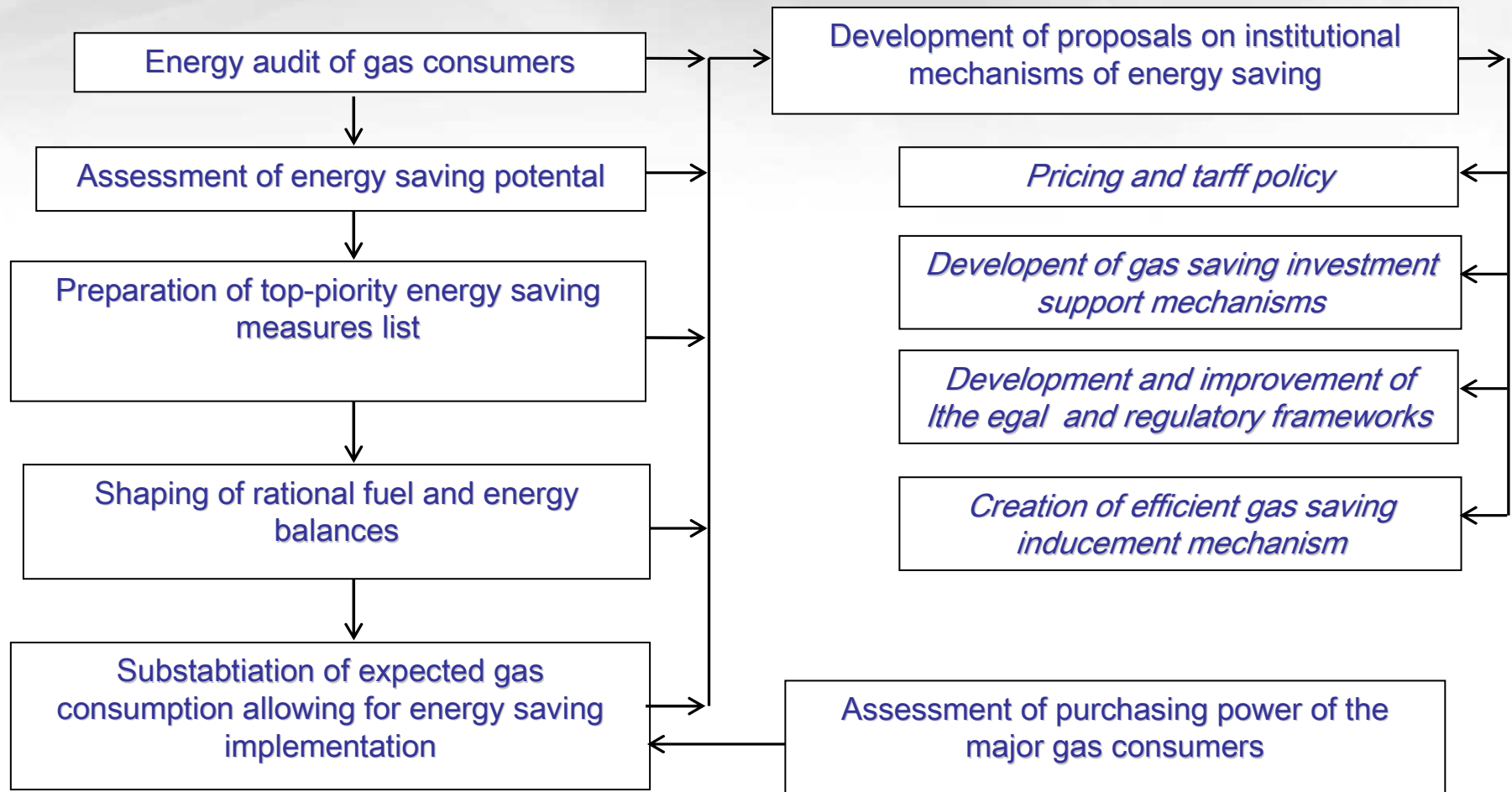
Expected natural gas conservation structure



JSC Gazprom promgaz Energy Saving Projects

- General schemes of organizing gas supply and distribution in 73 regions of the Russian Federation
- Energy strategies of the Russian Federation regions
 - Moscow energy strategy up to the year of 2025
- Feasibility study of reconstructing the St. Petersburg energy supply system
- Reconstruction of heating facilities in the Russian Federation regions (including construction of some 100 boiler houses in 2003-2008)
- Energy efficiency projects in cooperation with foreign partners and international organizations
 - Establishing of a high efficiency demo-zone in Kalyazin, Tver region, in partnership with E.ON Ruhrgas (Germany)
 - Study on Gas Saving to Reduce Natural Gas Demand and Enhance Energy Security implemented together with UNECE
 - Development of the energy saving implementation frameworks for the Russian Federation as exemplified by the Kaluga Region carried out jointly with Gasunie (the Netherlands)
 - Strategy study on inter-fuel substitution implemented in the Kolpashevo municipality, Tomsk region, prepared together with UNECE

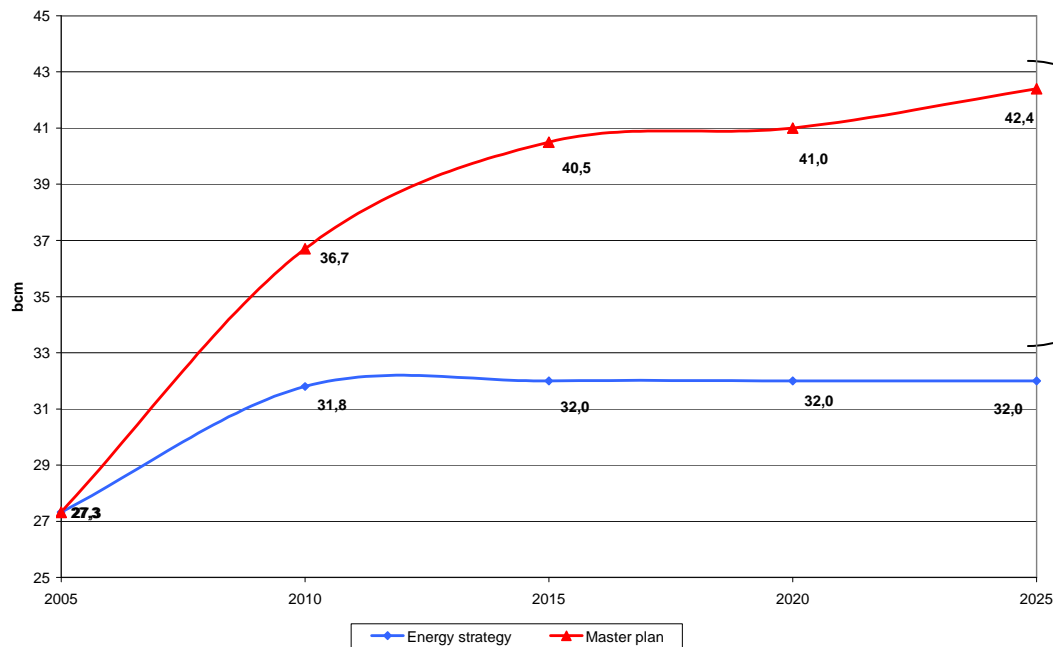
Implementation of Energy Saving Policy in the Development of General Schemes of Gas Supply and Distribution



Energy Efficiency in Development of the Moscow Energy Strategy

- Development of combined heat and power generation (CHP), minimization of condensate output
- Upgrading and development of operating CHP plants based on steam and gas unit application
- Constructing gas turbine CHP plants on the basis of operating boiler houses
- Optimization of turbines heat performance by re-directing boiler-houses summer heat load to CHP plants
- Minimization of gas and electricity counter flows between Moscow and the Moscow Region
- Further modernization of fixed assets, improvement in maintenance and operation

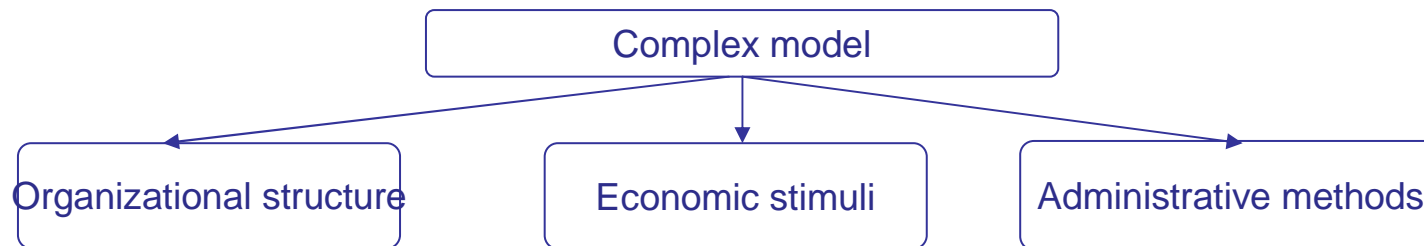
Natural gas consumption forecast until the year of 2025



Natural gas saving

Development of the Frameworks for Energy Savings in the Russian Federation on example of the Kaluga Region

- **Analysis of the Dutch practices of energy saving and efficient use**
- **Identification of energy saving opportunities at the Kaluga Region enterprises:**
 - Making a list of enterprises, where energy expenses account for a considerable share in the production cost of the goods manufactured
 - Identification of 3 pilot enterprises– Kalugaputmach, Kondrovo paper company, Teploservice
 - Implementation of energy audits
 - Recommendations on improving efficiency of energy and fuel use
- **Development of stakeholders' cooperation frameworks**
 - Making a model for assessing economic efficiency of energy conservation inducing measures
 - Establishing a scheme of stakeholders' interaction
- **Development of proposals on improving energy conservation and efficient use legislation**



Major Ways of Enhancing Efficiency of Fuel and Energy Use in the Russian Federation

- Improvement of legal and regulatory framework in the field of energy saving
- Improvement of pricing policy in fuel and energy complex
- Development of a system of economic and tax inducement of energy efficiency
- Development of financial mechanisms and credit policy and state support for energy saving projects
- Development and implementation of new energy saving technologies and equipment
- Development of ESCOs
- Energy saving policy awareness facilitating through mass media
- Gas pricing and gas supply regulation for various consumers depending on the efficiency of gas use
- Use of schemes which guarantee return of investments and their profitability
- Benefits and subsidies to socially unprotected customers



Contact info:

117420 Russia, Moscow,
Nametkina str. 6

Tel.: +7 (495) 504 4270

Fax : +7 (495) 504 4370

E-mail: promgaz@promgaz.ru

www.promgaz.ru

