



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





Major 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.





Fulfilled Work



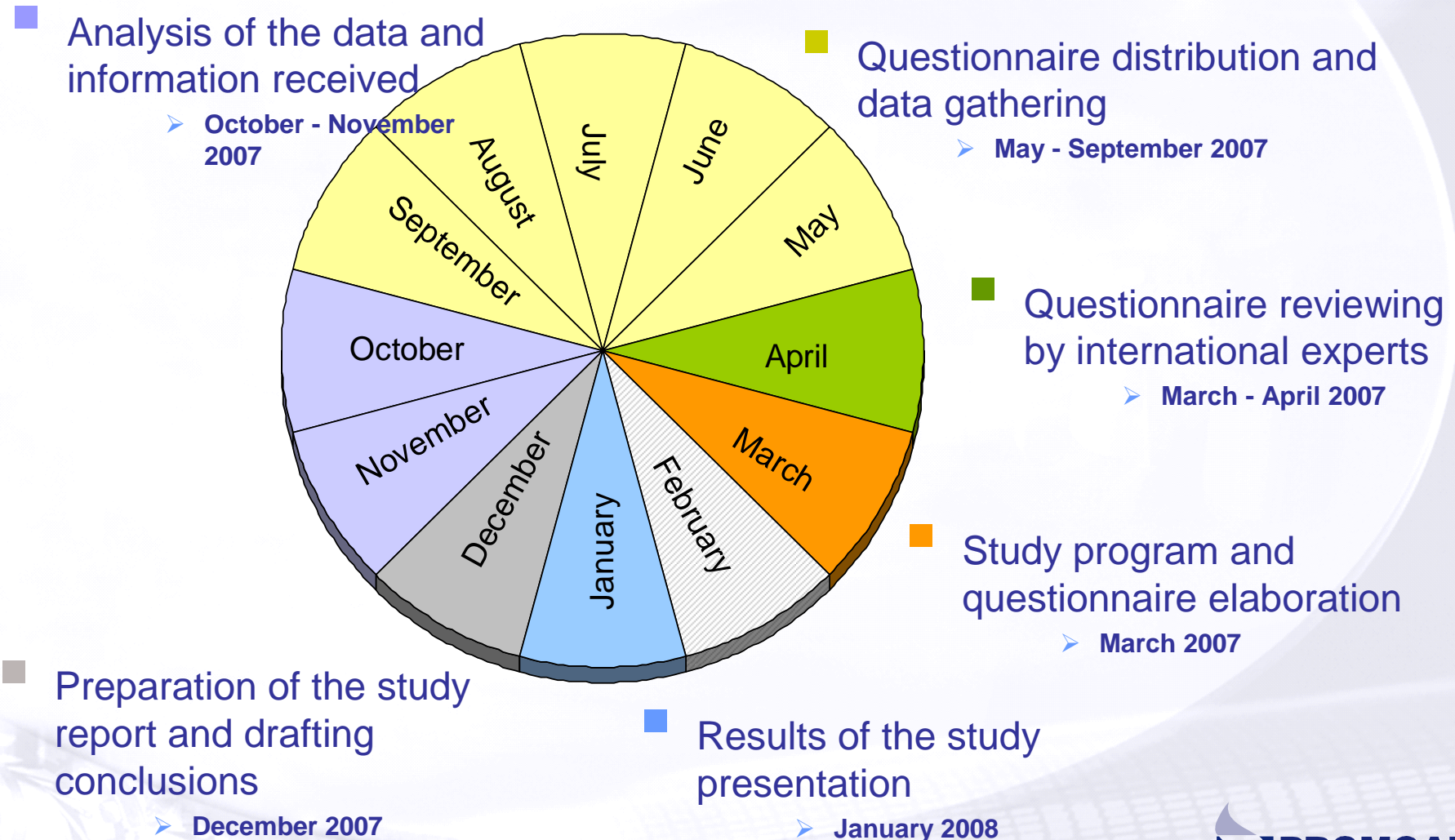
- Meeting of UNECE Working Party on Gas in Moscow in March 2007
- Consultations with IGU experts
- Preparation of questionnaires
- Distribution of questionnaires among UNECE members and IGU experts
- Processing of the obtained information

Structure of questionnaire



- Structure and prognosis of the development of energy resources demand
- Energy efficiency and current energy saving situation
- Review of energy saving technologies and equipment
- Legal base and governmental policy aimed for development of the energy sector
- Major obstacles to the enhanced efficiency of natural gas use and way to overcome them (recommendations)

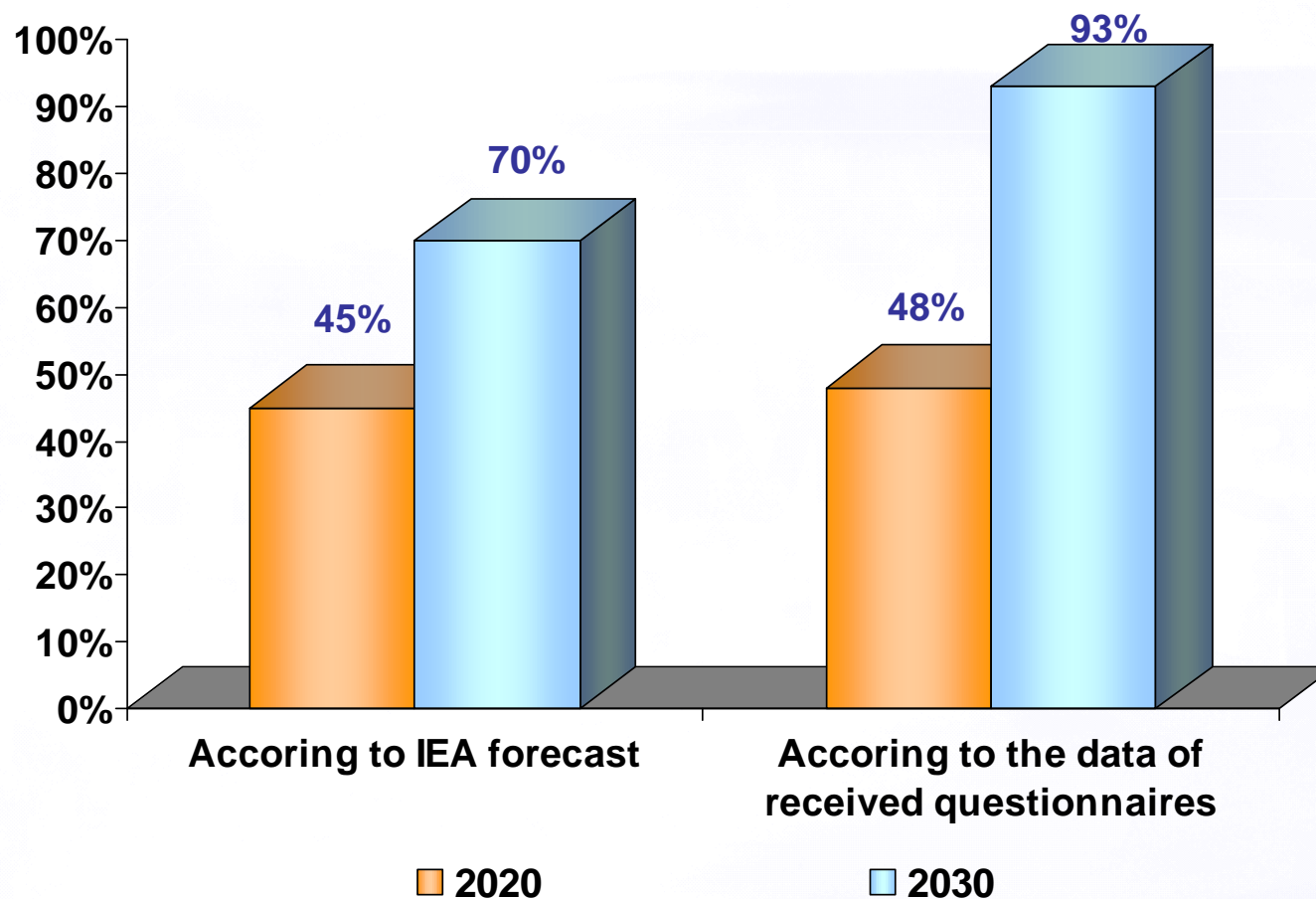
Calendar Plan and Stages of Study



Achieved Results

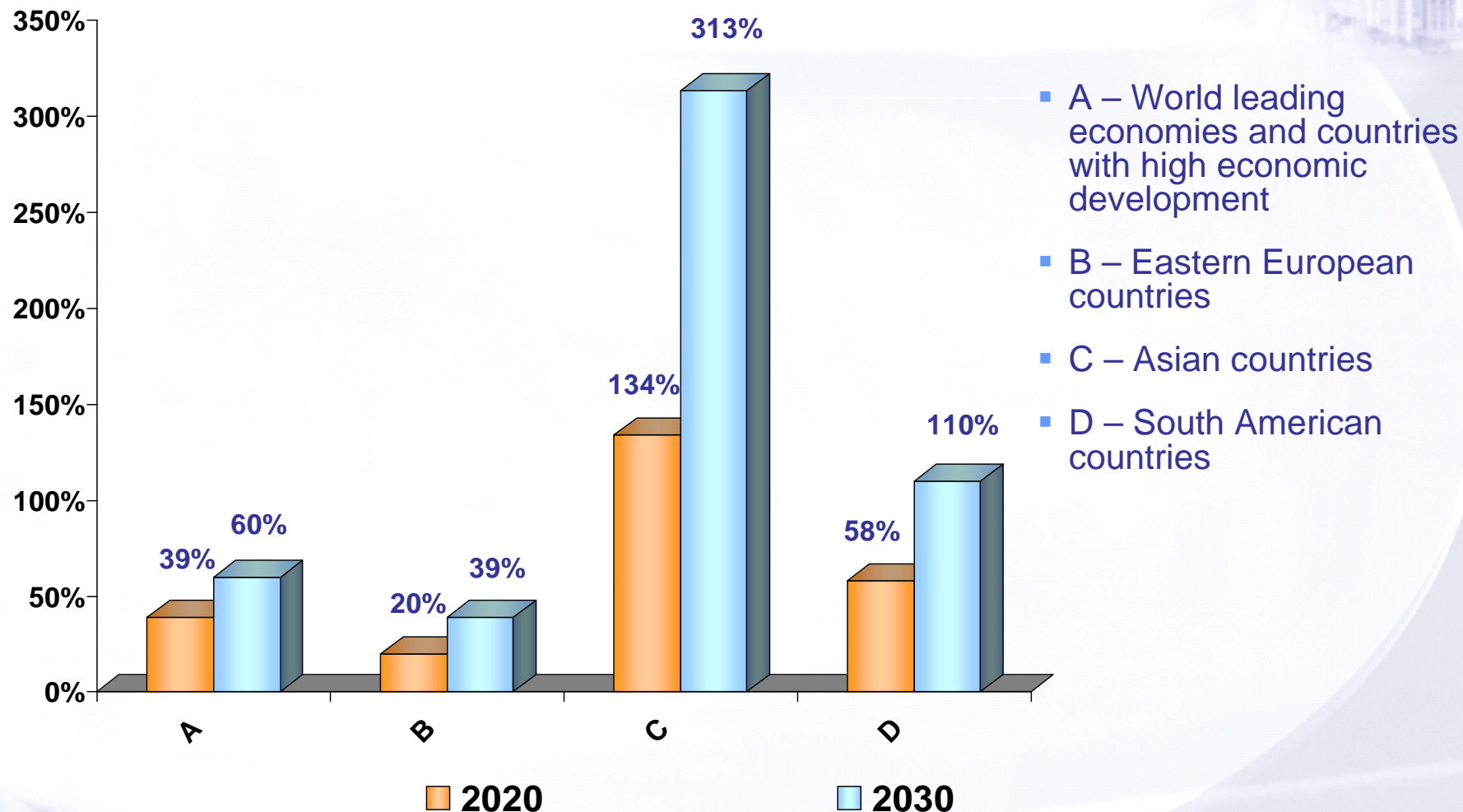
- 17 completed questionnaires were received:
 - 8 from the developed countries
 - 6 from the Eastern European countries
 - 2 from Asia
 - 1 from South America
- 11 questionnaires were received from UNECE and 6 from IGU

International Gas Demand Expected Increase



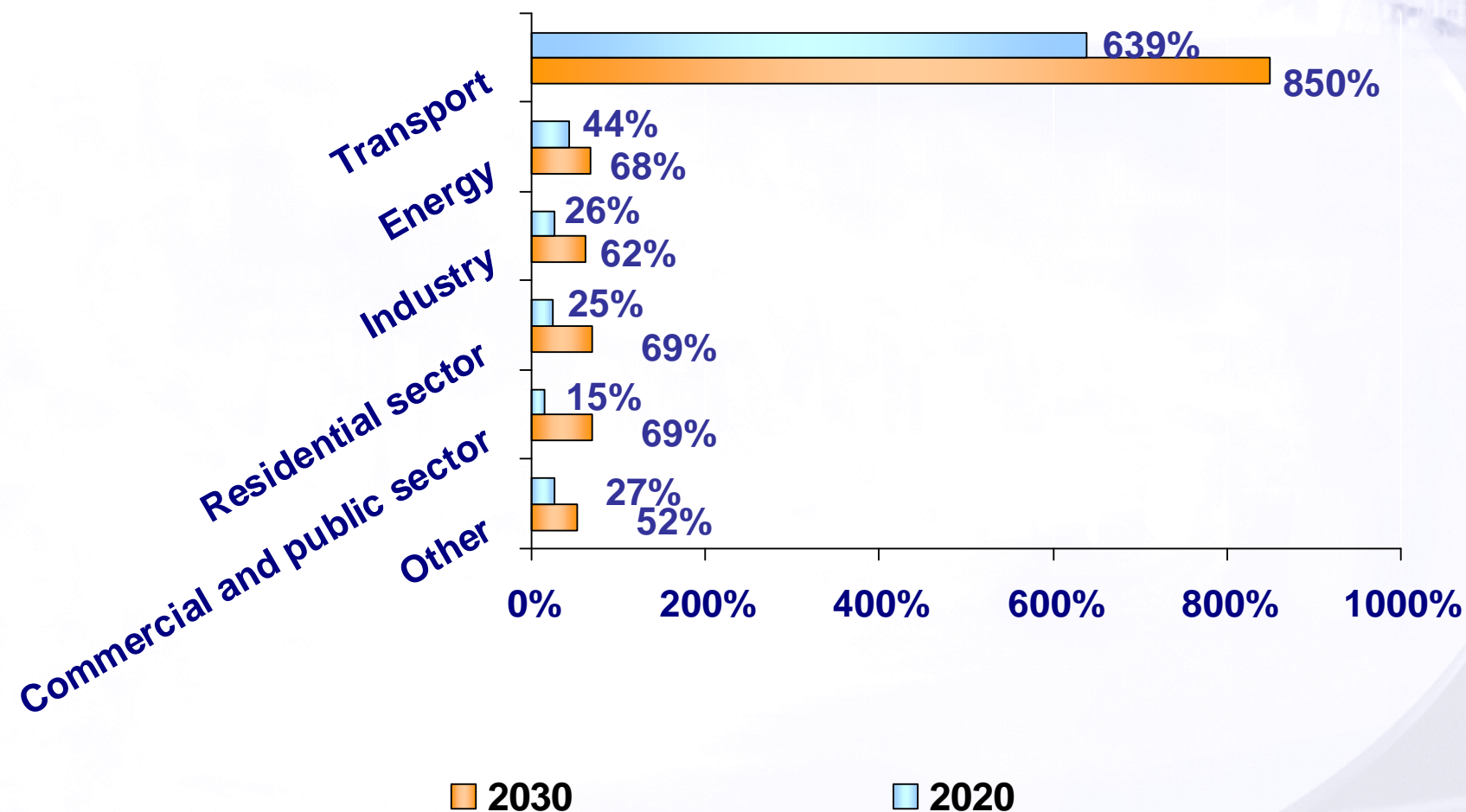
According to the contributing experts the future gas demand will exceed the existing forecasts. This fact increases the need in energy conservation.

International Gas Demand Expected Increase



According to experts opinion

Gas Demand Increase by Sectors



According to experts opinion

Main Factors Influencing National Gas Sector Development

Factor	Rank	Effect			
		Countries with high economic development	Eastern European countries	Asian countries	South American countries
Changes of prices of different types of fuel	1	Strong	Strong	Strong / Moderate	Moderate
Governmental policy in the energy sector	2	Strong / Moderate	Strong / Moderate	Moderate	Strong
Strengthening of environmental legislation and requirements	3	Strong / Moderate	Moderate	Low / Moderate	Low
Stable delivery demand	4	Strong / Moderate	Moderate	Moderate	Moderate
Energy markets liberalization	5	Moderate	Moderate	Moderate	Moderate
Energy-saving measures implementation	6	Moderate	Low	Moderate	N/A

Main Factors Brought About National Economy Energy Intensity Reduction

Factor	Rank	Countries with high economic development	Eastern European countries	Asian countries	South American countries
Equipment modernization and the introduction of new technologies	1	2	1	1	1
State programs aimed to reduce the energy intensity of economy	2	4	3	2	3
Public promotion of energy conservation	3	1	4	3	4
High rate of growth of fuel and energy tariffs and prices	4	5	2	4	5
Activities of energy service companies (ESCO)	5	7	7	5	2
Growth of the environmental concerns of society	6	3	6	6	6
Fuel crises in the 1970-s	7	6	5	7	7

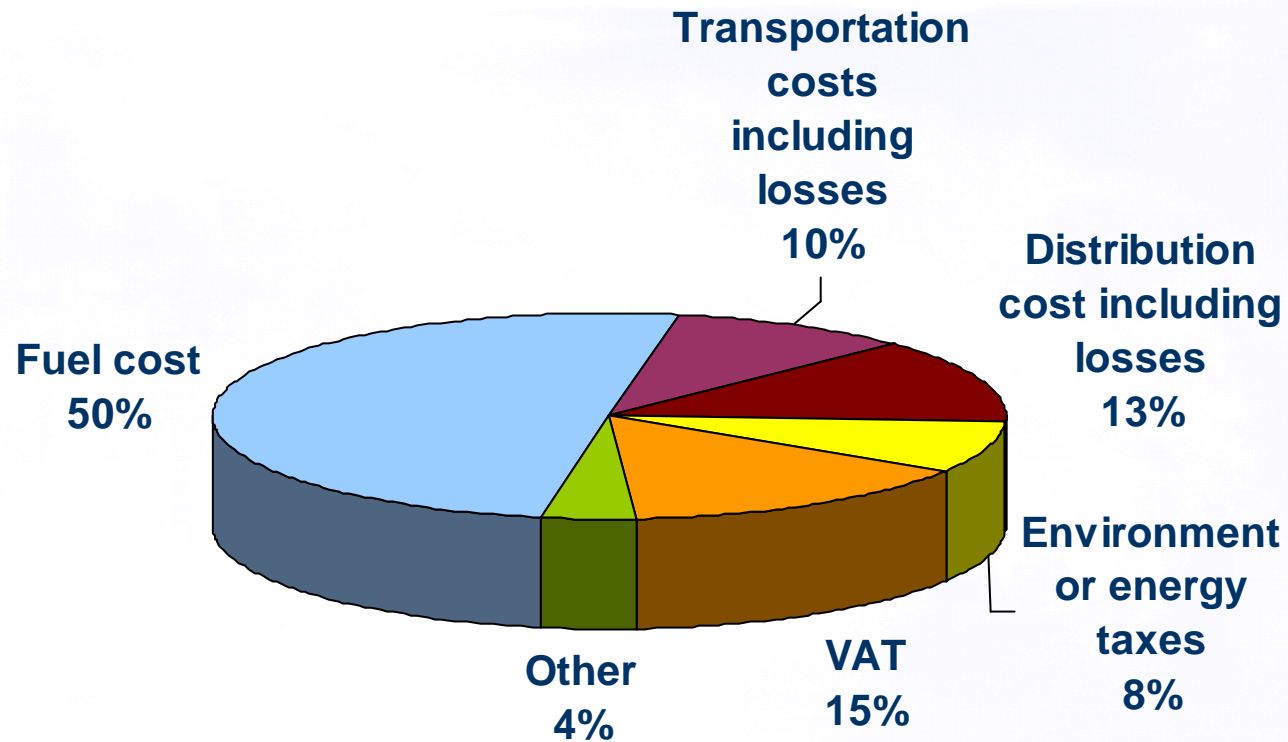
Possible Reaction of Consumers in Case of Gas Prices Increase



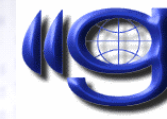
Possible increase of prices		Consumers reaction
Countries with high gas prices	Countries with low gas prices	
10%	30%	Growth of production cost in accordance with gas prices increase and willingness to pay more
20%	50%	Execution of an energy saving project aimed to reduce energy payments
30%	150%	Switching of production process to alternative fuel(s)
50%	300%	Closure of the business or move to another country with lower energy prices

Current tariffs in the countries with low gas prices do not motivate consumers to save energy!

Structure of average gas consumer prices



Structure of average gas consumer prices



Main components of final gas prices	Division by different countries
Fuel cost	40% – 60%
Transportation costs including losses	2% – 30%
Distribution cost including losses	3% – 20%
Environmental or energy taxes	0% - 10%
VAT	15%

Countries where energy is used efficiently implement special ecotaxes as a means for enhanced energy savings



Main technical measures providing energy conservation



- Insulation of buildings
- Installation of energy efficient light systems
- Installation of measuring equipment
- Introduction of energy conservation standards
- Optimization of work of heating and air conditioning systems and heating equipment modernization
- Installation of autonomous co-generation energy sources
- Optimization of production process



Obstacles for Energy Conservation Increase in Developing Countries



- Low conscience of energy conservation
- Low prices and tariffs of energy resources, particularly gas
- Insufficient Governmental measures towards energy conservation
- Lack of legislative basis, standards and norms for implementation of energy conservation policy
- Difficulties with raising finance for energy conservation projects



Recommendations for Energy Conservation Problems Solution



- Promotion and support of equipment modernization and introduction of new energy saving technologies
- Public promotion of energy saving policy
- Significant increase of gas prices
- Strengthening the Governmental policy towards the efficient use of energy
- Transfer of experience of the developed countries in the field of work on legislative acts, determination of the financial and fiscal energy conservation mechanisms for countries with the high energy intensity economics
- Stimulation of energy companies for maintaining energy saving policy

Conclusions



- Gas consumption demand is rapidly growing regardless of prices increase
- Efficient gas use will permit to smooth the tendency of growing gas demand
- 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 the way of fulfillment of energy saving potential



Next steps



- Preparation of proposals on change of the Russian Federation energy legislation
- Public promotion of energy conservation policy
- Implementation of energy efficient projects in Russia and CIS countries. Use of the study results at development of the energy efficient zone in Kolpashovo in frames of UNECE project "EE21"



Preparation of proposals on the legislation change

- Studying and analyzing of legislation of the leading countries in the field of efficient use of energy
- Preparation of recommendations on changes to the Russian Federation regions legislation
- Statement of the participants of the international forum «Week of Efficient Gas Distribution and utilization» to the Russian Federation Government



Public promotion of energy saving policy



- Discussions at the international forum «Week of Efficient Gas Distribution and utilization»
- Presentations at the sessions of the working party on gas and special experts group
- Organization of press publications on energy efficiency



Creation of high energy efficiency zone in Kolpashevo, Tomsk region



Project purposes:

- Providing reliable and secure energy supply to the population and public-service sector
- Increasing efficiency of fuel energy resources use
- Providing commercial interest and profitability of energy projects

Results of work on the project:

- Development of a complex structure of Kolpashevo energy supply:
 - Reconstruction of the current systems
 - Building of a new energy supply sources
 - Use of energy saving technologies and equipment
 - Use of liquefied and compressed natural gas as an alternative fuel for gasification, gas motorization, etc.



Creation of high energy efficiency zone in Kaliazin, Tver region



Project purposes:

- Fulfillment of Russia energy saving potential
- Using the project for development of the technological, organizational and legal decisions and models for creation of a high energy efficiency zone in the Russian Federation.

Results of work on the project:

- Energy audit of fuel and energy resources consumers in the region
- Business-plan of creation of an energy-service company (ESCO), which will operate in the zone
- Determination and analysis of obstacles to introduction and development of energy efficient projects in the Russian Federation
- Development of measures aimed to overcome the obstacles



Expected results from- the projects implementation



- **Provision of secure and reliable fuel and energy deliveries**
- **Demonstration of efficient use of the modern technologies and equipment of heat and electricity production**
- **Adjustment of the European energy saving expertise for use in Russia taking into account recommendations of the international experts**
- **Creation of the favorable investment conditions for the efficient energy resources use in the regions**
- **Development of the economic, organizational and legal mechanisms stimulating investments in energy saving considering the perspective of their implementation in the future**





THANK YOU!

СПАСИБО!

