

MINISTRY OF INDUSTRY AND ENERGY OF THE RUSSIAN FEDERATION



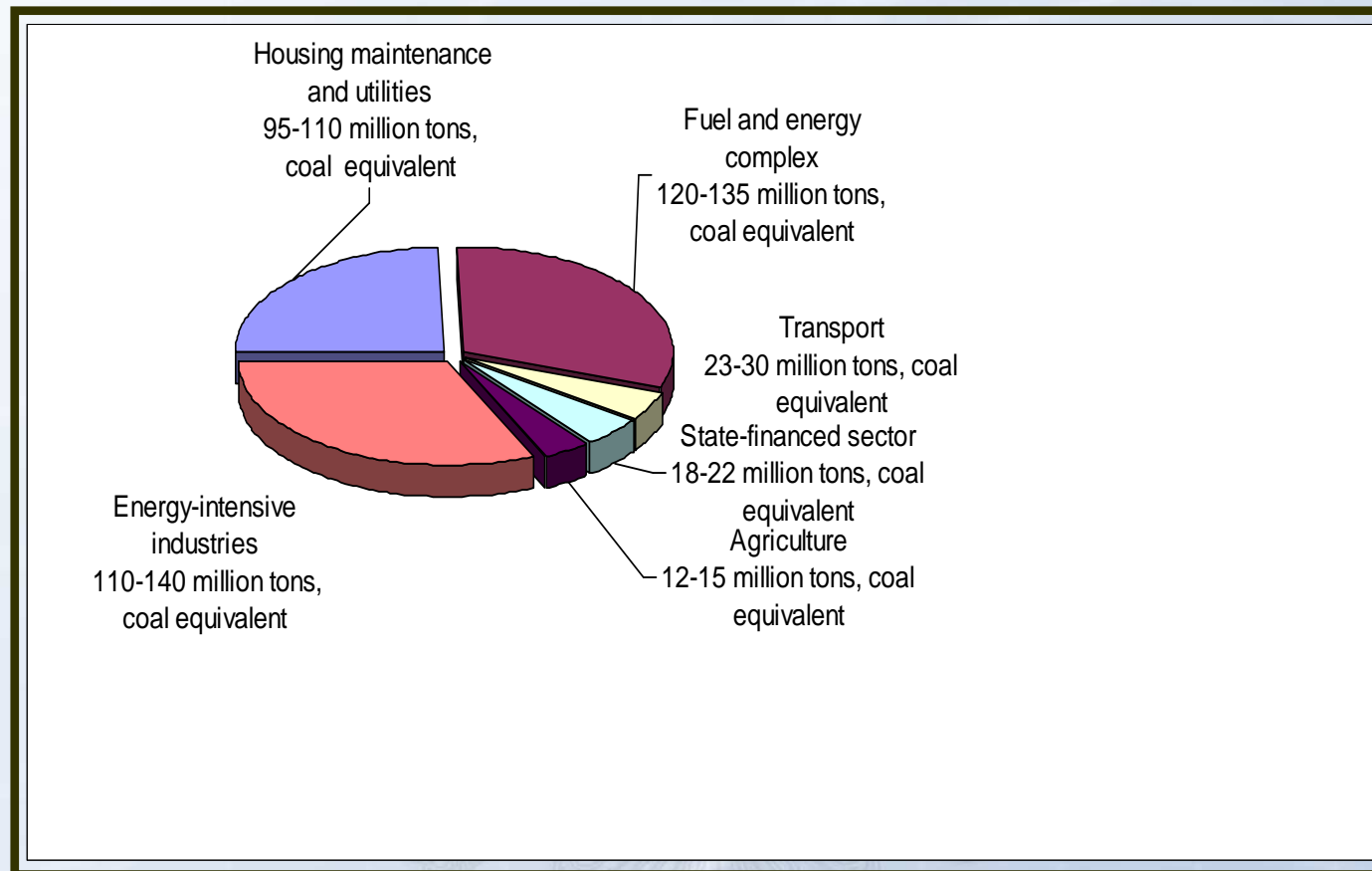
Energy efficiency - Today's Imperative

Russian Government's activity on energy policy implementation targeting the energy efficiency and energy savings

Sergey MIKHAILOV

DIRECTOR OF STATE ENERGY POLICY DEPARTMENT

ENERGY SAVING POTENTIAL IN RUSSIA



Energy saving potential is 360-430 million tons, coal equivalent or 39- 47 % current energy consumption, including:

- **33 % in Fuel and Energy complex (third in electric-power industry and in heating);**
- **32 % in industry;**
- **26 % in housing maintenance and utilities.**

Key objective is a most efficient use of the resources and industrial potential of the energy sector to ensure economic growth and improve the quality of life of the population.

Strategic goals

Energy security

Energy efficiency of the economy

Budgetary efficiency
of the energy sector

Environmental security

Main components of the National Energy Strategy

Development of domestic
energy markets

Achieving a rational
fuel mix

Regional
energy policy

Foreign energy
policy

Subsoil use and management
of state-owned subsoil
resources

Social policy in
the energy sector

R&D and innovation
policy

Main tools of state regulatory policy

Creation of a rational market environment
(institutional measures, price, fiscal,
customs and antitrust regulations)

State property management

Advanced norms, standards,
and regulations

Support of strategic initiatives

Perspectives of the energy sectors development

Natural gas

Oil

Coal

Electricity

Heating

Nuclear
energy

Renewables

- 
- ***Consistency,***
 - ***Strategical trend,***
 - ***Providing necessary legislative support,***
 - ***PPP mechanism application,***
 - ***Providing necessary information support.***

Energy efficiency: Establishment of the rational market environment



Directions and measures	Legislature	Outcome
<p><u>Price policy and development of energy resources trade institutions :</u></p> <ul style="list-style-type: none"> -step-by-step upward movement of gas prices - step-by-step increase of the electric power share, sold by unregulated prices - auction gas trade by means of exchange technologies - oil products exchange trade - abolition of cross funding in the power industry 	<p>Decision of the Government of the RF “On power and gas supply of the national economy” 30.11.2006, №42</p> <p>Decree of the Government of the RF, 02.09.2006 № 534 «To carry the experiment on gas e-trade”</p> <p>Draft Decree of the Government of the RF on the oil products exchange trade set up</p> <p>Draft Decree of the Government of the RF on the elimination of the cross subsidizing</p>	<ul style="list-style-type: none"> -stimulation of energy saving of the consumers and energy resources producers -increase of gas market and electrical and heat power market predictability - transfer from regulated market to the market of long-term gas supply contracts and achievement of equally profitability of domestic and external markets by 2011 year -transfer to 100% electric power selling by non-regulated prices by 2011 year -perspective expansion of gas exchange trade from 10 billion c m to 40-45 billion c m a year -increase of the objectivity in domestic market prices of oil products, electric and heat power
<p><u>Development of competitive relations in the power industry :</u></p> <ul style="list-style-type: none"> -formation of generation companies and main infrastructural organizations in the power industry -development of the energy wholesale market - reform of the energy retail market 	<p>Federal Law “On electro energy”, 2002</p>	<ul style="list-style-type: none"> -use of reserves to increase energy efficiency and reduce losses in production and delivery of electric and heat power to consumers
<p><u>Development institutions of the resource and energy saving :</u></p> <ul style="list-style-type: none"> -establishment of the management companies to provide public utilities including energy, gas, heat and water supply -establishment of the energy service and energy audit companies 	<p>Housing Code of the RF, 2005</p> <p>Town Planning Code of the RF, 2004</p> <p>Draft Federal Law «On heat supply»</p> <p>Law on “Amendments to the Federal Law “On energy saving”.</p>	<ul style="list-style-type: none"> - use of reserves of resource and energy saving in housing and communal services, budget sphere, industry - increase of the efficiency of measures in resource and energy saving on the base of the competitive market of respective services

Power efficiency: Perspective norms, standards, regulations



Directions and measures	Legislature	Outcome
<p><u><i>System of power consumption and energy efficiency rate setting:</i></u></p> <ul style="list-style-type: none"> - energy research and establishment of energy passports for energy-intensive enterprises in Fuel and Energy complex, industry and housing and communal services -Rate setting of energy efficiency indicators and payment for their excess - decrease of the losses in production and transport of energy resources -Reinforcement of requirements for ecological characteristics of automotive equipment and fuels. 	<ul style="list-style-type: none"> - Tax Code - Federal Law «On energy saving», 1996 - Draft Law on “Amendments to the Federal Law “On energy saving”. - Draft Law «On alternative motor fuels» - Amendments to the Forest and Water Codes in parts related to the Renewable energy promotion - Decree of the Government of the RF on “Approval of the Regulations of the Minpromenergo of Russia» 16.06.2004, №284: functions on approval of the heat and power resources losses and norms of the natural losses of the hydrocarbons. - Amendments into the legislative and technical documents on the organisation of the efficient use of associated (oil) gas. 	<ul style="list-style-type: none"> -stimulation of energy saving of the consumers and energy resources producers - preparation of energy passports for more than 5000 enterprises - system of energy saving management on the regional and sectoral levels -decrease of losses in hydrocarbon extraction on 15% - decrease of the losses in electric and heat power transportation on 3-5% - Increase of the utilization rate of the associated gas from 73% to 85% by 2010 year - Decrease of automobile transport specific charges of fuels
<p><u><i>System of standardization:</i></u></p> <ul style="list-style-type: none"> -general system of national standards -basic national standards in energy efficiency 	<ul style="list-style-type: none"> - Federal Law «On Technical Regulation» 2002 - Programme on elaboration of technical regulations (Order of the Government of the RF 29.05.06 № 781-p) -Draft Programme on National Standards elaboration 	<ul style="list-style-type: none"> -Decrease of the energy intensity rate of the national equipment and technologies - Projects of 7 basic national standards on energy efficiency - 9 standards on energy efficiency and alternative energy issues
<p><u><i>Accounting System and control of energy consumption:</i></u></p> <ul style="list-style-type: none"> -supervision for the rational and effective energy resources expenditure - system of voluntary certification - perfection of the building regulations and public expertise of energy efficiency projects 	<ul style="list-style-type: none"> - Federal Law «On energy saving», 1996 - Draft Law on “Amendments to the Federal Law “On energy saving”. - Elaboration of National standards on the accounting and control of energy consumption – Draft Order of the Minpromenergo of the RF on “Approval of the rules on gas records”. - Town Planning Code of the RF, 2004 	<p>Up to 2007 there have been rigged with equipment of coolant and gas expenditure records 10-13% of housing stock in the country, energy resources saving – 10-15%</p>

Energy efficiency: Support of the strategic initiatives

Directions and measures	Legislature	Outcome
<p><u>Federal target programs:</u></p> <ul style="list-style-type: none"> - FTP «Energy efficient economy» (implementation period 2002-2006) - FTP «Increase of energy consumption efficiency till 2015» (draft) - FTP «National technological base on 2007-2011» - FTP «Researches and developments on priority directions of the scientific and technical complex of Russia in 2007-2012» 	<p>RF Government Decree, 17.11.2001 г. №796 Orders of the President of the RF, 07.07.2006. № Пр-1141 and of the Government of the RF, 25.07.2006, № МФ-П13-3488 Decree of the Government of the RF 29.01.2007, №54 Order of the Government of the RF 06.07.2006, №977-р Orders of the President of the RF, 07.07.2006, №Пр-1141 and Government of the RF, 25.07.2006, №МФ-П13-3488 Approved by the President of the RF March 30, 2002, № Пр-576 (?)</p>	<ul style="list-style-type: none"> -Fuel and energy resources saving of 100 million coal equivalent up to 2015 -Elaboration of perspective technologies, equipment and materials -Realization of pilot investment projects on energy efficiency, their replication
<p><u>Field programs and projects:</u></p> <ul style="list-style-type: none"> - <i>Russia's energy strategy till 2020</i> -Strategy on metallurgical complex development till 2015 -Strategy on chemical and petrochemical industry development till 2015 -Programs and general schemes of fuel and energy complex development - Complex of measures to increase competitiveness of the timber industry -- programs of energy saving and investment programs of "Gazprom", "Lukoil", "Nornikel", "Severstal" 	<ul style="list-style-type: none"> - Draft Law on renewable energy resources use" - Draft Law «On alternative motor fuels» - Rules on financing of electric energy production units in order to prevent deficit in electricity power capacity (Approved by the Decree of the Government of the RF 07.12.2005, №738). Orders to the Holding companies of Fuel Energy Complex 	<ul style="list-style-type: none"> - putting into operation till 2020 capacities of 129 Gwatt (including 37 Gwatt of PGU), reduction of specific fuel consumption as a result of gas-steam cycle implementation of 100-110 g/kw h. compared to steam-power cycle -according to results of 2005 energy resources saving RAO "EES Russia" and "Gazprom" is 4,6 million tons of coal equivalent -increase of a renewables and alternative fuels share in fuel and energy mix of the country to 5% by 2020 - 1,5 times reduction of specific energy intensity of production in chemical and petrochemical industry, 1,2 times - specific raw charges, 2,8 - specific heat charges, 1,6 - specific fuel charges and 2,5 - rejected materials.
<p><u>Regional programs and projects :</u></p> <ul style="list-style-type: none"> - regional programs on energy saving - regional projects on development 	<p>Regional Laws "On energy savings" (approved in 45 subjects of the RF) Decree of the Government of the RF, 23.11.2005 г. № 694 «On Investment Fund of the RF»</p>	<p>On the territory of 47 subjects of the Russian Federation there realize more then 600 programs, there function 80 centers, agencies, non-profit organizations and 24 funds of energy saving Implementation of project on energy and industrial complex establishment in Nizhnee Priangarje (construction of Boguchanskaya hydroelectric power station of 3 000 Mwatt and Boguchanskiy aluminium plant of 600 000 tons aluminium a year)</p>

Federal Programme Indicators Efficiency Increase in Energy Consumption in the Russian Federation



Indicators	Expected results				
	I Step 2009-2010 гг.	by years, within the total amount		II Step 2011-2015	Total 2009-2015
		2009	2010		
Volume of saved energy resources resulted from application of energy saving measures, ml toe	17	5	12	83	100
Volume of renewable and alternative energy resources in regions' fuel energy balance, toe	1,7	0,1	1,6	43,8	45,5
Ratio of volume of fuel energy resources savings to the annual potential of energy savings resulted from the energy saving organisational and technological measures,	5-6	2,9-3,5	7,0-8,3	9,8-11,9	8,4-10,2

METHODOLOGY APPROACH TO THE ENERGY STRATEGY ES-2030

➤ Continuity of the ES-2020 related to the:

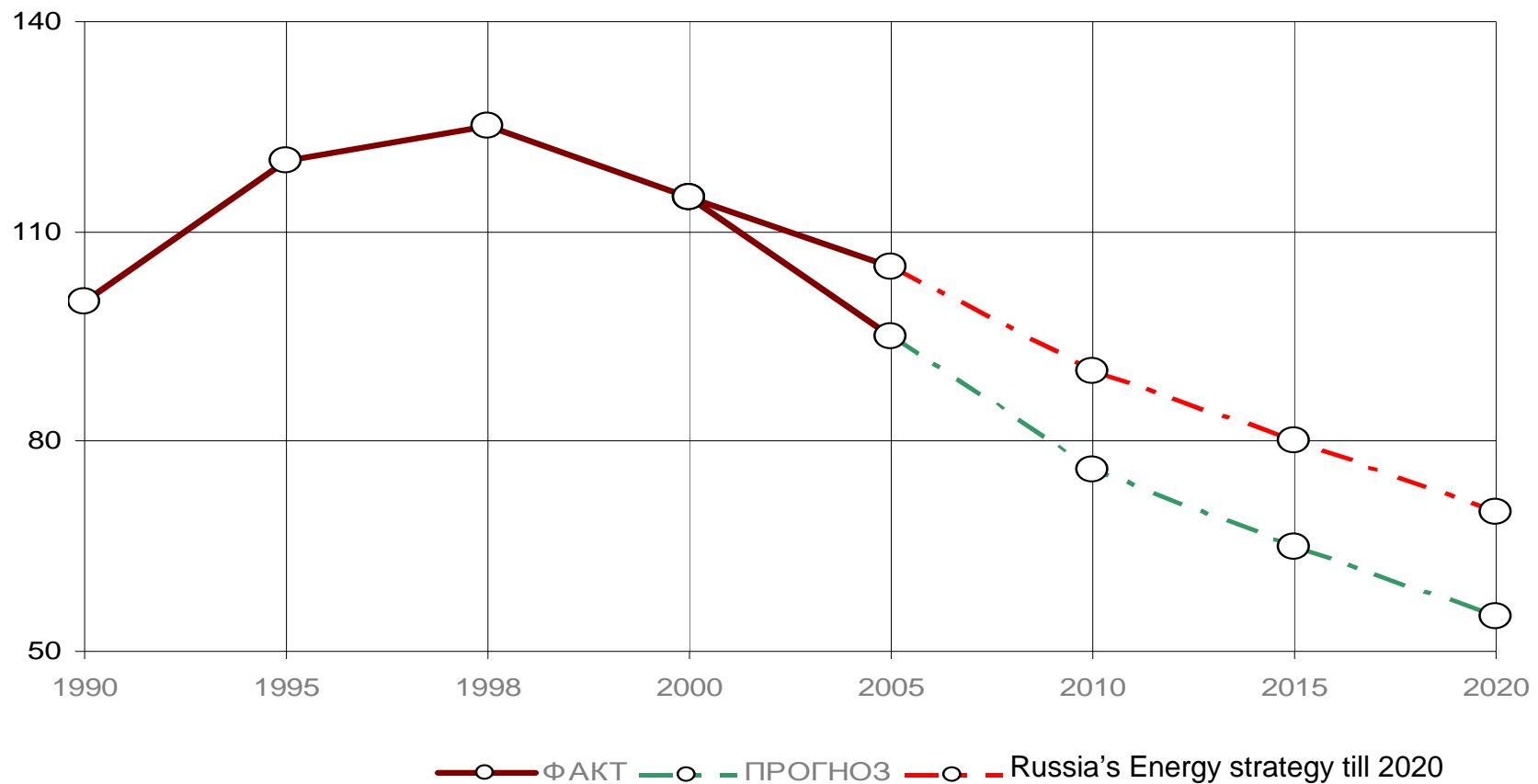
- Basic principles of State Energy Policy;
- Consolidated structure of State Energy Policy, that sets the main strategic guidelines, main politics and implementation mechanisms;
- Content use of main parts of the Energy Strategy-2020 as the starting point in drafting of a new Strategy edition.

➤ Differences from the ES-2020:

- Main working principle – controlled and consecutive decrease of uncertainty in the long term energy sector development;
- Clear differentiation of state administrative role in the energy sector and market behavior of private companies;
- Presentation of the mapped out measures, steps, preliminary and final results of State Energy Policy in a form of “Road Map”;
- Specification of final priorities and benchmarks of Energy Strategy within the interactive dialogue (within the systems “Economy - Energy”, “Russian Fuel&Energy Complex – Global Energy Market”, “State – Energy Business”, “Federal – Regional Authorities”);
- Building of advancing monitor system of Strategy implementation (evaluation of the forthcoming period – with regular updating of prognostic scenarios and measures specification of the ES-2030).

Energy Efficiency: Obtained and Forecasting Results

Dynamics of GDP's specific energy intensity of Russia %



As a result of present policy GDP's specific energy intensity- decline rate exceeds the guidelines of Russia's energy strategy of 2000-2006 (GDP energy intensity decreased by 23,5 %).



Thank you for your attention