

# MINISTRY OF INDUSTRY AND ENERGY OF THE RUSSIAN FEDERATION



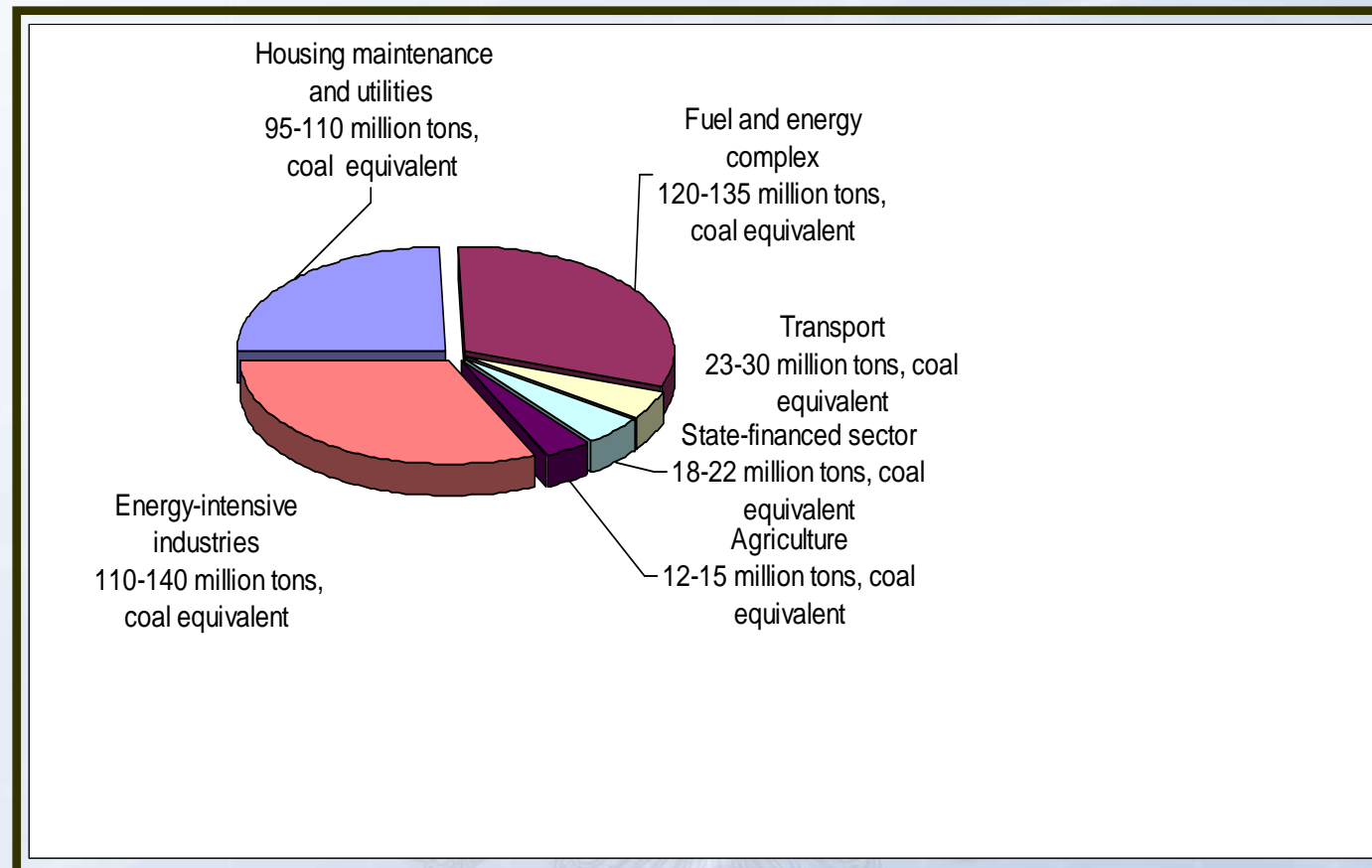
## Energy efficiency - Today's Imperative

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

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# 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><b><u>Price policy and development of energy resources trade institutions :</u></b></p> <ul style="list-style-type: none"> <li>-step-by-step upward movement of gas prices</li> <li>- step-by-step increase of the electric power share, sold by unregulated prices</li> <li>- auction gas trade by means of exchange technologies</li> <li>- oil products exchange trade</li> <li>- abolition of cross funding in the power industry</li> </ul>	<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"> <li>-stimulation of energy saving of the consumers and energy resources producers</li> <li>-increase of gas market and electrical and heat power market predictability</li> <li>- 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</li> <li>-transfer to 100% electric power selling by non-regulated prices by 2011 year</li> <li>-perspective expansion of gas exchange trade from 10 billion c m to 40-45 billion c m a year</li> <li>-increase of the objectivity in domestic market prices of oil products, electric and heat power</li> </ul>
<p><b><u>Development of competitive relations in the power industry :</u></b></p> <ul style="list-style-type: none"> <li>-formation of generation companies and main infrastructural organizations in the power industry</li> <li>-development of the energy wholesale market</li> <li>- reform of the energy retail market</li> </ul>	<p>Federal Law “On electro energy”, 2002</p>	<ul style="list-style-type: none"> <li>-use of reserves to increase energy efficiency and reduce losses in production and delivery of electric and heat power to consumers</li> </ul>
<p><b><u>Development institutions of the resource and energy saving :</u></b></p> <ul style="list-style-type: none"> <li>-establishment of the management companies to provide public utilities including energy, gas, heat and water supply</li> <li>-establishment of the energy service and energy audit companies</li> </ul>	<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"> <li>- use of reserves of resource and energy saving in housing and communal services, budget sphere, industry</li> <li>- increase of the efficiency of measures in resource and energy saving on the base of the competitive market of respective services</li> </ul>

# Power efficiency: Perspective norms, standards, regulations



Directions and measures	Legislature	Outcome
<p><u><b>System of power consumption and energy efficiency rate setting:</b></u></p> <ul style="list-style-type: none"> <li>- energy research and establishment of energy passports for energy-intensive enterprises in Fuel and Energy complex, industry and housing and communal services</li> <li>-Rate setting of energy efficiency indicators and payment for their excess</li> <li>- decrease of the losses in production and transport of energy resources</li> <li>-Reinforcement of requirements for ecological characteristics of automotive equipment and fuels.</li> </ul>	<ul style="list-style-type: none"> <li>- Tax Code</li> <li>- Federal Law «On energy saving», 1996</li> <li>- Draft Law on “Amendments to the Federal Law “On energy saving”.</li> <li>- Draft Law «On alternative motor fuels»</li> <li>- Amendments to the Forest and Water Codes in parts related to the Renewable energy promotion</li> <li>- 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.</li> <li>- Amendments into the legislative and technical documents on the organisation of the efficient use of associated (oil) gas.</li> </ul>	<ul style="list-style-type: none"> <li>-stimulation of energy saving of the consumers and energy resources producers</li> <li>- preparation of energy passports for more than 5000 enterprises</li> <li>- system of energy saving management on the regional and sectoral levels</li> <li>-decrease of losses in hydrocarbon extraction on 15%</li> <li>- decrease of the losses in electric and heat power transportation on 3-5%</li> <li>- Increase of the utilization rate of the associated gas from 73% to 85% by 2010 year</li> <li>- Decrease of automobile transport specific charges of fuels</li> </ul>
<p><u><b>System of standardization:</b></u></p> <ul style="list-style-type: none"> <li>-<b>general system of national standards</b></li> <li>-<b>basic national standards in energy efficiency</b></li> </ul>	<ul style="list-style-type: none"> <li>- Federal Law «On Technical Regulation» 2002</li> <li>- Programme on elaboration of technical regulations (Order of the Government of the RF 29.05.06 № 781-p)</li> <li>-Draft Programme on National Standards elaboration</li> </ul>	<ul style="list-style-type: none"> <li>-Decrease of the energy intensity rate of the national equipment and technologies</li> <li>- Projects of 7 basic national standards on energy efficiency</li> <li>- 9 standards on energy efficiency and alternative energy issues</li> </ul>
<p><u><b>Accounting System and control of energy consumption:</b></u></p> <ul style="list-style-type: none"> <li>-<b>supervision for the rational and effective energy resources expenditure</b></li> <li>- <b>system of voluntary certification</b></li> <li>- <b>perfection of the building regulations and public expertise of energy efficiency projects</b></li> </ul>	<ul style="list-style-type: none"> <li>- Federal Law «On energy saving», 1996</li> <li>- Draft Law on “Amendments to the Federal Law “On energy saving”.</li> <li>- 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”.</li> <li>- Town Planning Code of the RF, 2004</li> </ul>	<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"> <li>- FTP «Energy efficient economy» (implementation period 2002-2006 )</li> <li>- FTP «Increase of energy consumption efficiency till 2015» (draft)</li> <li>- FTP «National technological base on 2007-2011»</li> <li>- FTP «Researches and developments on priority directions of the scientific and technical complex of Russia in 2007-2012»</li> </ul>	<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"> <li>-Fuel and energy resources saving of 100 million coal equivalent up to 2015</li> <li>-Elaboration of perspective technologies, equipment and materials</li> <li>-Realization of pilot investment projects on energy efficiency, their replication</li> </ul>
<p><u>Field programs and projects:</u></p> <ul style="list-style-type: none"> <li>- <i>Russia's energy strategy till 2020</i></li> <li>-Strategy on metallurgical complex development till 2015</li> <li>-Strategy on chemical and petrochemical industry development till 2015</li> <li>-Programs and general schemes of fuel and energy complex development</li> <li>- Complex of measures to increase competitiveness of the timber industry</li> <li>-- programs of energy saving and investment programs of "Gazprom", "Lukoil", "Nornikel", "Severstal"</li> </ul>	<ul style="list-style-type: none"> <li>- Draft Law on renewable energy resources use"</li> <li>- Draft Law «On alternative motor fuels»</li> <li>- 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).</li> <li>Orders to the Holding companies of Fuel Energy Complex</li> </ul>	<ul style="list-style-type: none"> <li>- 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</li> <li>-according to results of 2005 energy resources saving RAO "EES Russia" and "Gazprom" is 4,6 million tons of coal equivalent</li> <li>-increase of a renewables and alternative fuels share in fuel and energy mix of the country to 5% by 2020</li> <li>- 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.</li> </ul>
<p><u>Regional programs and projects :</u></p> <ul style="list-style-type: none"> <li>- regional programs on energy saving</li> <li>- regional projects on development</li> </ul>	<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	<b>17</b>	<b>5</b>	<b>12</b>	<b>83</b>	<b>100</b>
Volume of renewable and alternative energy resources in regions' fuel energy balance, toe	<b>1,7</b>	<b>0,1</b>	<b>1,6</b>	<b>43,8</b>	<b>45,5</b>
Ratio of volume of fuel energy resources savings to the annual potential of energy savings resulted from the energy saving organisational and technological measures,	<b>5-6</b>	<b>2,9-3,5</b>	<b>7,0-8,3</b>	<b>9,8-11,9</b>	<b>8,4-10,2</b>

# METHODOLOGY APPROACH TO THE ENERGY STRATEGY ES-2030

## ➤ Continuity of the ES-2020 related to the:

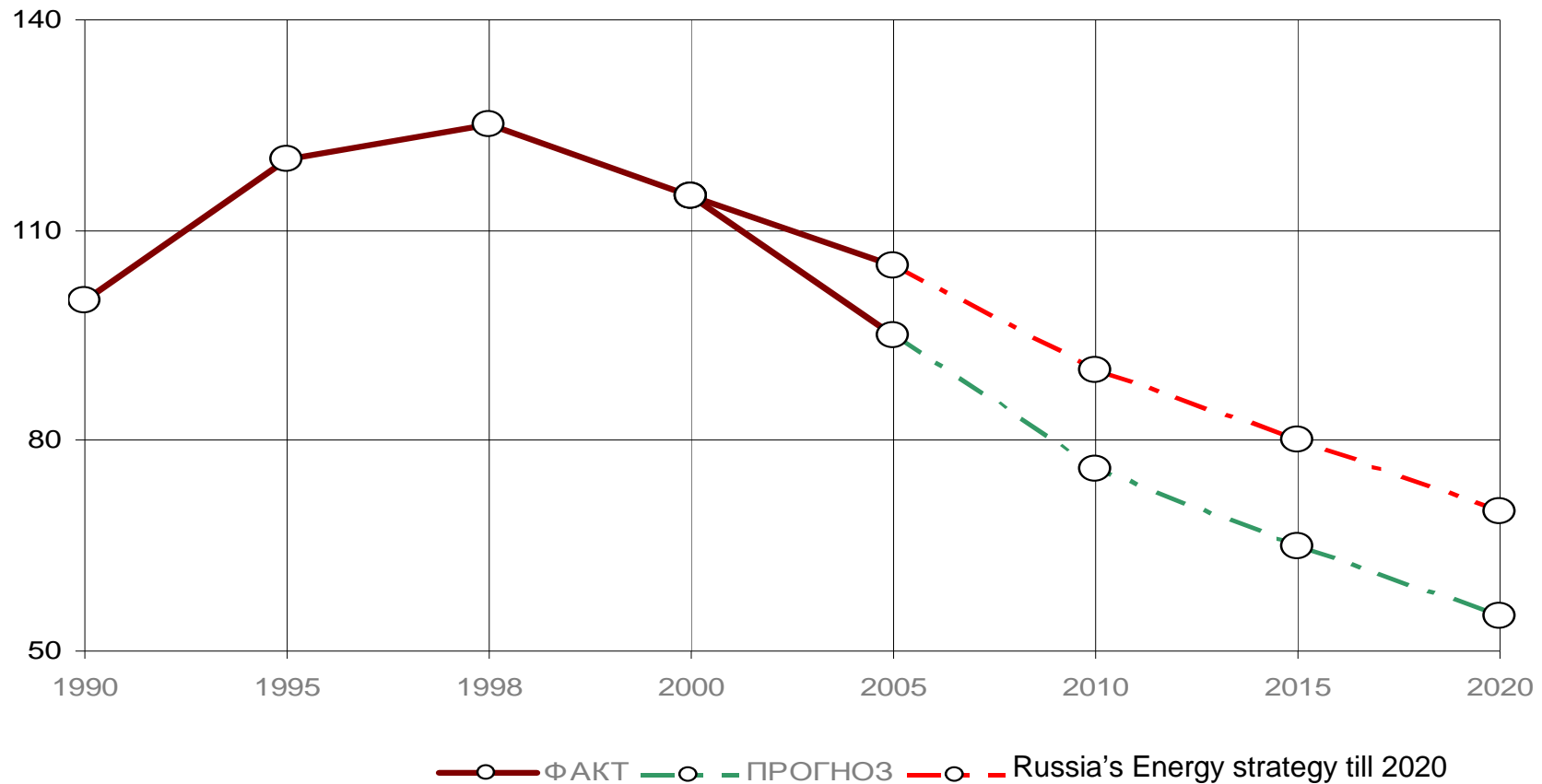
- Basic principles of State Energy Policy;
- Consolidated structure of State Energy Policy, that sets the main strategic guidelines, main politics and implementation mechanisms;
- Content use of main parts of the Energy Strategy-2020 as the starting point in drafting of a new Strategy edition.

## ➤ 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**