



## **“Security of Supply: current outlook and future development”**

### **Republic of Belarus**

**Zorich Andrey, Head of Strategic Development and External Investment Cooperation, Ministry of Energy**

**INOGATE Regional Seminar on Security of Supply and Interconnectivity  
Brussels, Belgium, 10<sup>th</sup> December 2015**

**BUILDING PARTNERSHIPS FOR ENERGY SECURITY**

[www.inogate.org](http://www.inogate.org)



- **Installed capacity of the Belarus energy system:**

<b>Total:</b>	<b>10 035</b>	<b>MW</b>
<b>SPA “Belenergo”:</b>		
<b>41 TPPs of capacity</b>	<b>9 298.2</b>	<b>MW</b>
<b>and: 23 HPPs of capacity</b>	<b>26.3</b>	<b>MW</b>
<b>1 wind farm of capacity</b>	<b>1.5</b>	<b>MW</b>
<b>206 unit-plants of consumers, capacity</b>	<b>709</b>	<b>MW</b>

- **Length of power lines, total:** **238.915** **K km**
  - overhead 35-750 kV power lines** **35.677** **K km**
  - overhead 0,4-10 kV power lines** **203.238** **K km**

- **Cable power lines** **36.055** **K km**

www.inogate.org



# Expected results of implementation of the State Programme of Energy System Development in Belarus 2011 to 2015



Indicators	Target indicator of the Programme 2011-2015	2011-2014
Commissioning of capacities, MW	1 871	1 833.65
Decommissioning of inefficient capacities, MW	906	295
Savings of fuel and energy resources (FERs) (over the period of implementation of the State Programme), '000 toe	1 265	1 503.7
Reduction of specific fuel consumption for power generation, goe/kWh	25-30	22.1
Use of local FERs by 2015 with consideration of secondary energy resources, '000 toe	1 100-1 290	752

www.inogate.org

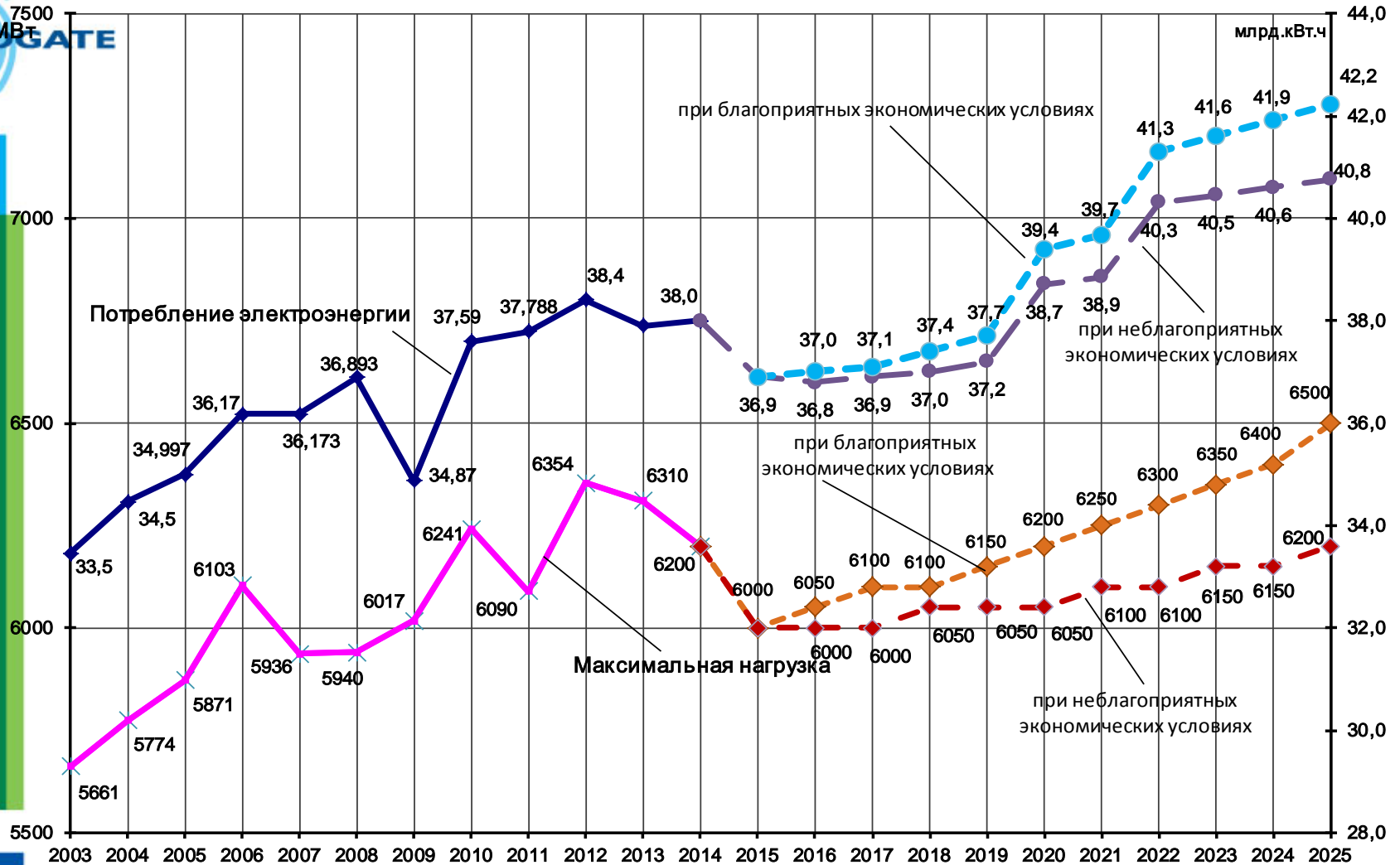


PROGRAMME FUNDED BY THE EU

# Estimated electricity consumption in the energy system of Belarus



www.inogate.org



# Estimated fuel and energy balance of the electricity sector ('000 toe)



Type of energy resource		Years			
		2014 actual	2015	2020	2025
Natural gas	Unfavourable conditions	12640	12376	10541	8720
	Favourable conditions	-	12445	11352	9340
Heating oil and ТНБ		97	90	90	80
Local types of fuel		267	294	479	500
<i>Subtotal KIIT SPA "Belenrgo"</i>	<i>Unfavourable</i>	<i>13004</i>	<i>12760</i>	<i>11110</i>	<i>9300</i>
	<i>Favourable</i>	-	<i>12829</i>	<i>11921</i>	<i>9920</i>
Nuclear		-	-	2800	5600
<b>Total SPA "Belenergo"</b>	<b>Unfavourable</b>	<b>13004</b>	<b>12760</b>	<b>13910</b>	<b>14900</b>
	<b>Favourable</b>	-	<b>12829</b>	<b>14721</b>	<b>15520</b>
Local sources		587	560	590	620
<b>TOTAL:</b>	<b>Unfavourable</b>	<b>13591</b>	<b>13320</b>	<b>14500</b>	<b>15520</b>
	<b>Favourable</b>	-	<b>13389</b>	<b>15311</b>	<b>16140</b>
Including electricity from RES		38	76	266	504

# Estimated share of types of fuel and energy resources in the electricity sector (%)



Type of energy resource		Years			
		2014 actual	2015	2020	2025
Natural gas	Unfavourable conditions	93,00	92,91	72,70	56,19
	Favourable conditions	-	92,95	74,14	57,87
Heating oil and ТПБ		0,71	0,68	0,62	0,52
Local types of fuel		1,96	2,21	3,30	3,22
<i>Subtotal KИT SPA "Belenergo"</i>	<i>Unfavourable</i>	95,68	95,80	76,62	59,92
	<i>Favourable</i>	-	95,82	77,86	61,46
Nuclear		-	-	19,31	36,08
<b>Total SPA "Belenergo"</b>	<b>Unfavourable</b>	<b>95,68</b>	<b>95,80</b>	<b>95,93</b>	<b>96,01</b>
	<b>Favourable</b>	<b>-</b>	<b>95,82</b>	<b>96,15</b>	<b>96,16</b>
Local sources		4,32	4,20	4,07	3,99
<b>TOTAL:</b>	<b>Unfavourable</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
	<b>Favourable</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>100</b>

# Estimated fuel and energy balance in the electricity sector ('000 toe)



Indicator	Units	2014	2015	2016	2020	2025	2030	2035
Generation, total	Bln kWh	34.7	34.48	35	39.9	41.6	42.1	43.8
including:								
Thermal power plants	Bln kWh	34.6	34.21	34.52	31.85	21.8	22	23.2
Renewable energy sources	Bln kWh	0.134	0.27	0.48	0.95	1.8	2.1	2.6
Nuclear power plant	Bln kWh	0	0	0	7,1	18,0	18,0	18,0
Electricity import	Bln kWh	3.83	2.82	2.5	0	0	0	0
Consumption	Bln kWh	38.05	37.3	37.5	39.9	41.6	42.1	43.8

# Energy policy, legal framework for security of supply



At present the following drafts are prepared:

**Concept of Energy Security of the Republic of Belarus;**

**Integrated Plan on Development of the Electricity Sector until 2025;**

**Concept of Sectoral Programme of Development of the Electricity Sector for 2016-2020**



# Key areas of development of the energy system of Belarus



**Construction and modernisation of electricity generating sources, electricity and heating networks**

**Improvement of tariff policy**

**Improvement of regulatory framework**

[www.inogate.org](http://www.inogate.org)



# Indicators of the Programme of development of the energy system in Belarus



- **Reduction in specific fuel consumption for power generation prior to commissioning of the Belarus NPP in 2018 to 240 goe/kWh;**
- **Reduction in natural gas use at facilities of the SPA “Belenergo” (compared to 2015, without considering the NPP commissioning) by about 0.4 M toe;**
- **Share of cumulative amortisation in the original value of the fixed assets of the organisations of the SPA “Belenergo” below 45%, including:**
  - in the original values of the electricity networks and transformer substations – 50%;**
  - in the original value of the heating networks – 45%;**
- **Ration of the gross installed capacity of power plants to the maximum actual load in the energy system (reservation) – 150%;**
- **Ration of average daily interruptions of electricity supply to settlements over a year to the total number of settlements – 0.4%.**

www.inogate.org



PROGRAMME FUNDED BY THE EU



# Main challenges in implementation of the policy and/or legal and regulatory framework



Insufficient financing of infrastructure projects

Lack of decisions on improvement of the tariff policy and structure of management of the electricity industry



[www.inogate.org](http://www.inogate.org)



# Regional coordination for security of supply (plans and/or projects)



Cooperation within the framework of the Eurasian economic union:

Development of a draft Programme on forming the common electricity market of the Union on the basis of the adopted Concept of forming common electricity market of the Union;

Drafting a Concept of forming common gas market of the Union

[www.inogate.org](http://www.inogate.org)



# International cooperation



www.inogate.org



PROGRAMME FUNDED BY THE EU



**THANK YOU!**

**Mr. Zorich Andrey,**  
Head of Unit on Strategic Development  
and External Investment Cooperation,  
Ministry of Energy, Republic of Belarus  
zorich@min.energo.by

www.inogate.org

**INOGATE Technical Secretariat and Integrated Programme in support of the  
Baku Initiative and the Eastern Partnership energy objectives**

