



MINISTRY OF ENERGY  
OF THE RUSSIAN FEDERATION

RUSSIAN ENERGY AGENCY

# GLOBAL ENERGY SUSTAINABILITY

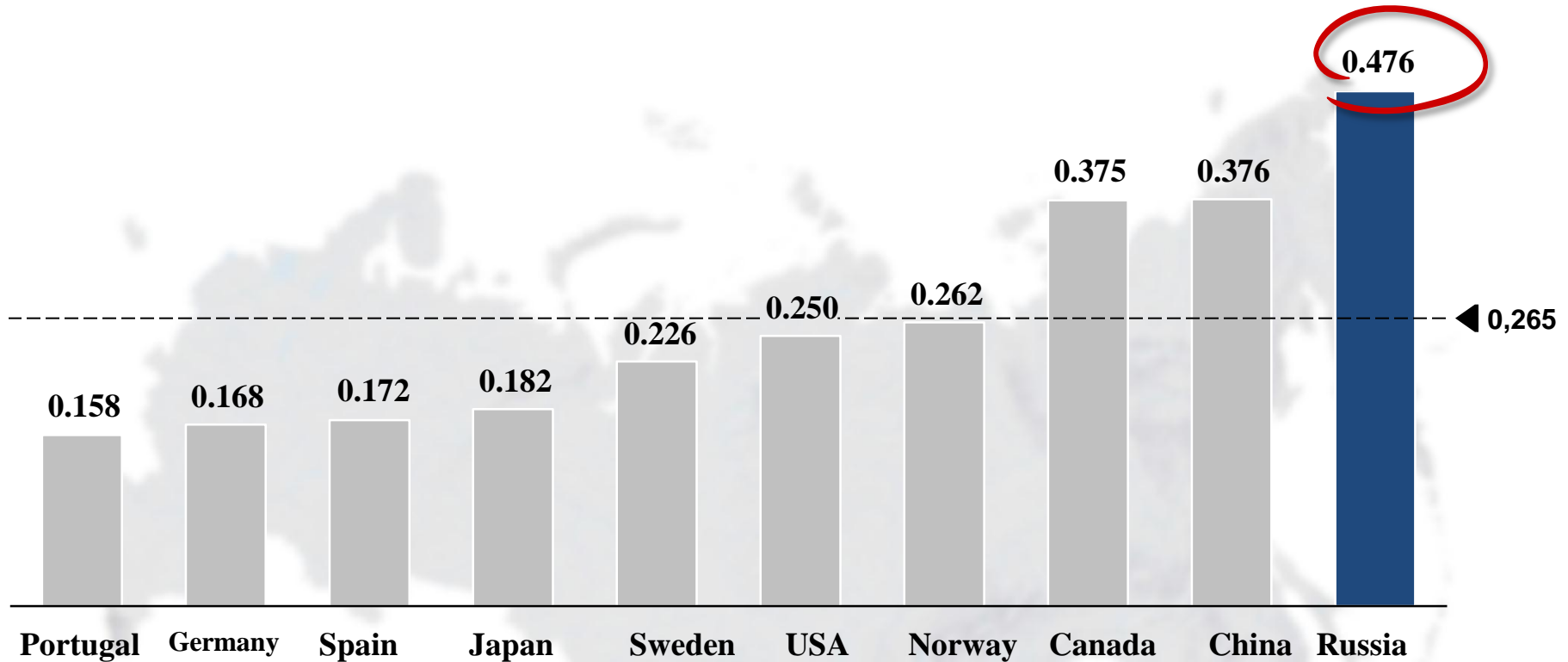
## RUSSIAN APPROACH

*Evgeniy Nadezhdin*

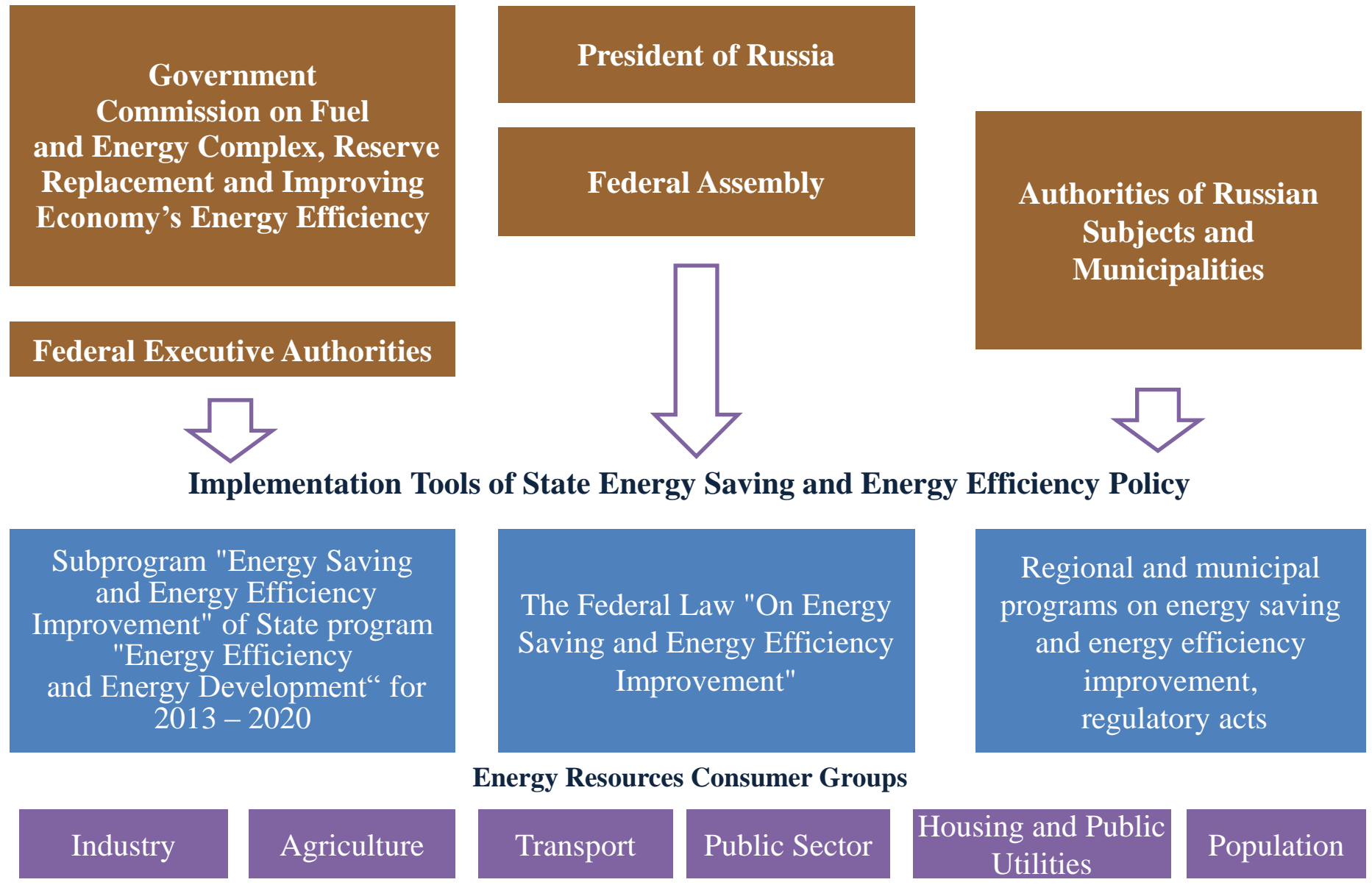
**22 session UNECE Sustainable Energy Committee , 21-22 November 2013**

# Energy Intensity: Russia in focus

## Energy Intensity of GDP in 2010 (TFE/1000 \$)



# Energy Efficiency Policy in Russia



# State Program “Energy Efficiency and Energy Development” for 2013 – 2020

## GOAL

To ensure reliable provision with fuel and energy resources, increase their efficient use, reduce human impact of fuel and energy sector on the environment

## OBJECTIVES

1. Promotion of energy saving and energy efficiency
2. Improving technology of production, transportation and conversion rate of hydrocarbons
3. Increased use of renewable energy resources and improving environmental performance of energy
4. Promoting innovative development of fuel and energy complex

## TARGET INDICATORS

1. Reducing energy intensity of GDP in 2020 by **13.5%** related to 2007
2. Share of technology innovation costs in total production costs of forwarded goods and performed work and services related to 2020 – **2,5 %**
3. Increasing average oil conversion rate over **85%** by 2020
4. Reducing greenhouse gas emissions by 2020 – **393 mln tons of CO<sub>2</sub>**
5. Share of organizations implementing technological innovation in the total number of organizations by 2020 – **25%**
6. Domestic expenditure on research and development to sales volumes of companies implementing innovative development programs by 2020 – **3%**

# Energy Saving and Energy Efficiency Improvement, Subprogram 1.

## OBJECTIVES

- To increase energy efficiency of national economy
- To provide information support of energy saving and energy efficiency improvement measures
- To develop state regulative and financial measures stimulating energy saving and energy efficiency improvement
- To promote research and development in energy saving and energy efficiency improvement

**Goal to reduce energy intensity of GDP by 40% by 2020 compared with 2007 by means of program events – 13.5%**



# Renewable Energy Policy in Russia

By 2020 the share of RES and NPPs in total amount of electricity generation is planned to be increased:

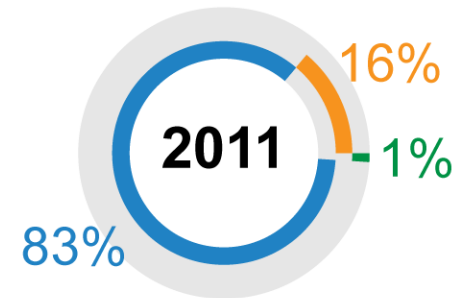


RES development will provide with energy the territories which are isolated from the Unified Energy System through the use of local fuel resources and renewable energy

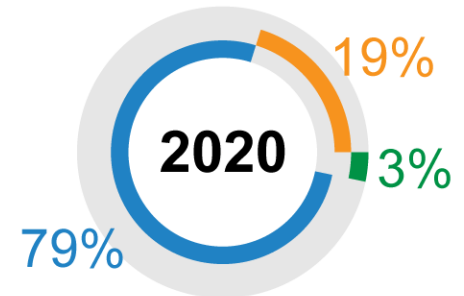
It is planned to modernize the existing type of commercial power-generating units of NPPs and put into operation new ones in order to ensure energy security of the country



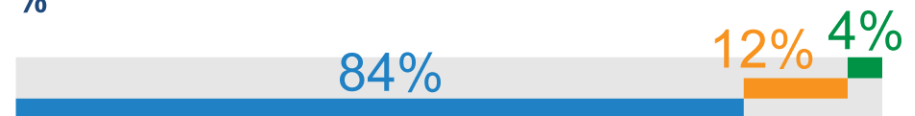
Structure of electricity generation by type of power plants, %



- RES
- NPPs
- Others



Putting into operation of new capacities by type of power plants, %



- RES
- NPPs
- Others



# Renewable Energy Development, Subprogram 6.

## GOAL

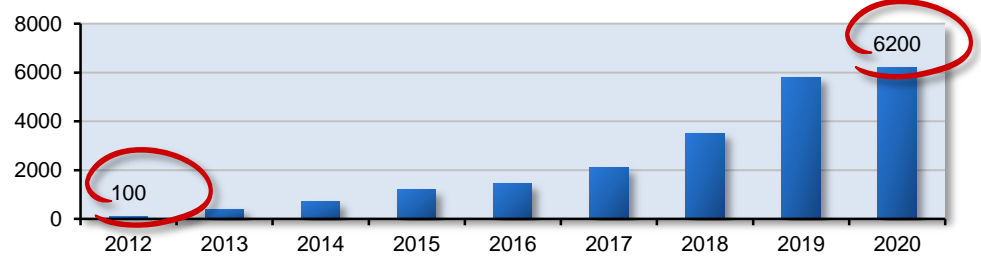
To Increase the Share of Renewables in Heat & Power Generation by **2,5** by 2020

## OBJECTIVES

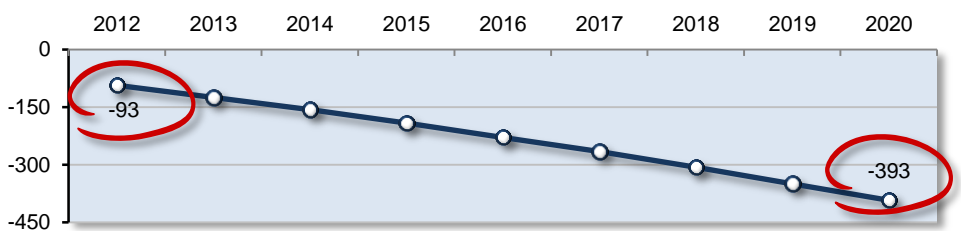
- To promote environmental protection and climate change mitigation
- To expand biotechnological production in fuel and energy complex
- To create conditions for investment into renewable energy sector
- To increase the share of objects generating on the basis of renewable energy sources

## Key Target Indicators in Dynamics

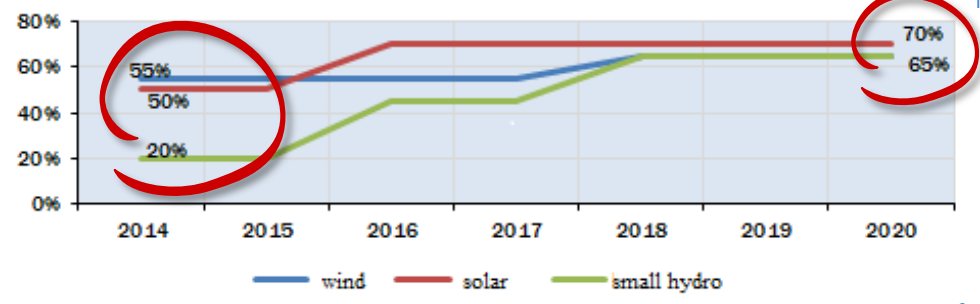
### Input of capacities of generating objects functioning on RES, MW



### Decrease of greenhouse gas emissions, mln t of CO<sub>2</sub>



### Extent of the equipment localization, MW



# Russian Approach to Global Sustainable Development

During the last ten years Russia has been constantly developing international cooperation in the field of sustainable energy and energy efficiency

- Rio Declaration on Environment and Development
- The UN Agenda 21
- Johannesburg Plan of Action
- The outcome document of the UNs Conference on Sustainable Development entitled “The future we want”

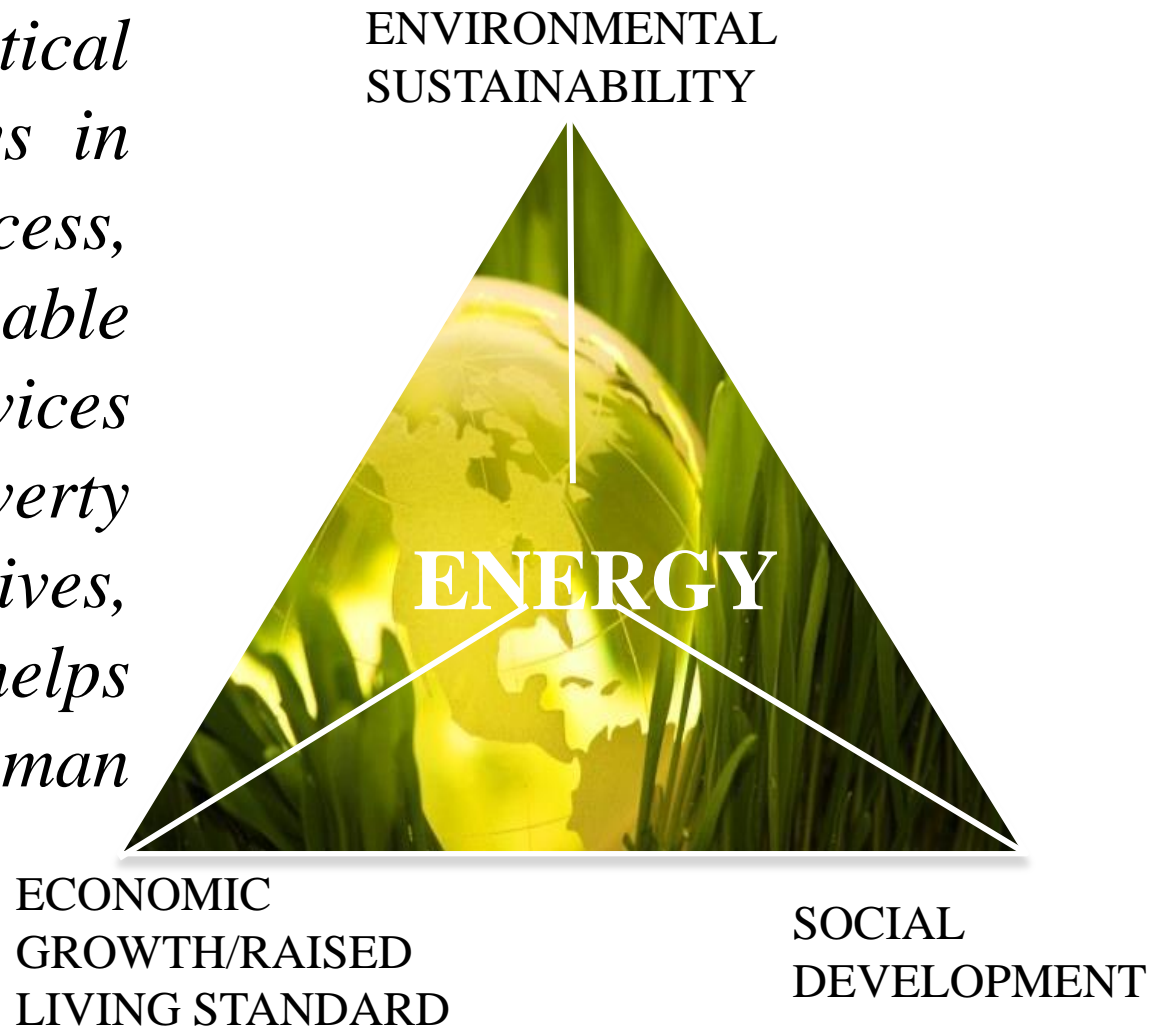




# Russian Approach to Global Sustainable Development

## **RIO+20 results**

*We recognize the critical role that energy plays in the development process, as access to sustainable modern energy services contributes to poverty eradication, saves lives, improves health and helps to provide for basic human needs.*



# Russian approach to “Sustainable energy for all” Initiative

*The Russian Federation appreciates the decision of the UN General Assembly to declare the decade 2014 – 2024 as the Decade of Sustainable Energy for All and intends to contribute to broad international cooperation in its frames*

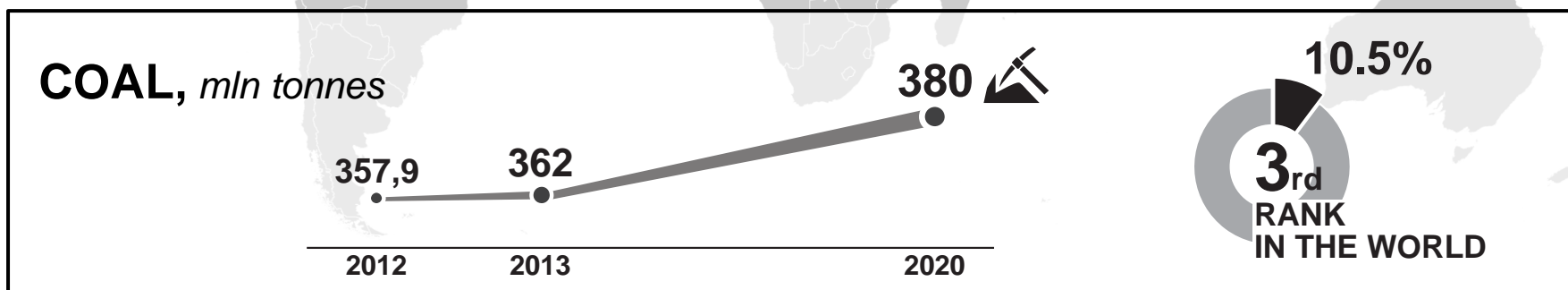
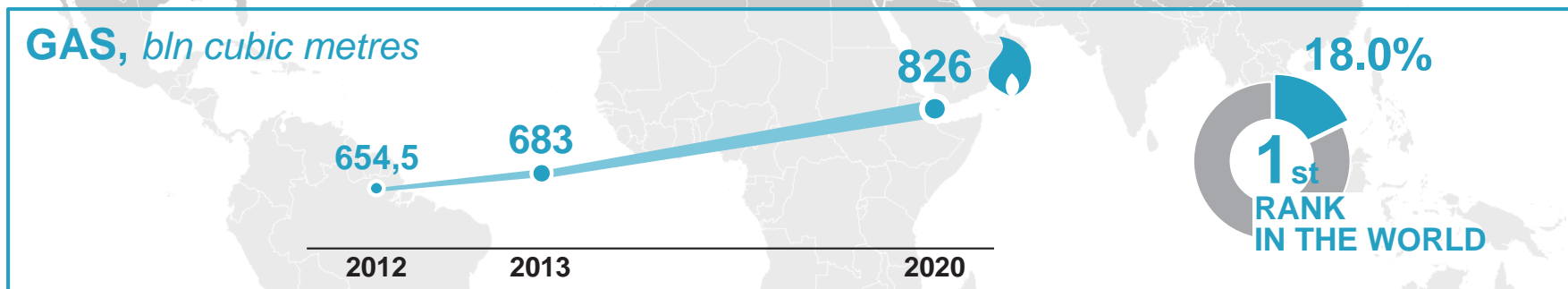
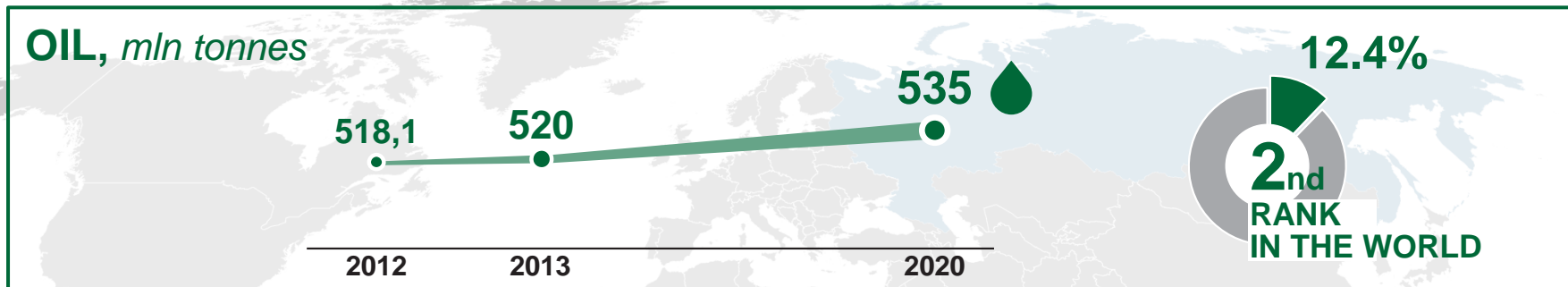


SUSTAINABLE  
ENERGY FOR ALL

# RUSSIA'S SHARE IN THE WORLD ENERGY RESOURCES TRADE, PROSPECTS OF ENERGY RESOURCES PRODUCTION IN RUSSIA

Energy resources production in Russia:

Share of the Russian energy resources in the world trade in 2012\*



\* – estimates according to BP, WCA, CDU

# Action Plan on Global Energy Security St. Petersburg, 2006

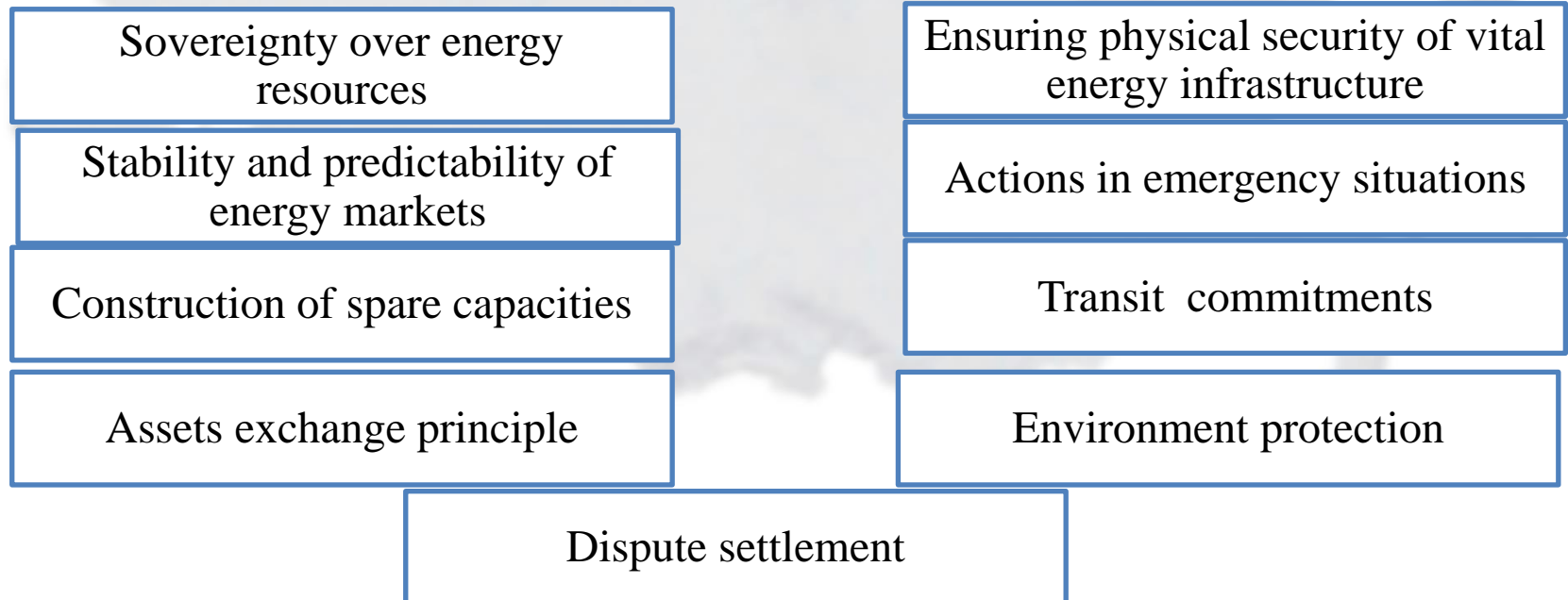
The main principles of international cooperation to ensure global energy security:

- increasing transparency, predictability and stability of energy markets;
- improving investment climate in energy sector;
- enhancing energy efficiency and energy saving;
- diversification of energy mix;
- ensuring physical security of critical energy infrastructure;
- strengthening regional cooperation in the field of energy security and sustainable use of energy;
- addressing climate change and sustainable development.

# Draft Convention on Ensuring International Energy Security, 2009

**The draft Convention on Ensuring International Energy Security has been elaborated as a development of the ideas, laid down in the Conceptual Approach to the New Legal Framework for Energy Cooperation, put forward by the President of the Russian Federation Dmitry Medvedev in April 2009.**

The Convention was designed as an international legally binding framework aimed to become an essential element of the new comprehensive system of ensuring energy security. Draft Convention is based on the following basic principles:



# Russian Initiatives within Energy Efficiency 21 Program, UNECE

2011 – 2013

“Analysis of Advanced Technologies in Energy Efficiency and Renewable Energy in the Framework of the Global Energy Efficiency 21 Project and Preparation of Recommendations on its Application with Special Emphasis on Central Asian Region”

2011 – 2013

“Enhancing Synergies in the CIS National Programs on Energy Efficiency and Energy Saving for Greater Energy Security”

**Project proposal “Facilitating implementation of the Sustainable Energy for All Global Action Agenda in CIS”**

planned for the 2014 – 2016 period.

Russia intends to finance the project as its contribution to Sustainable Energy for All initiative



“Facilitating implementation of the Global Action Agenda in CIS” to be implemented during period of 2014 – 2016 and intends to finance this project as its contribution to Sustainable Energy for All initiative

- ❑ Analysis of the existing policies, programs and concepts of energy in the member countries of the CIS for achievement by 2030 of three goals of the Initiative SE4All
- ❑ Assist in the development of energy policies, programs or concepts
- ❑ Facilitating analysis in member countries of the CIS, to assess the number of people without access to modern energy

“Facilitating implementation of the Global Action Agenda in CIS” to be implemented during period of 2014 – 2016 and intends to finance this project as its contribution to Sustainable Energy for All initiative

- ❑ Assist in the development of human and institutional capacity building, as well as the adoption of successful strategies
- ❑ Identify approaches to the development of sustainable energy, taking into account economic, social and environmental factors, the development of energy cooperation opportunities for integration projects in the field of energy efficiency close to the borders of the CIS region, and promoting the implementation of specific scientific, educational and other projects in line with the proposed paradigm of development of energy cooperation

“Facilitating implementation of the Global Action Agenda in CIS” to be implemented during period of 2014 – 2016 and intends to finance this project as its contribution to Sustainable Energy for All initiative

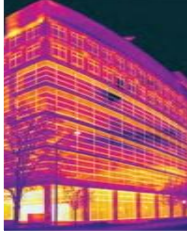
- ❑ Promote the development of new approaches that remove barriers to the development of sustainable energy services and network technologies to ensure their availability, as well as the development of measures to stimulate innovation
- ❑ Promoting the development and implementation of innovative technologies in energy , investment and implementation of investment projects in the member countries of the CIS

Within the framework of the project "Analysis of the development and dissemination of advanced technologies in the field of energy efficiency and renewable energy in the framework of the" Global Energy Efficiency 21 "for the countries of Central Asia" by the end of 2013 national studies with the following tasks will be conducted:

- To assess the level of coverage of centralized and decentralized energy supply , as well as its reliability , safety and environmental
- To study the question of the criteria of "sustainability" of energy supply in the region , taking into account specific local conditions
- Estimate the amount of work to ensure that decentralized energy supply and to identify the most effective renewable energy
- Prioritize energy efficiency and renewable energy development in the countries of Central Asia in the next 3 years
- Suggest to implement pilot projects (one in each country)
- According to the results of research to gain a holistic view of the situation in relation to the challenges facing the Central Asian region as part of the goal number one initiative SE4All - universal access to modern energy

# Regional Action Plan for CIS countries in energy efficiency

## MAIN APPROACHES



Energy efficiency in buildings



Energy efficiency in housing and utility sector, including centralized energy supply systems



Analysis of efficiency and development of approaches to distributed renewable energy generation



Energy Efficient Lighting



Energy efficiency in transport



Smart city concept implementation



To encourage energy efficient behavior

# Asian and Pacific Energy Forum (APEF)

*27 – 30 May 2013 in Vladivostok, Russia*

In the Ministerial Declaration adopted at the event the parties recognized the crucial importance of energy as a prerequisite to poverty eradication, ensuring sustained economic growth, and the achievement of the Millennium Development Goals.





# APEF Ministerial Declaration

*27 – 30 May 2013 in Vladivostok, Russia*

- Acknowledge **the crucial importance of energy** as a prerequisite to poverty eradication, ensuring sustained economic growth, and the achievement of the Millennium Development Goals;
- Further resolve **to increase the share of natural gas in the energy mix** to reduce the burden on the environment by working together on the conversion of natural gas to power (so-called “gas-to-power”) and on extending the interconnection of the existing power grids in the region in order to boost trade in electricity, eradicate poverty, increase access to electricity and facilitate the development of the developing economies of the region;
- Recognize the large potential and need for energy connectivity and energy markets in the region through **cross-border infrastructure and energy trade**, including oil and gas pipelines and electricity grids as well as hydropower infrastructure, and highlight this as a crucial area for regional and subregional cooperation to ensure reliable, efficient and safe transportation of energy resources, thus contributing to increased energy security;

# APEF Ministerial Declaration

*27 – 30 May 2013 in Vladivostok, Russia*

- Acknowledge the significance of further **improving the investment climate** in Asia and the Pacific, which may be accomplished through, among other things, the development of public and private financial mechanisms to stimulate the implementation of projects related to cross-border energy infrastructure, energy efficiency, renewable energy and wider access to modern energy services;
- Stress that meeting future energy demand in Asia and the Pacific requires **adequate investment resources in both producing and consuming countries** with the recognition that: (a) investments should also be aimed at making energy services more affordable and accessible to the poor; and (b) the availability of capital is a necessary but insufficient condition to deliver access to modern energy services.

# Russian Initiatives

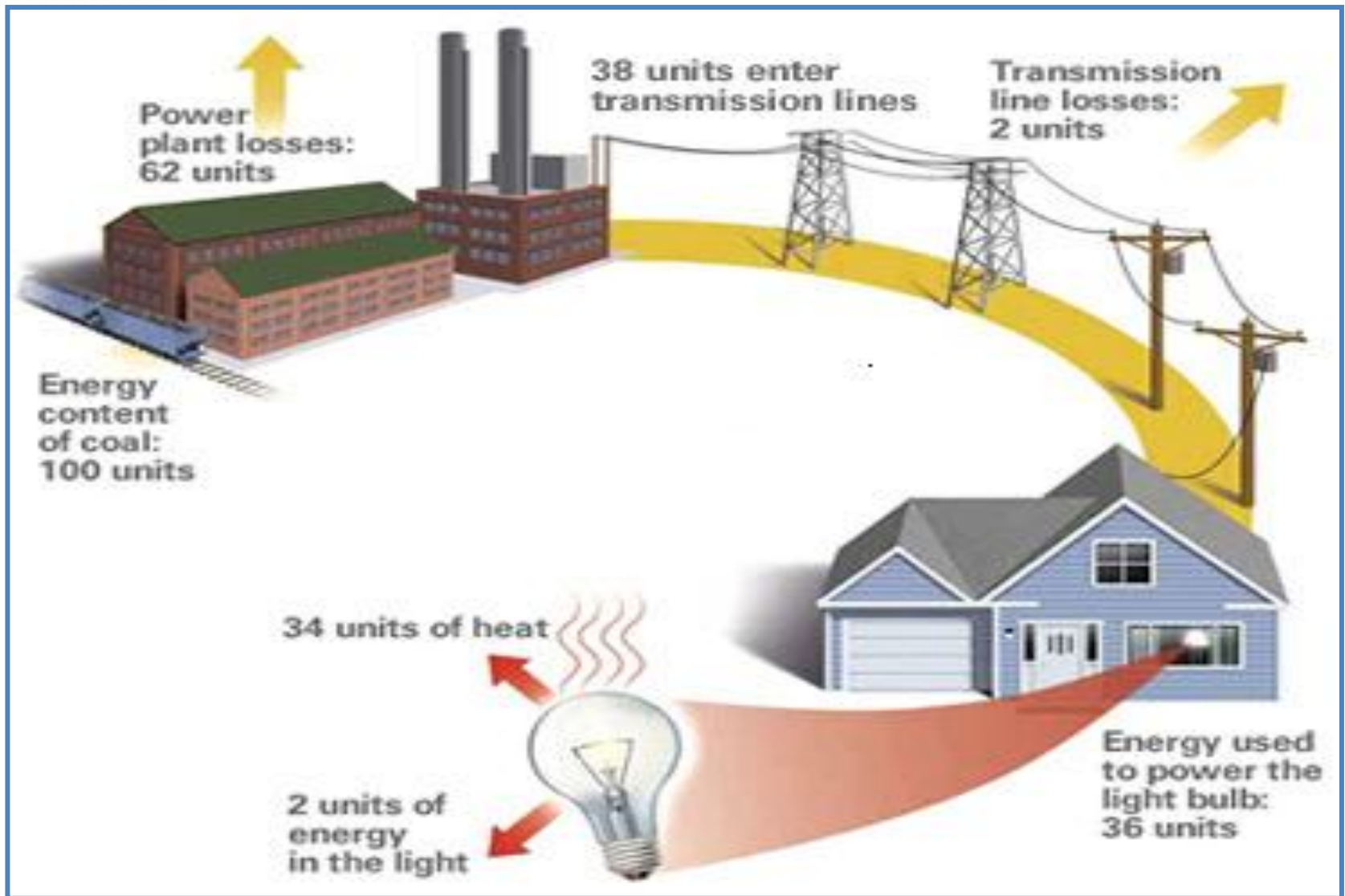
Memorandum of understanding on energy efficiency between UN Foundation and holding MRSE on 16 July 2013

MRSEN (Megregionsouzenergo)

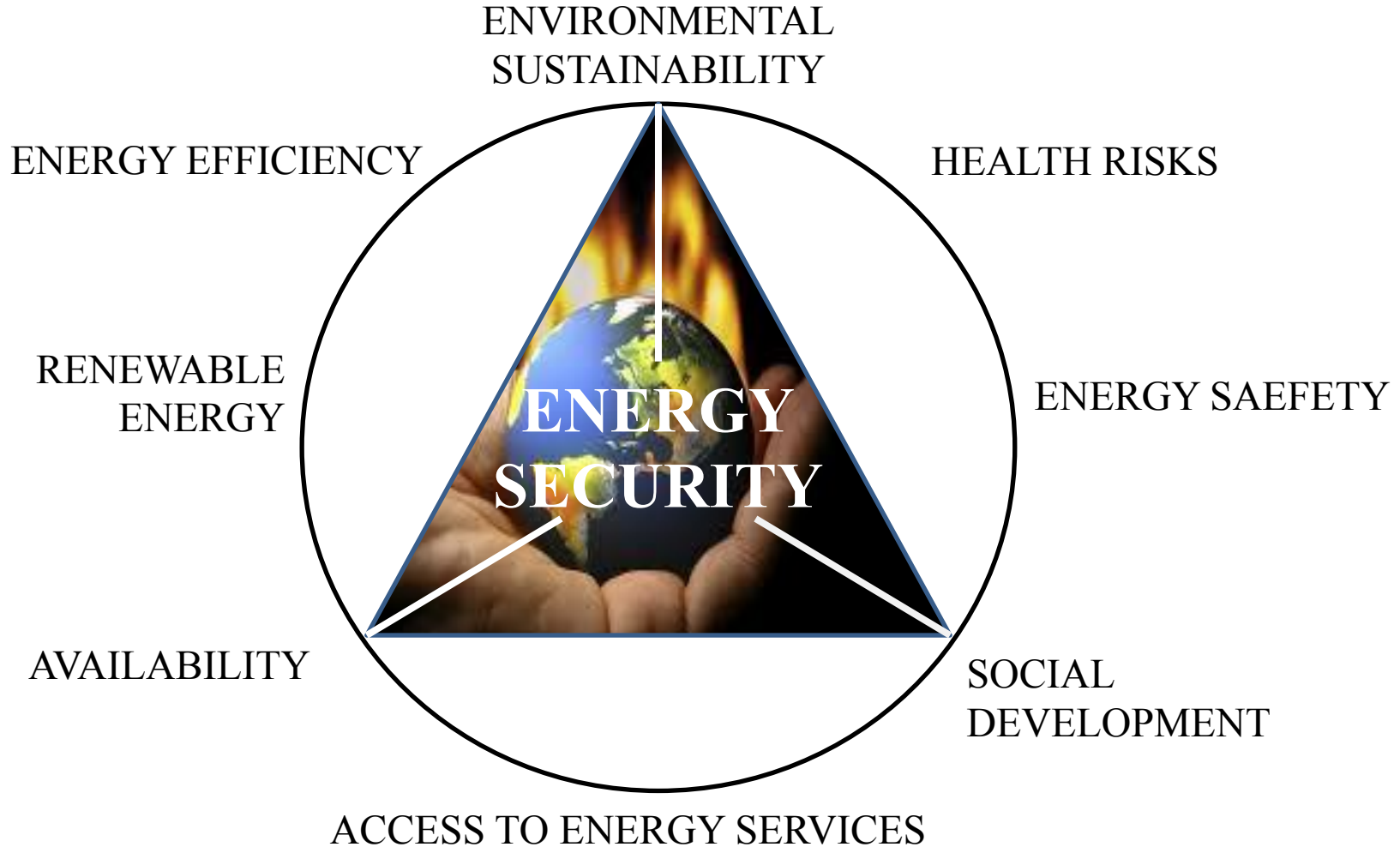
- Russian holding company of **4 Enterprises**
- Focuses on Management and Consultations for the Development of Energy Companies



# Energy Inputs Waste



# Sustainable Development Concept





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Thank you for your attention!

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