

# Implementation of Kyoto protocol mechanisms in Russian power sector

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**Oleg Pertsovsky**  
**RAO “UES of Russia”**  
**[www.rao-ees.ru](http://www.rao-ees.ru)**

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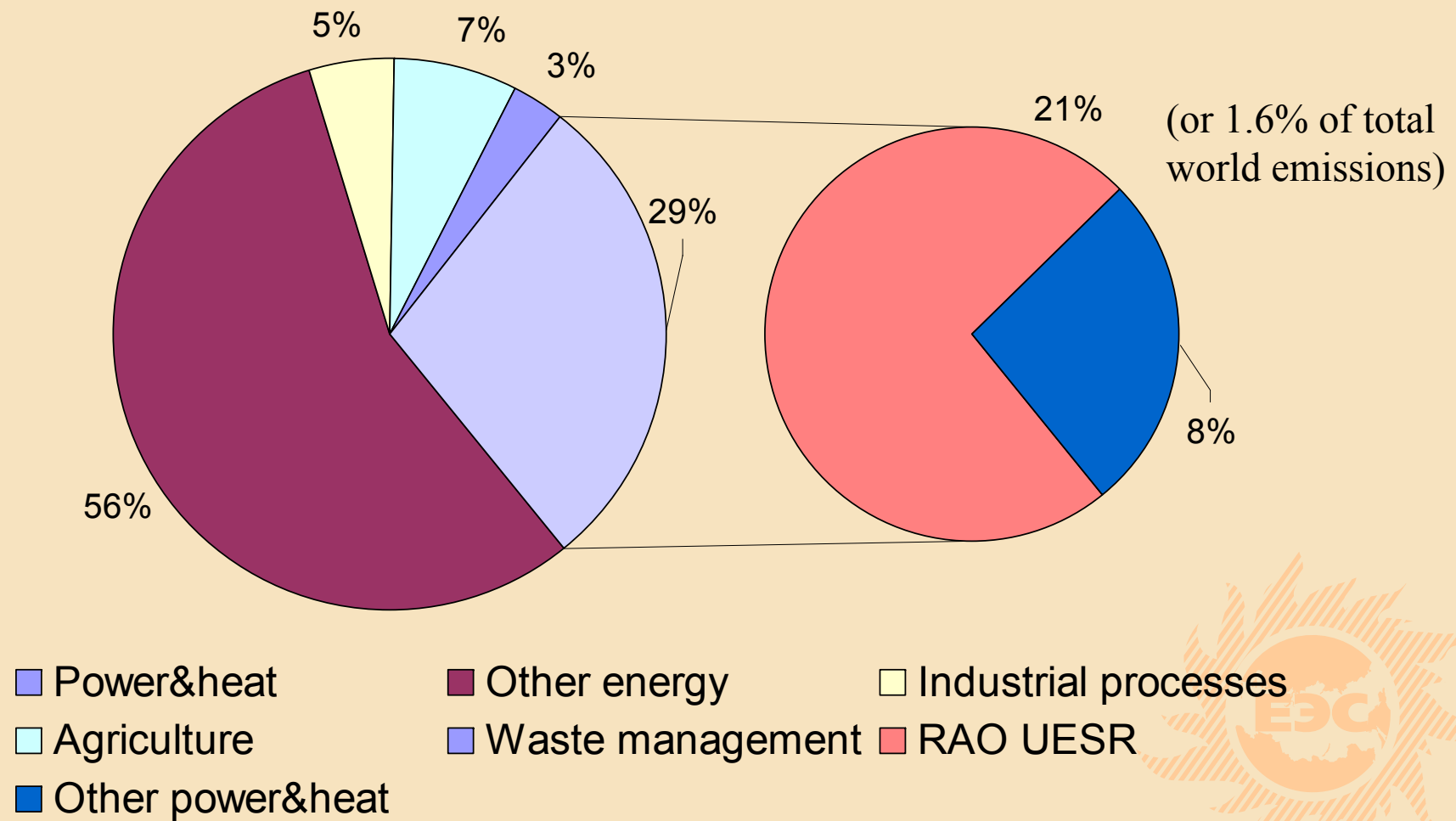
## RAO UESR in 2006

- Installed capacity 159.2 ths. MWt (72% of total installed capacity in Russia)
- Power generation 695 bln. kWt\*h (70% of total power generation in Russia and about 3.8% in the world)
- Heat production 477.8 mln. GCal (33% of total heat production in Russia)
- Share of power generation on fossil fuels – more than 80%

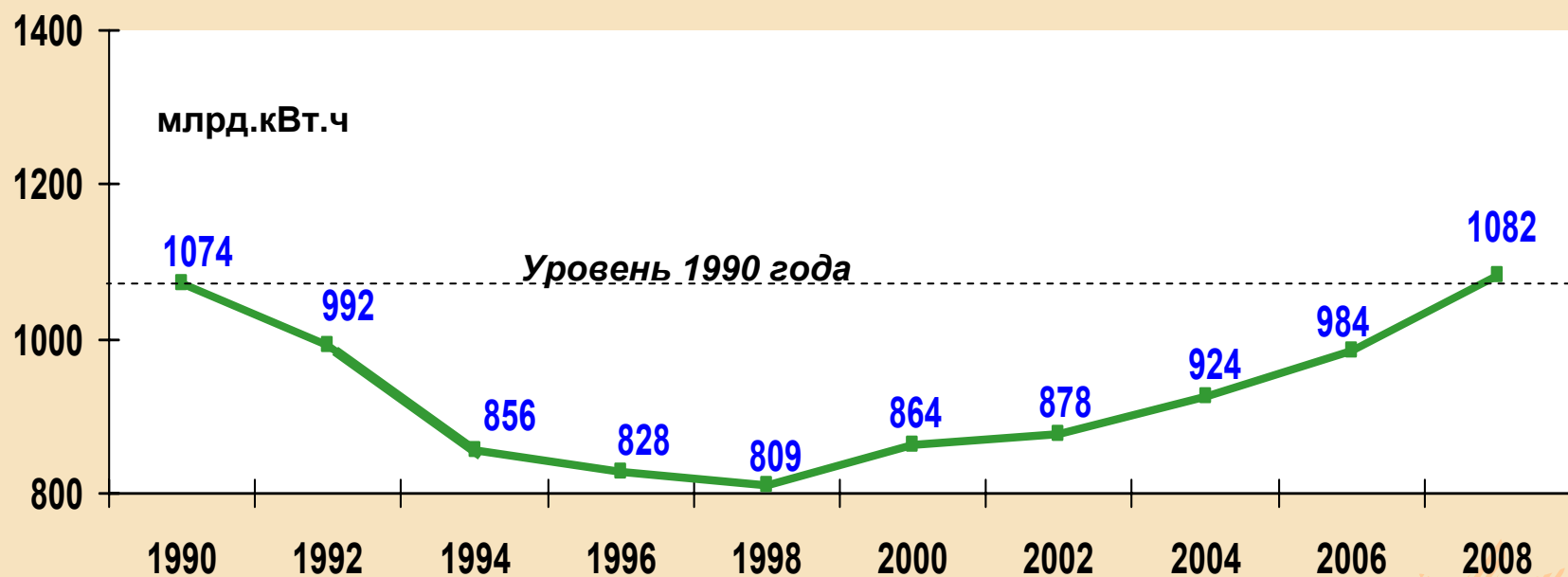


# Structure of GHG emissions in Russia

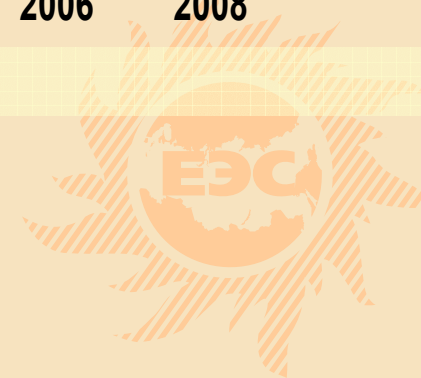
(according to Fourth National Communication and RAO UES estimates)



## Power consumption dynamics: approaching the maximum



Growth rate in 2006 - 4,2%



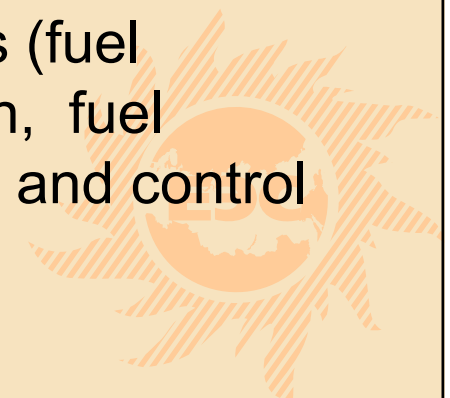
## **RAO UESR interest in JI projects**

- **Vast investment program includes construction of new power generating capacities using modern highly efficient equipment**  
**➡ opportunity to attract additional investments**
- **High portion of old and low efficient equipment on existing power plants** ➡ **need for replacement/modernization**
- **Non-conventional renewables constitute much less than 1% of total generation** ➡ **good perspectives for future development**
- **A lot of projects cannot be implemented due to insufficient economic efficiency** ➡ **additional sources of financing needed**



## Main types of projects in RAO UESR

- Combined Cycle instead of Steam turbines
- Renewables, including:
  - small and medium hydro power plants (incl. construction of new and rehabilitation of existing)
  - wind power plants (on-shore and off-shore)
  - geothermal power plants, etc.
- Fuel switch
- Improvements in district heating systems
- Complex power plant energy efficiency improvements (fuel preparation system, condenser, turbine modernization, fuel combustion optimization, variable speed motor drives and control systems installation, cooling tower repack etc)

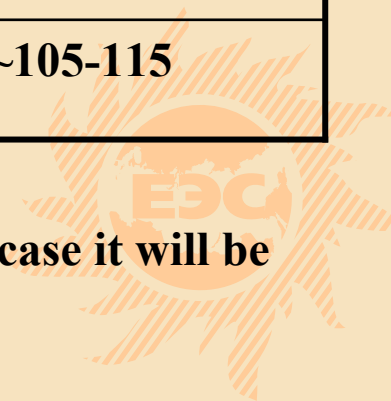


## «Carbon potential» of RAO UESR

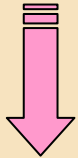
Status	Emission reductions in 2008-2012, mln. tones
Investment projects ready for financing using Kyoto mechanisms with PIN's prepared	35
Investment projects under consideration	~20
Energy efficiency improvement	~ 25-30
Investment projects reducing emissions but not eligible under Kyoto protocol	~ 25-30
Total potential	~105-115

Also:

- Possible emission trading basing on “green investments” scheme (in case it will be implemented)



# Our actions



- Energy Carbon Fund foundation
- Detailed inventory of GHG emissions from RAO UESR sources
- Corporate Greenhouse gas information system development
- Analysis of all projects included in RAO UESR Investment program
- Pilot project on energy efficiency improvement with RWE
- Preparation of specialized project documentation (PIN's, PDD's)
- Search for potential “carbon investors”





## Necessary steps

- **In the short run:**

Begin JI projects registration in Russian Federation

- **In the long run:**

Create on both national and international levels the economic mechanisms, stimulating measures in the field of energy efficiency, energy saving and more active usage of renewable energy



***Thank you!***

