



Ministry of energy and industry  
of the Kyrgyz Republic



# The main prospects for the development of energy saving and energy efficiency in the Kyrgyz Republic

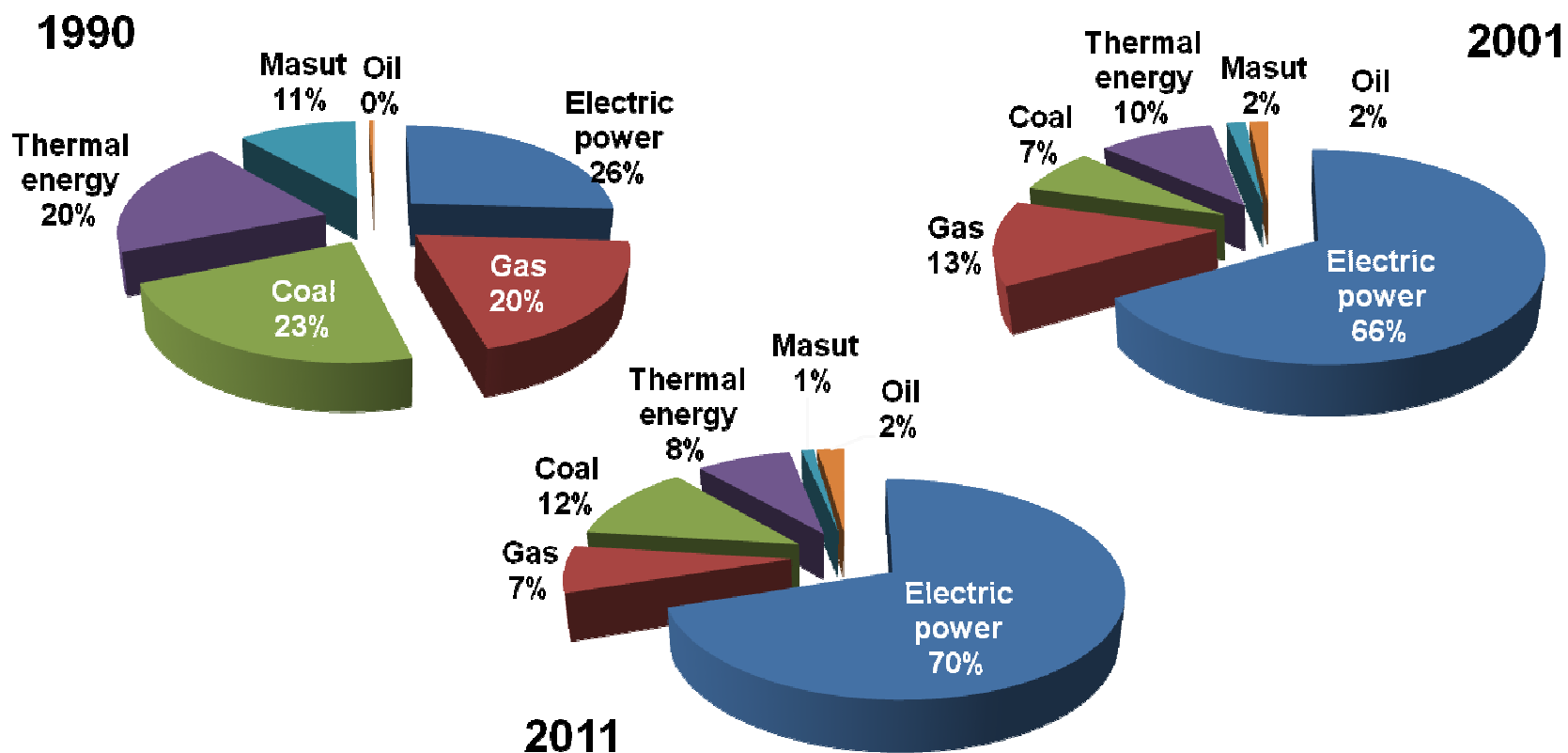
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sources and energy efficiency Department*

April, 2012  
Geneva

# The energy sector of the Kyrgyz Republic

- Installed capacity: 3786 MW
  - Hydropower : 3070 MW (84%)
  - Thermal energy : 716 MW (16%)
- Annual generation: 14,9 billion kWh (2011)
  - Hydropower : 14,1 billion kWh (94%)
  - Thermal energy : 0,8 billion kWh (6%)
- Resources :
  - Hydropower : 142,0 billion kWh
  - Coal : 1,3 billion tons
  - Hydrocarbons (gas, oil): 145-260 million tons

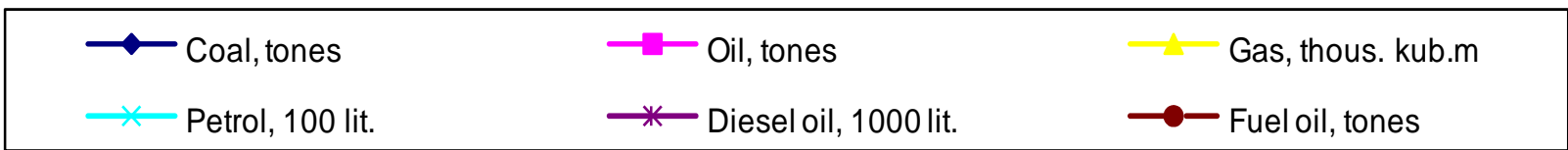
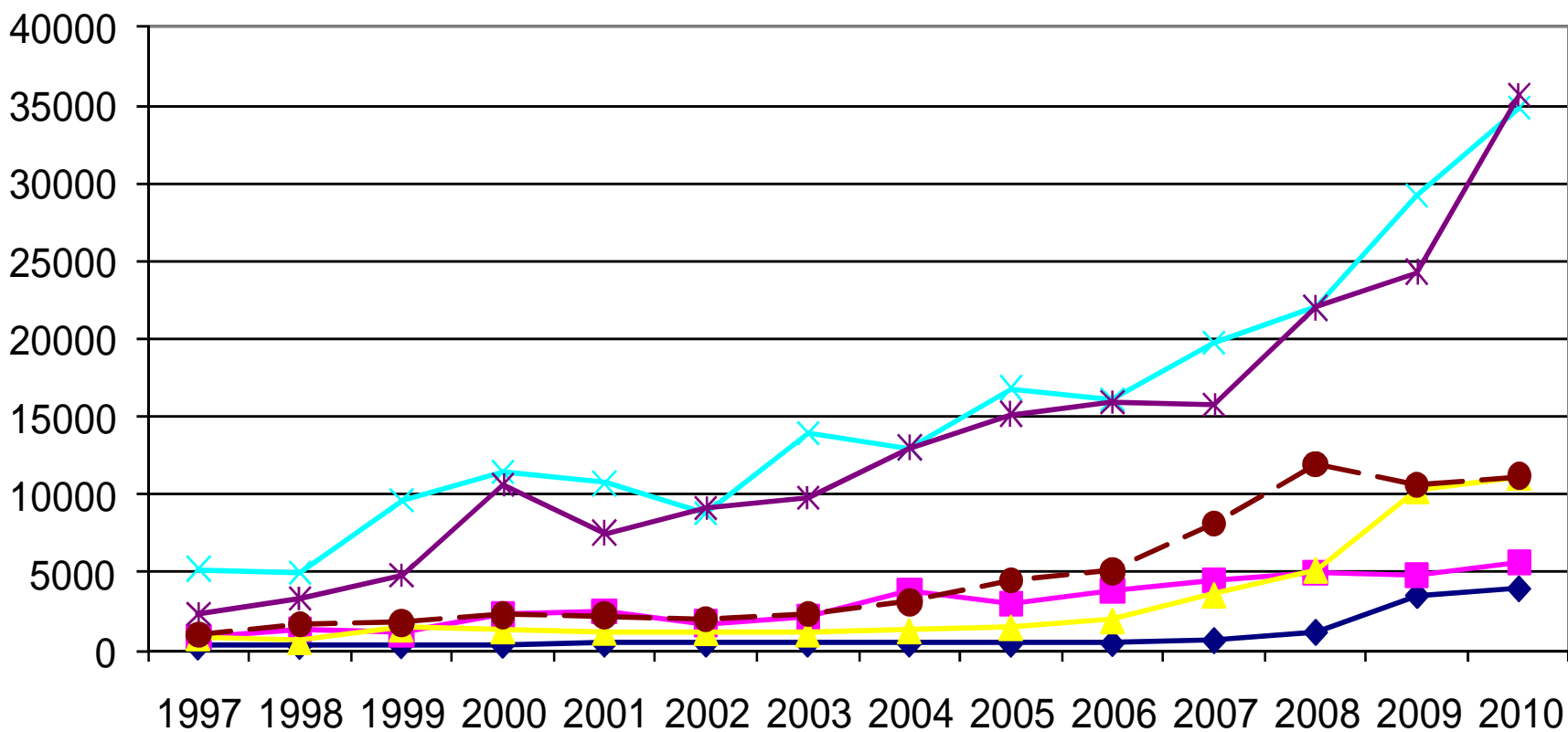
# The structure of fuel and energy resources consumption



	Electric power	Gas	Coal	Thermal energy	Masut	Oil
	million kWh	million cub.m	Thousands tons	Thousands Gcal	Thousands tons	Thousands tons
<b>1990</b>	9 679,5	2 176,0	3 841,4	14 303,0	1 028,0	3,0
<b>2001</b>	11 747,2	726,3	533,4	3 721,0	77,0	75,5
<b>2011</b>	11 185,4	323,1	839	2928,41	37,2	80,0

### Dynamics of prices of basic energy for the period 1997 to 2010., som

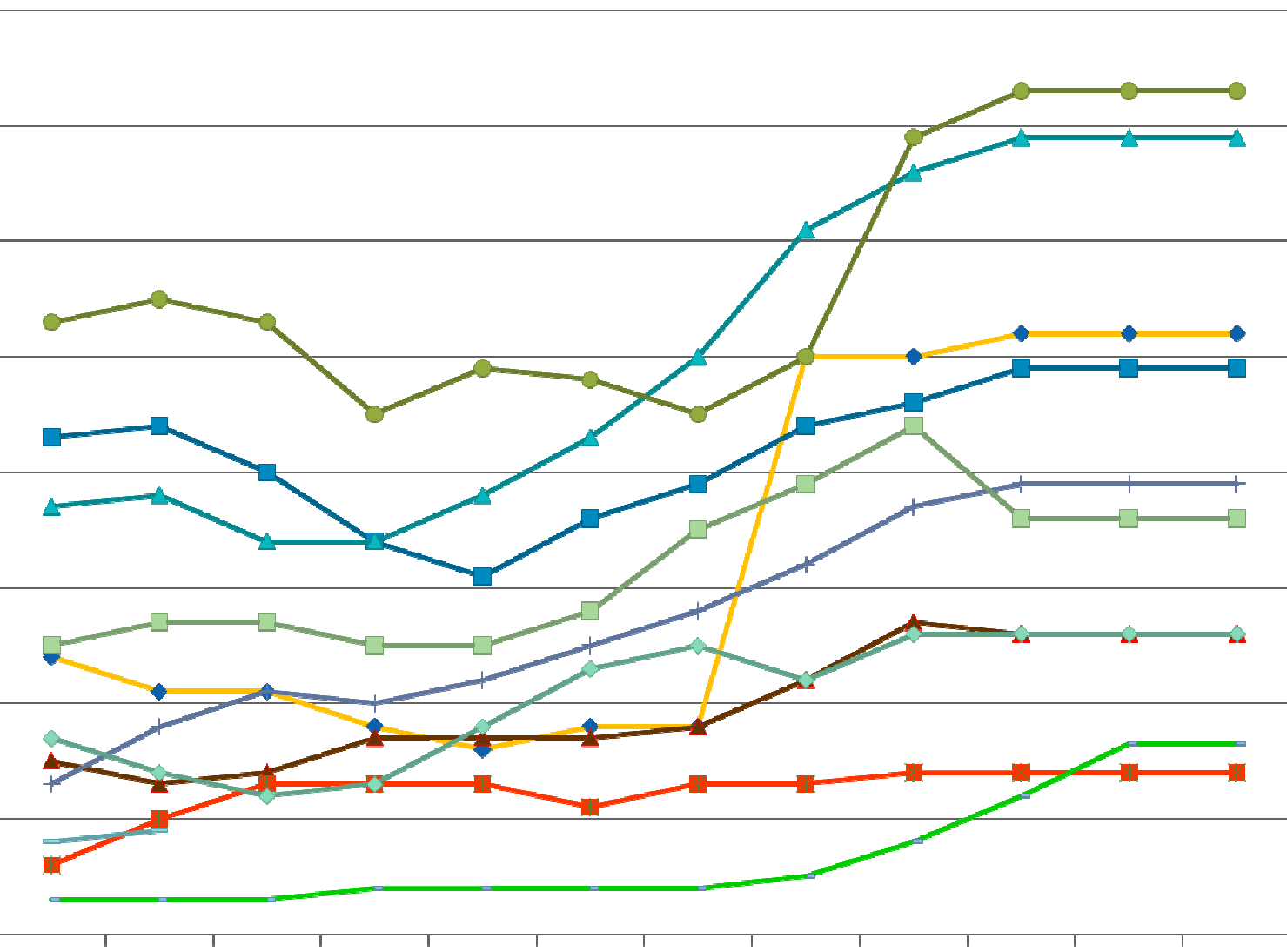
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# Dynamics of growth in electricity tariffs in the CIS countries from 2000 to 2011

eurocents

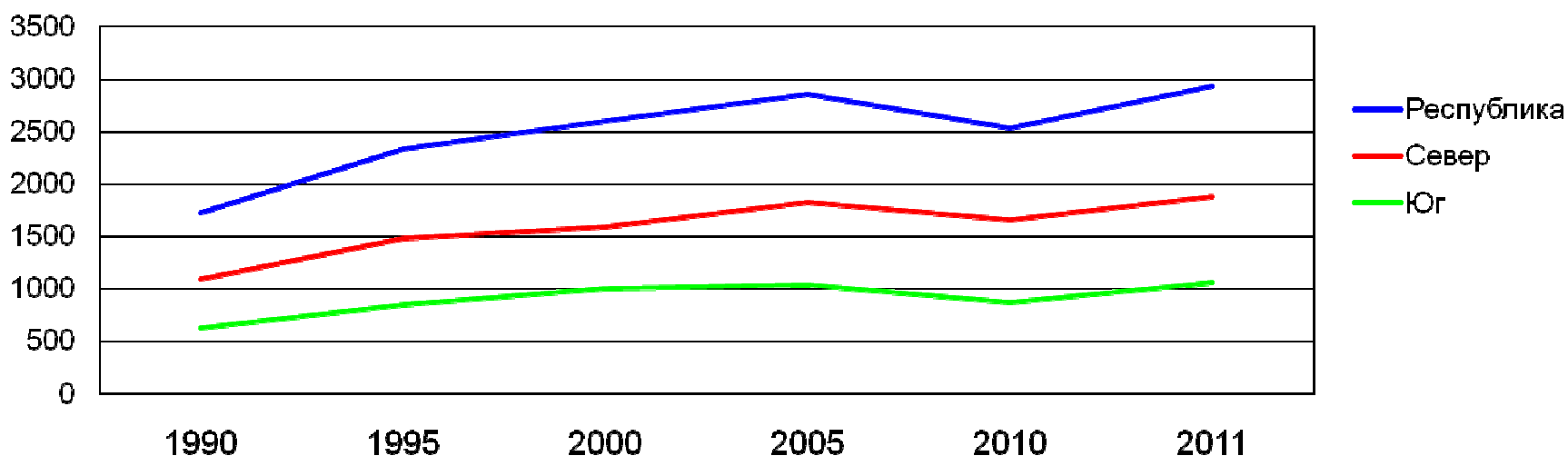
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- ◆ Азербайджан
- Армения
- ▲ Беларусь
- ▲ Казахстан
- Кыргызстан
- Молдова
- ◆ Россия
- Таджикистан
- Туркменистан
- ◆ Узбекистан
- Украина

# The dynamics of the maximum load in the power of KR in the winter

**The dynamics of the maximum load in the power of KR in the winter 1990-2011, MW**



***The dynamics of peak power CD in the winter, MW***

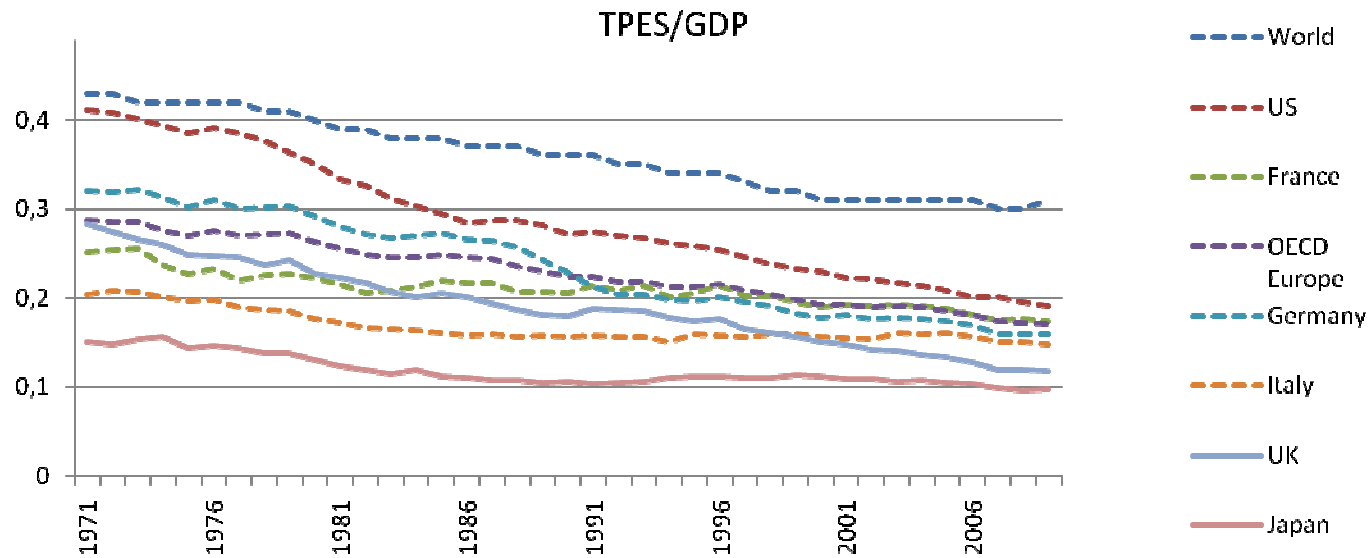
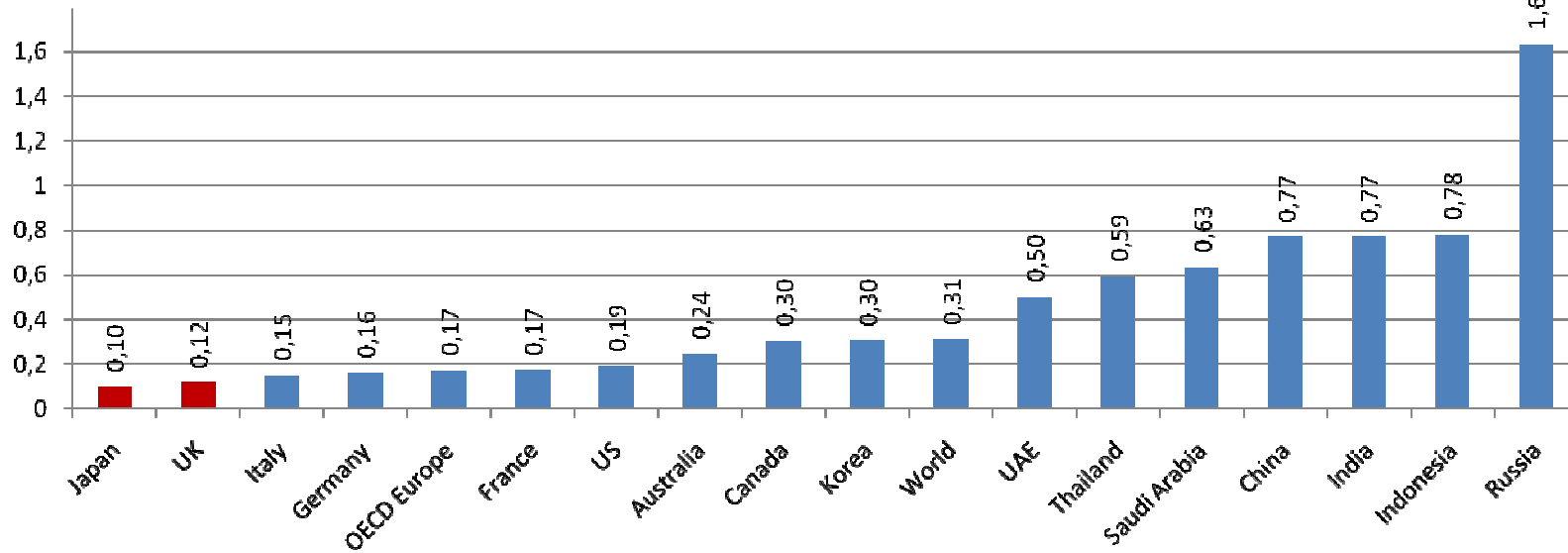
	1990	1995	2000	2005	2010	2011	2012 (January)
Republic	1722	2333	2601	2855	2533	2936	3054
North	1097	1480	1593	1822	1663	1881	1990
South	625	853	1008	1033	870	1055	1064

## Energy intensity of GDP in Kyrgyz Republic

- The present level of energy consumption of the econ generally remains at a high level. The level of energy intensity of GDP in Kyrgyz Republic is 1,1 tones of oil equivalent per U.S. \$ 1 000
- In developed and developing countries this indicator is 0,10-0,74

# Energy Efficiency: TPES/GDP

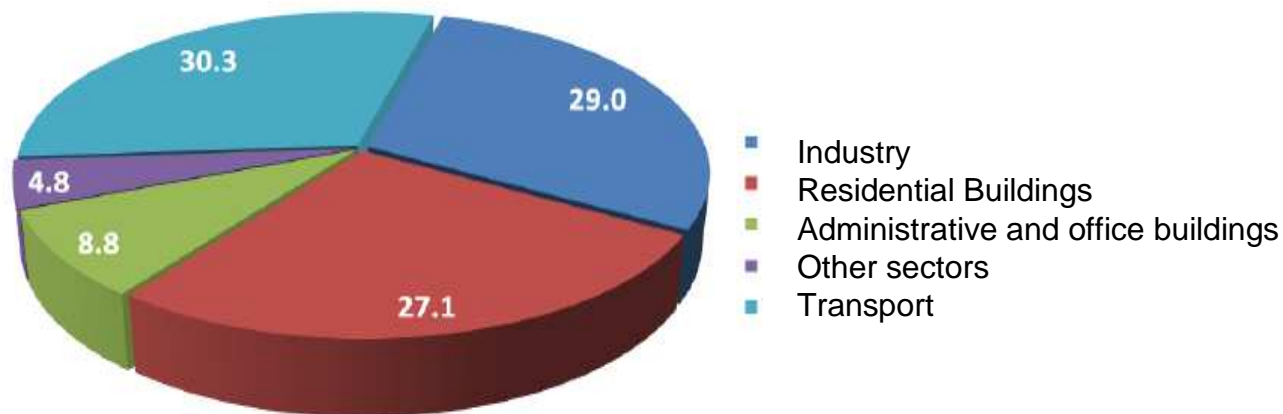
TPES/GDP in 2009



Source : IEA



# 37% of energy consumption in the country is in the buildings



Energy consumption in buildings (residential, commercial and administrative) - 37% of the total

In the buildings sector accounts for 35% of greenhouse gas emissions

# Energy saving potential in the country

1. Through qualitative organizational and managerial support for the development of energy conservation in the country, can provide energy savings amount to 1.2 million tce
2. Through the use of highly technical equipment, technologies and materials in the production, transmission and energy consumption is possible to provide the amount of energy savings, 0.7 million tce
3. Through the restructuring of the economy to reduce the energy intensity of GDP and electric capacity and energy savings to bring the volume to 1.0 million tce

# Legislation in the field of energy efficiency

- The Law of KR «On Energy Saving»
- The Law of KR «On Power Engineering»
- The Law of KR «On Electric Power Engineering»
- The Law "On Renewable Energy Resources"
- The National Energy Program of Kyrgyz Republic in 2008-2010 and the Strategy of energy sector until 2025
- The Law "On the energy efficiency of buildings" adopted June 30, 2011

# The Law "On the energy efficiency of buildings"

- Energy certification of buildings with the definition of energy efficiency class of the building.
- Multifamily residential buildings, public and administrative buildings, energy certification of the past, should be marked as a pointer to a class of energy efficiency in buildings must be located in a conspicuous place of the facade.
- The energy certificate is issued for the duration of no more than 10 years.

# The main barriers to energy efficiency

- Incomplete legislation in this field
- Financial barriers (weak financial support mechanisms)
- Poor information need and benefits of energy efficient technologies
- Poor production on the issue of energy-saving products and technologies
- The low use of renewable energy potential

# The potential of renewable energy in the Kyrgyz Republic

- 1.Solar energy (heat) – 421,3 thous. Gcal**
- 2.Solar energy (electric) - 22500 MWh**
- 3.Wind energy - 44560 MWh**
- 4.Small streams - 8 billion kWh**
- 5.Biomass - 1300000 MWh**

**Practical use of renewable energy in the  
Kyrgyz Republic is less than 1%**

# Measures to support renewable energy in the Kyrgyz Republic

A draft of the Law "On Amendments and Additions to the Law of the KR" On renewable energy sources" which approved by the Government of the Kyrgyz Republic on January 26, 2012 and sent to the Parliament.

The main purpose of this bill is to improve the economic mechanisms to encourage the use of renewable energy sources (RES), including small hydropower plants in order to attract investment.

# Measures to support renewable energy in the Kyrgyz Republic

Draft law provides a tariff to the tariff for electricity generated from renewable energy sources and small hydropower projects on the payback period.

- **for installations using energy water ratio is 2.1;**
- **for installations using energy from the sun, the coefficient is equal to 6.0;**
- **for plants that use biomass, ratio is 2.75;**
- **for installations that use wind power factor is 2.5;**
- **for installations that use the energy of the earth, the coefficient is 3.35.**



# Ongoing projects on energy efficiency in the KR

- UNDP / GEF project "Improving energy efficiency in buildings"
- UNISON projects to improve energy efficiency in the KR
- Project "The Demonstration Zone of Energy and Water Efficiency in Bishkek" realized with the support of the Norwegian Energy Saving International (ENSI), 2000-2007

# The results of the measures

1. Law "On the energy efficiency of buildings"
2. Developed and put into effect (Order № 135 of the Construction Committee 2/10/09)
  - SNP of KR Construction 23-01:2009 thermophysics (thermal protection of buildings)
  - SP of KR 23-101:2009 Design of thermal protection of buildings
  - Directory of technical solutions for the thermal protection of buildings
3. Completed the design of energy efficient 2 schools (Bishkek, Orto-Sai with 400 seats, the city of Osh on 850 seats). School construction will be completed in 2012.
4. We have educational programs for high schools and continuing education in the construction

# State support for the development of energy efficiency

State support for energy efficiency will be expressed in:

- Promoting fuel economy and energy by appropriation of targeted policies;
- Creating of Fund of Energy Saving;
- Creating a positive environment for manufacturers of energy equipment and materials;

## State support for the development of energy efficiency

- Providing some benefits in lending energy saving projects, importation in country energy efficient equipment, appliances and other equipment;
- Stimulating the development and implementation the energy-efficient technologies and technologies which use renewable energy resources;
- Development of international scientific cooperation, and education and training manpower in the field of energy efficiency.



**THANK YOU!!!**