

REPUBLIC OF BULGARIA



MINISTRY OF ECONOMY, ENERGY AND TOURISM

**NATIONAL POLICY FOR ENERGY
EFFICIENCY AND RENEWABLE ENERGY
SOURCES**

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Energy efficiency and environmental protection Directorate

ENERGY EFFICIENCY: POTENTIAL EVALUATION

Energy intensity of the GDP:

- **Primary energy intensity** : ~ 100% higher than the average EU level

Bulgaria (2000) - 0,44 koe/€2000

Bulgaria (2007) - 0.316 koe/€2000

EU - 0.160 koe/€2000

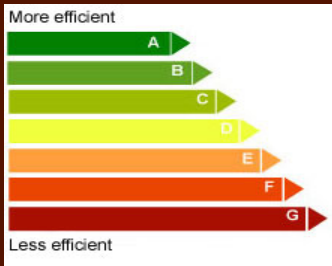
- **Final energy intensity** : ~ 50% higher than the average EU level

Bulgaria (2000) - 0,193 koe/€2000

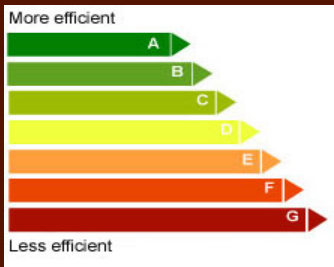
Bulgaria (2007) - 0.149 koe /€2000;

EU - 0.101 koe/€2000

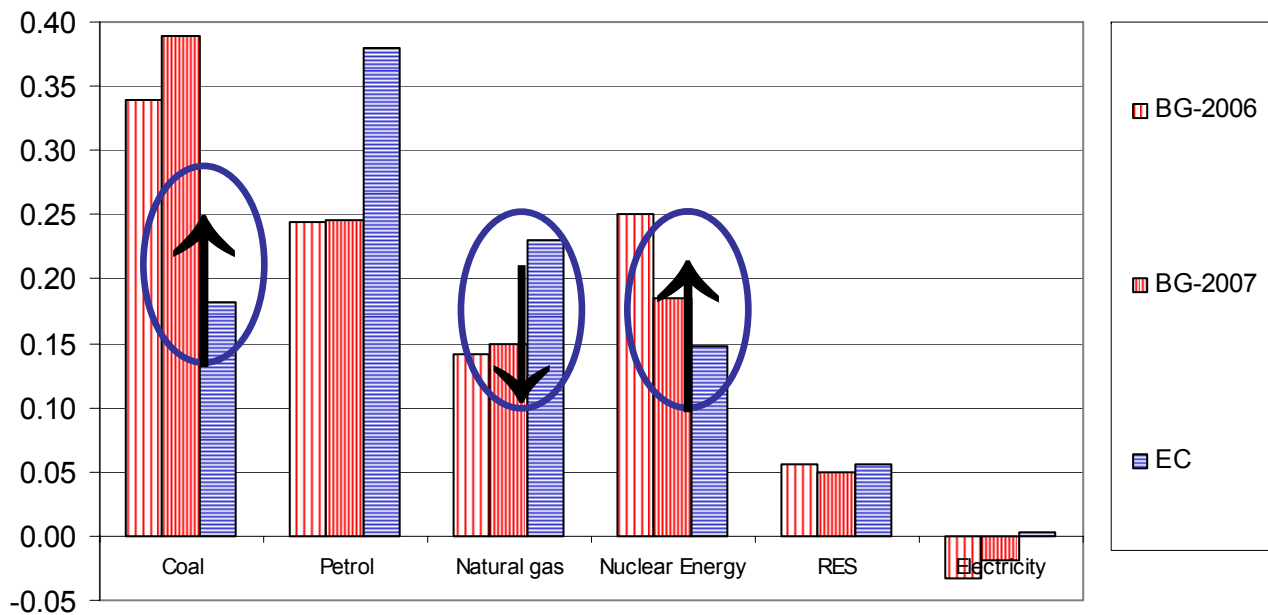
Ratio: Final to Primary Energy Consumption : 0.47



STRUCTURE OF PRIMARY ENERGY CONSUMPTION



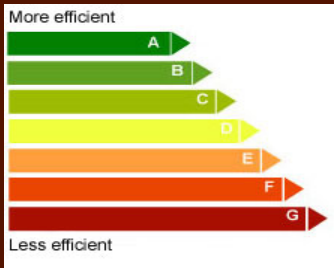
Primary Energy Consumption: Bulgaria and EU, shares



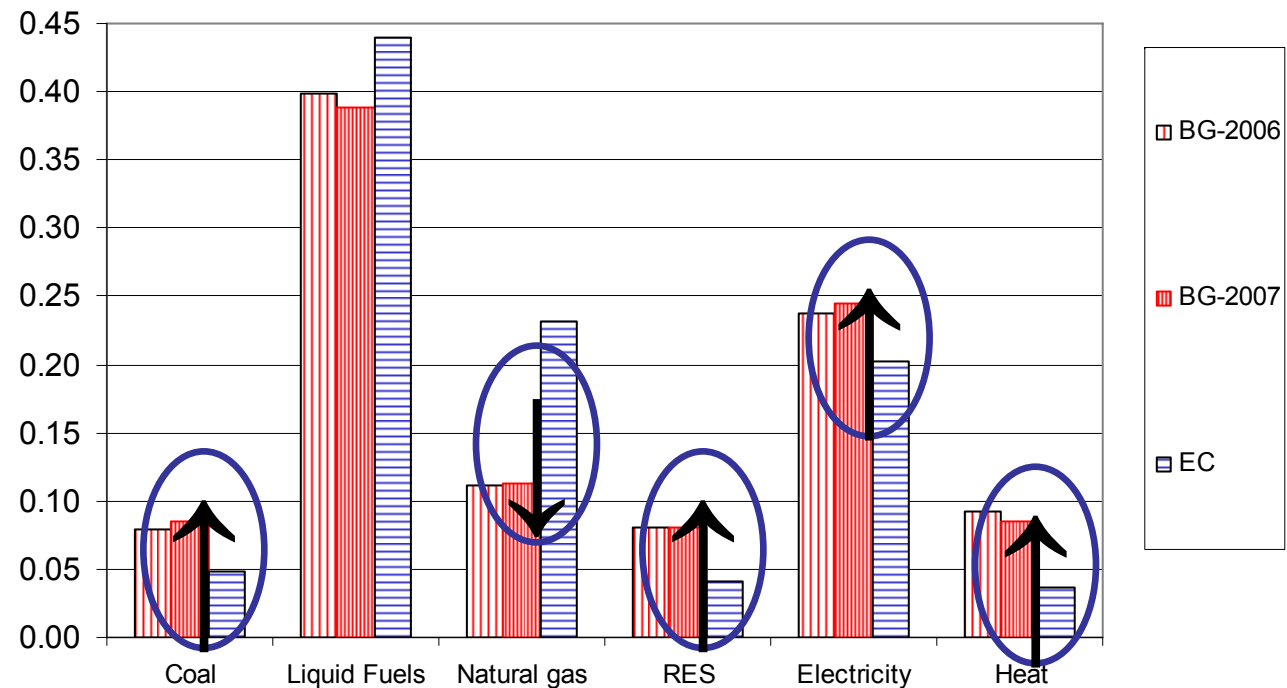
Bulgaria has:

- higher shares of coal and nuclear energy
- smaller share of natural gas and petrol
- small share of renewable energy sources.

STRUCTURE OF FINAL ENERGY CONSUMPTION



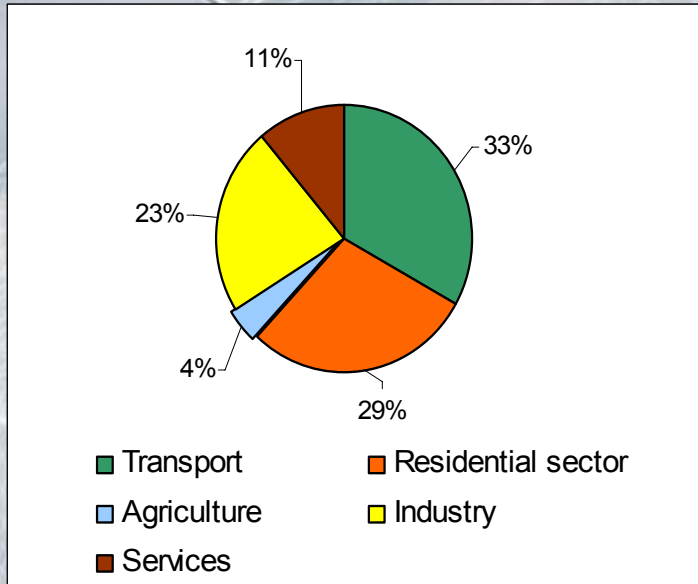
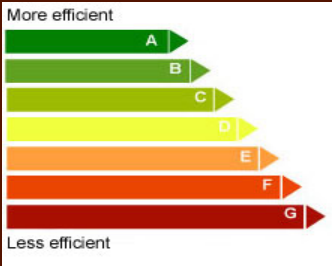
Final Energy Consumption: Bulgaria and EU, shares



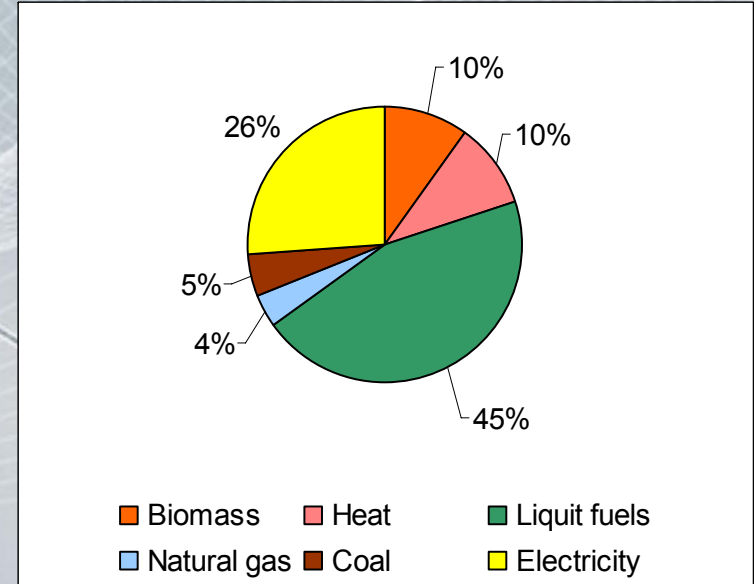
Bulgaria has:

- high shares of electricity and heat consumption
- low share of natural gas consumption in household and services
- the consumption of liquid fuels in transport sector steadily increasing in the last 10 years

FINAL ENERGY CONSUMPTION IN BULGARIA IN SCOPE OF EU DIRECTIVE



Share of sectors in final energy consumption in 2005



Share of fuels and energy in final energy consumption in 2005

62% of the final inland energy consumption covered by the Directive 2006/32/EU is concentrated in the transport and residential sectors.

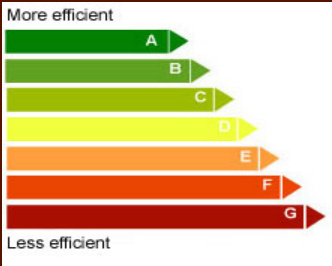
ENERGY EFFICIENCY ACT

Directive 2006/32/EC
on energy end-use
efficiency and energy
services

Directive 2002/91/EC
on energy performance
of buildings

Energy Efficiency Act
(November 2008)

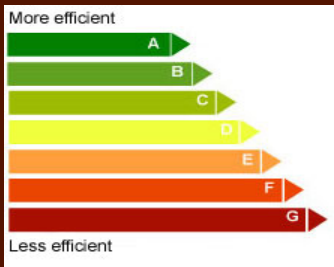
**First Energy Efficiency
Action Plan 2008-2010**



ENERGY EFFICIENCY: LEGISLATION - 1

(MAIN PROVISIONS IN ENERGY EFFICIENCY ACT)

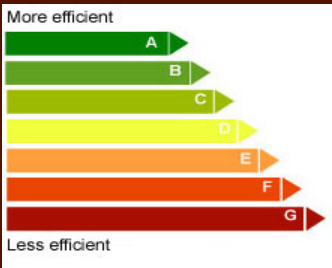
- **Energy Efficiency Strategy** (to be adopted by National assembly)
- **Action plans** (adopted by the Government)
- **Energy services:** establishment of national and individual energy saving targets for energy dealers
- **Buildings:** Owner's obligation for certification
- **Enterprises:** Large energy consumer obligation for audits and implementation of the prescribed energy efficiency measures
- **ESCO financing:** ordinance for state and municipal buildings



ENERGY EFFICIENCY: LEGISLATION - 2

(Main Provisions in Energy Efficiency Act)

- **Energy Efficiency Fund** (energy traders contribution)
- **Inspections** of hot water boilers and conditioners
- **Energy management** in large energy consumers and large building
- **Long-term agreements**
- **Certificates** for proving energy savings (white certificates)
- **Regional Energy Efficiency Centers Establishment.**



ENERGY EFFICIENCY ACTION PLAN

2006/32/EC Directive
on end-use efficiency and energy services



Energy Efficiency Action Plan

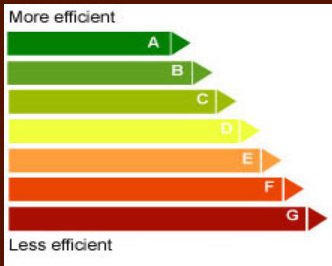


Determination of indicative targets for energy savings in
the final energy consumption
9 % for 2008-2016 (627 ktoe)

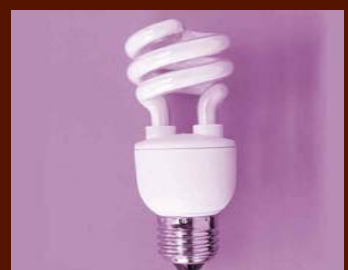
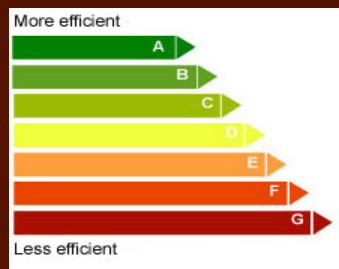


First Energy Efficiency Action Plan 2008-2010 indicative
targets for energy saving in the final energy consumption 3 %
(209 ktoe)

Covered 75 % of the Final Energy Consumption
industry, households, transport and services



SOME PROPOSED ENERGY EFFICIENCY MEASURES



Fuel /Energy	Sector	Measures
Electricity	Residential and Services	<ul style="list-style-type: none"> • Encourage the replacement of inefficient electric wiring for heating and hot water boilers by more efficiency one or by RES • Financial assistance to improve energy performance of buildings
	Industry	<ul style="list-style-type: none"> • Dissemination information on EE: illumination, hot water boilers and cooking; replacement by RES (biomass), heat pump • Dissemination information on EE motive power, ventilation, air-conditioning, compressed air generation system • Encourage producers/traders of processed of biomass • Assist energy audits, including financial support • Encourage use of RES, utilization of residual heat.
Liquid fuels	Transport	<ul style="list-style-type: none"> • Improve road infrastructure. Optimize traffic. Replace a part of the fuel with liquid biofuels. • Effective control on the engines. Ensure special rights of movement of the public transport, bicycles and mopeds. Expand metro transport. Increasing tax for high power cars.
	Services	<ul style="list-style-type: none"> • Replace heating system with liquid fuels by biomass, solar and geothermal energy.
Solid fuels	Residential	<ul style="list-style-type: none"> • Replace inefficiency biomass incineration facilities with more energy efficient ones. • Replace solid fuels by processed biomass

RES POLICY TARGETS

✿ Main EU objective:

- 13.1 % share of RES of gross energy consumption by 2010 in EU
- 21 % share of RES of gross electricity consumption by 2010 in EU
- **By 2020 renewable energy should account for 20 % of EU's final energy consumption**

✿ RES Target according to 2001/77/EU Directive

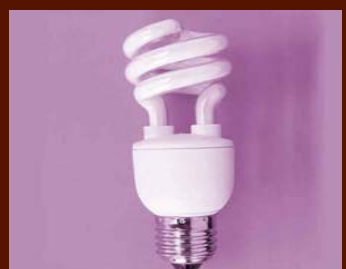
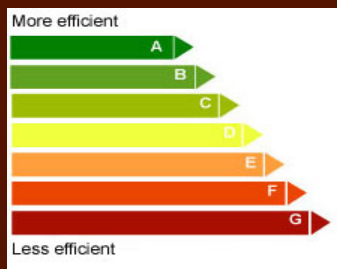
- 11 % share of RES of gross inland electricity consumption by 2010 in Bulgaria

✿ Biofuels Target according to 2003/30/EU Directive

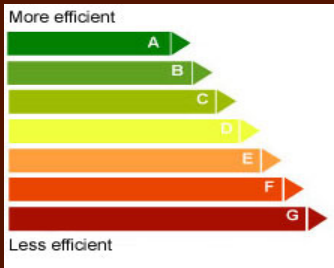
- 5.75 % share of the biofuels in the fuel consumption in the transport sector in 2010

✿ Mandatory targets set by Directive 2009/28/EO on the promotion of the use of energy from renewable sources

- 16 % share of RES of the final consumption of energy in Bulgaria in 2020
- At least 10 % share of biofuels of final consumption of energy in transport in Bulgaria in 2020



RENEWABLE AND ALTERNATIVE ENERGY SOURCES AND BIOFUELS ACT



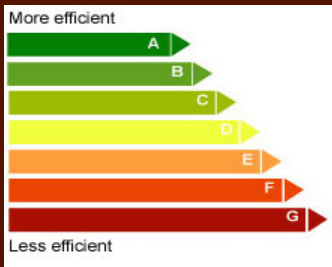
- ✿ Support of the development and utilization of technologies for production and consumption of RES and AES energy and consumption of biofuels
- ✿ Reduction of the expenses for energy resources import
- ✿ Increase of the capacity of the small and medium enterprises, RES and AES energy producers
- ✿ Diversification of energy supply
- ✿ Creation of conditions for achievement of sustainable development on local and regional level
- ✿ Environmental protection

<http://www.mee.government.bg/eng/gzakone/gzakone/docs.html?id=253701>

SUPPORT MECHANISMS

RES electricity production

- ❁ Feed-in tariffs set by the State Energy and Water Regulatory Commission
- ❁ Obligatory connection to the electricity grid of the RES producers
- ❁ Guarantees of origin for the electricity produced from RES
- ❁ Mandatory buying of the entire amount of electricity produced by plants using RES.



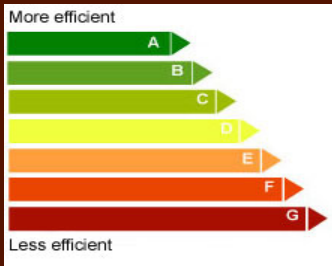
SUPPORT MECHANISMS

RES electricity production

The term of the contracts shall be:

- 25 years – power generation from geothermal and solar power
- 15 years – for RES electricity from HPP's with installed capacity up to 10 MW and for any other RES electricity.

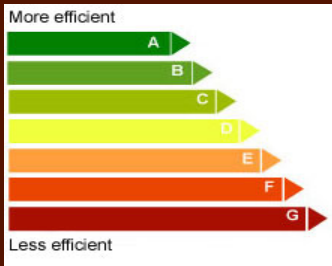
All new producers of electricity from RES, with the exception of HPP with an installed capacity of more than 10 MW shall start in operation no later than the 31 December 2015.



SUPPORT MECHANISMS

RES electricity production

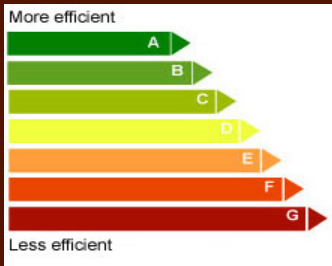
- ✿ Feed-in tariffs set by the State Energy and Water Regulatory Commission
- ✿ Obligatory connection to the electricity grid of the RES producers
- ✿ Guarantees of origin for the electricity produced from RES
- ✿ Mandatory buying of the entire amount of electricity produced by plants using RES.



PROMOTION OF RES CONSUMPTION BY ENERGY EFFICIENCY ACT

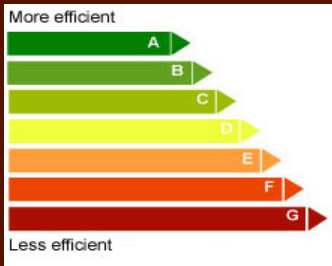
The development-project designs of new buildings with a gross floor area of over 1,000 square metres must accommodate the use of:

- decentralised energy generation and consumption systems based on renewable energy
- combined heat and power generation
- district or block heating and cooling
- heat pumps.



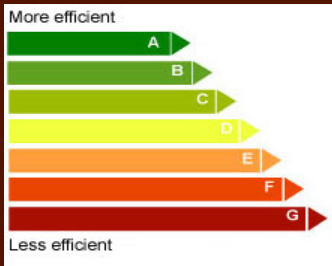
Incentives under the Investment Promotion Act

- ✿ Information services and shortened administrative services
- ✿ Preferential treatment upon acquisition of right of ownership and limited real rights over real estate – private state and private municipality property
- ✿ Financial support for training of employees for the needs of the investment project
- ✿ Individual administrative services
- ✿ Infrastructure support for the needs of the investment project

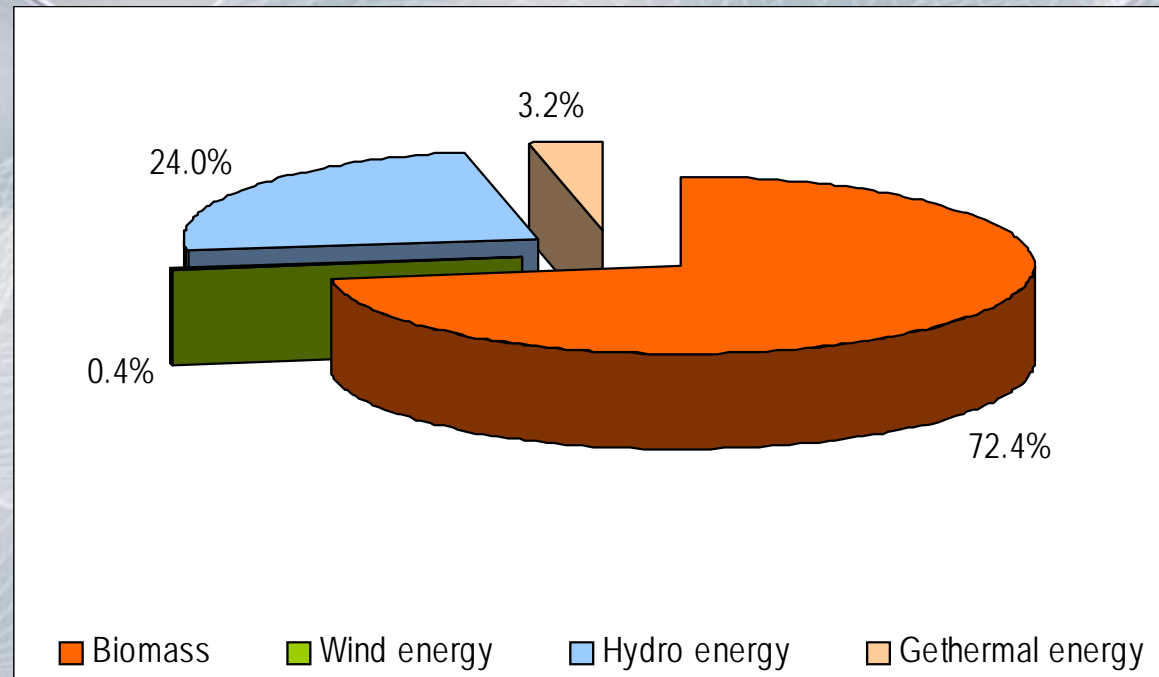
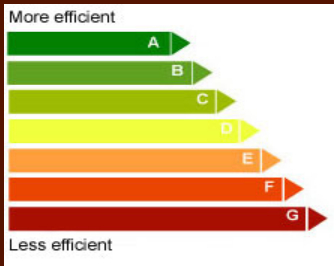


Financial support for RES

- ✿ Bulgarian Energy Efficiency and renewable energy credit line (BEEERECL)
- ✿ Operational programme Competitiveness of the Bulgarian Economy - Increasing efficiency of enterprises and promoting supportive business environment
- ✿ National Strategy Plan For Rural Development (2007 –2013)
- ✿ The Enterprise for Management of Environmental Protection Activities under the Ministry of the Environment and Water provides interest-free loans to companies for the construction of small HPPs.



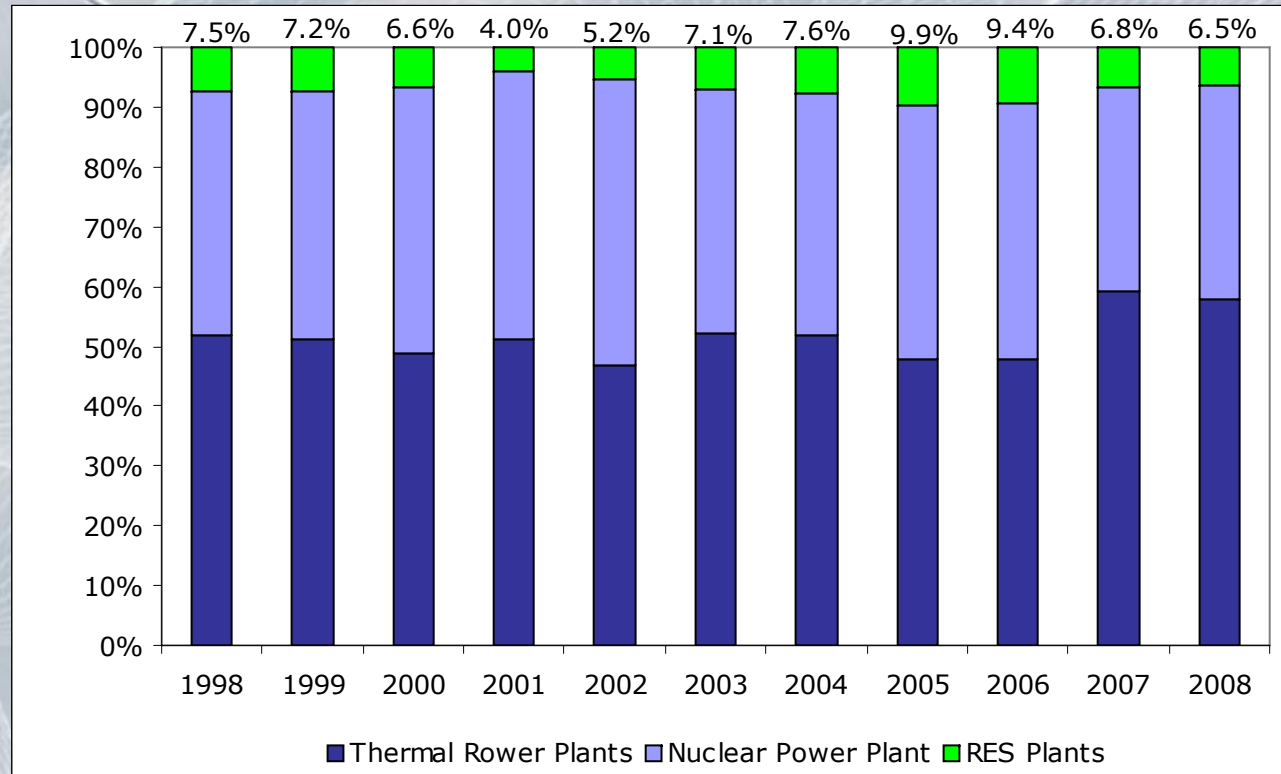
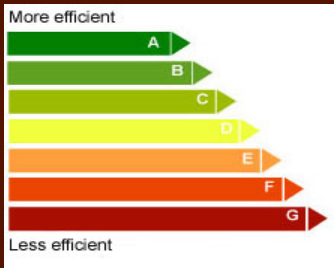
GROSS INLAND CONSUMPTION OF RES, 2007



Share of RES in gross inland consumption – 5,1 %
Share of RES in final energy consumption – 8,1 %

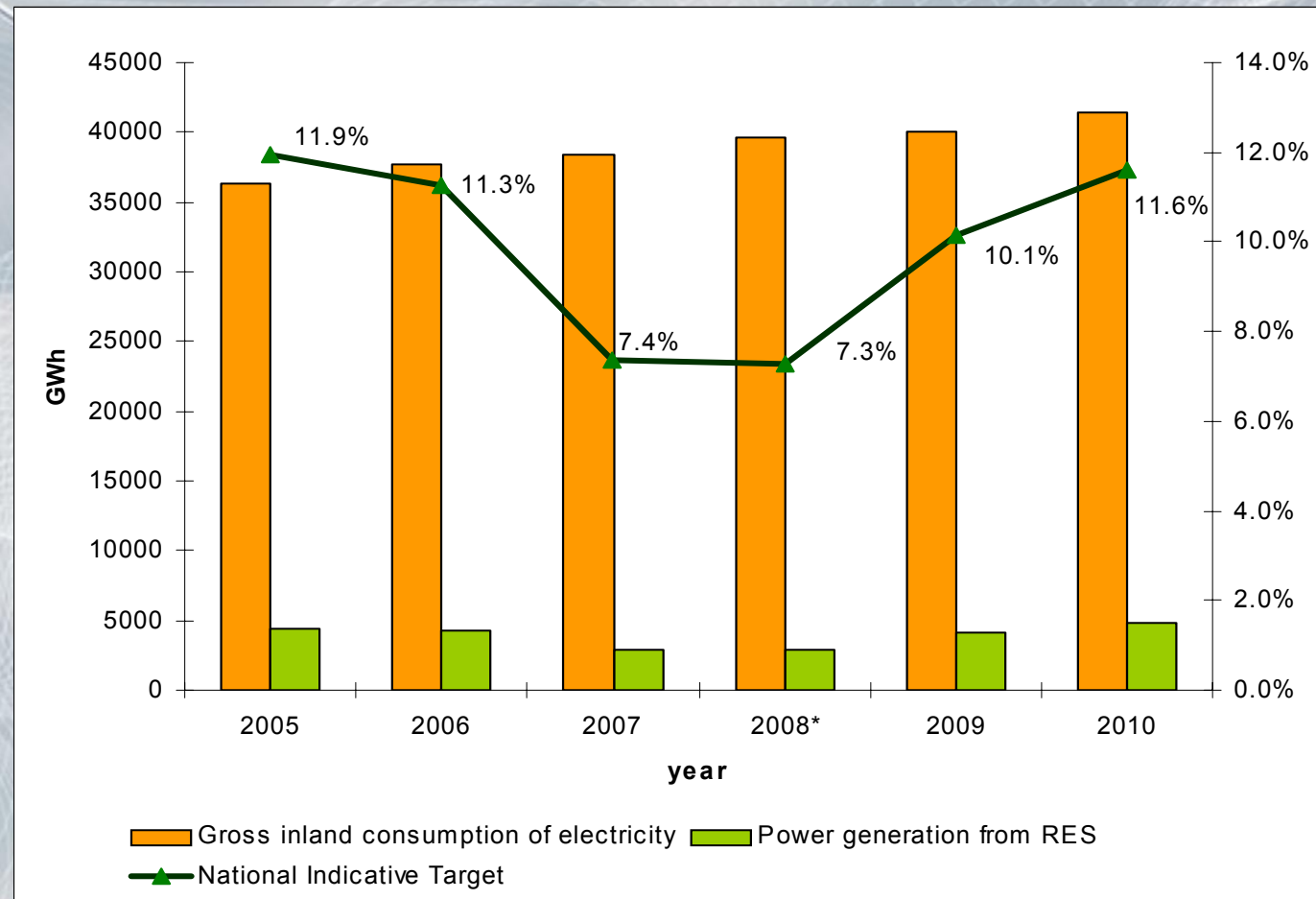
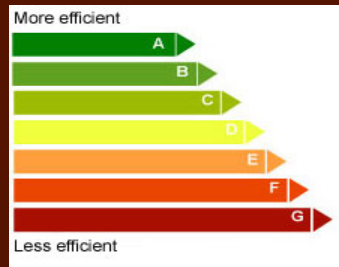
Source: Energy Balances, Bulgarian National Statistical Institute

STRUCTURE OF POWER GENERATION IN BULGARIA

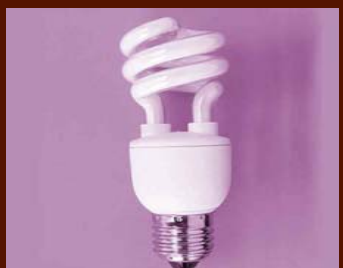
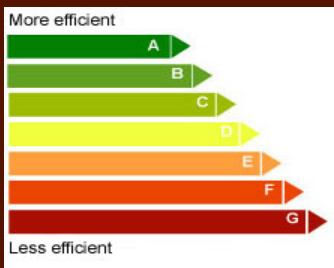


Source: Energy Balances, Bulgarian National Statistical Institute - 1998-2007, Ministry of Economy, Energy and Tourism - 2008

IMPLEMENTATION OF THE NATIONAL INDICATIVE TARGET FOR 2010



The national indicative target for Bulgaria for 2010 is an 11% share of electricity produced from RES in gross national electricity consumption.



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Thank you for your attention!

Aleksandrina Dimitrova
Head of Department Renewable Energy Sources
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