



ENERGY OF THE CZECH REPUBLIC IN THE EUROPEAN UNION

Ministry of Industry and Trade

**Publikace je určena pro poradenskou činnost a je zpracována v rámci
Státního programu na podporu úspor energie
a využití obnovitelných zdrojů energie pro rok 2007 – část A**

THE ENERGY SECTOR OF THE CZECH REPUBLIC

The Czech Republic is a landlocked country situated in central Europe, sharing borders with Germany, Poland, Slovakia and Austria. The total area of the state is 78 900 square kilometres and population is roughly 10.2 million inhabitants. The capital of state is Prague having 1.2 mil. people. The country is divided into 14 regions. The climate is temperate, but in the last period there are many days in summer with extremely high temperatures.

The period since 1989 was characterized by significant social, industrial and ownership changes and separation of the former Czechoslovakia in 1993. The Czech Republic joined the European Union in May 2004 and made a great effort to meet major reforms and adopt „*acquis communautaire*“. The share of the industry was reduced, but CR belongs still among countries with high scope of industry. New industrial plants were built (car making, electronics, machinery) and other branches were phased out (coal mining, steel production and foundries). Privatisation brought a strong participation of RWE, E.ON, Dalkia and other western companies. At the beginning of the period the economic growth was rather slow but recently turned and became robust.

Total primary energy supply (TPES) reached a level of 1850 PJ in 2005. The structure of TPES has been slightly changing over the period in favour of nuclear power at the expense of coal. The energy intensity is now almost stabilized at the level 11.5 MJ/ (with very slight drop now after a period of sharp decrease between 1995-1999). The Czech energy sector is divided into branches according to primary source of energy.

The only significant domestic source of energy is coal, both brown and hard. **Coal industry** was historically the most important branch. Current coal output accounts for 50 mil. t of brown coal and 15 mil. t of hard coal. Coal represents still 47% of the total primary energy supply. Main coal basins are located in northern Bohemia and in northern Moravia. Significant part of the hard (coking) coal is exported. Coal has been mainly burned in coal-fired power stations, heat only plants, combined cycle plants. Coke is produced from hard coal. There are no subsidies in the mining sector and no price regulation.

The power sector production is based on coal, nuclear energy (Dukovany and Temelin plants), hydro potential (river hydro and pumped plants) and negligibly on other RES. The largest domestic power producer ČEZ a.s. keeps roughly 50% of the market share. Gross electricity generation was 83 TWh in 2005. Transmission of

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electricity is in hands of the state owned company ČEPS a.s. Distribution grids belong to main suppliers. The full opening the power market was introduced in 2005 based on EU directives. ČEZ is the second largest power exporter in Europe.

Gas sector represents import, transport and distribution of the natural gas being imported from Russia and Norway on the basis of long-term contracts through pipelines (i.e. 18% of TPES). The main gas companies (transportation, distribution, storages) are owned by RWE. Full opening of gas market started in January 2007. The stability of the gas system is underpinned by underground gas storages (2.3 bcm)-partly in hands of private firm which produces 1% of gas supply from south Moravian gas reserves.

The oil sector reprocesses and delivers 20% of TPES. The major part of oil is imported from Russia (Druzhba pipeline) and the rest from various suppliers through IKL pipeline. State firm MERO owns both pipelines. Domestic production of high grade oil for special purposes oscillates round 300 000 t/a. Major refineries have been privatised in 2004 and bought by Polish PKN Orlen with minority shares of Shell, Conoco and Agip. Oil and products prices are based on global oil market. Numerous Czech distributors and European OMV, Agip, Slovnaft perform distribution of liquid fuels. The network of pipelines for products is managed by Czech ČEPRO, state company. Emergency oil reserves in total amount of 90 days of annual oil import are administrated by state agency ASMR according to the national law and in compliance with EU and IEA requirements.

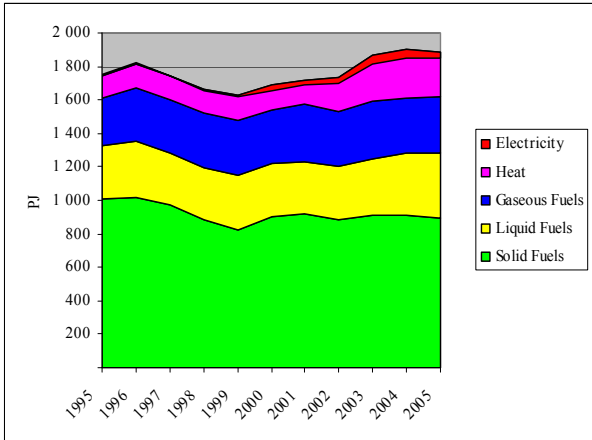
The share of **energy from renewables** (RES) is low, reflects the realistic potential and represents 3% in TPES. The share of electricity produced from RES reached in 2005 almost 4%. A certain progress in RES utilization is expected in biomass burning, wind farms and geothermal heat plants.

Czech Republic shall exert a substantial effort to comply with the Spring 2007 European Council conclusions on targets in savings, reduction of carbon emissions, share of RES and biofuels.

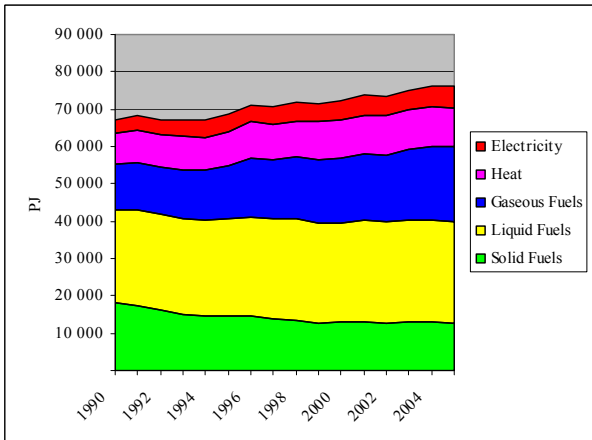
The Czech energy policy has been adopted by the government in 2004 and made projections of supply and demand in various scenarios for the period of next 30 years. The major **energy legislation** has been comprised in the Energy Act No. 670/2004. Coll., Energy Management Act No. 406/2000 Coll. and Act on renewable energy No. 180/2005 Coll.

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Total Primary Energy Sources – Czech Republic

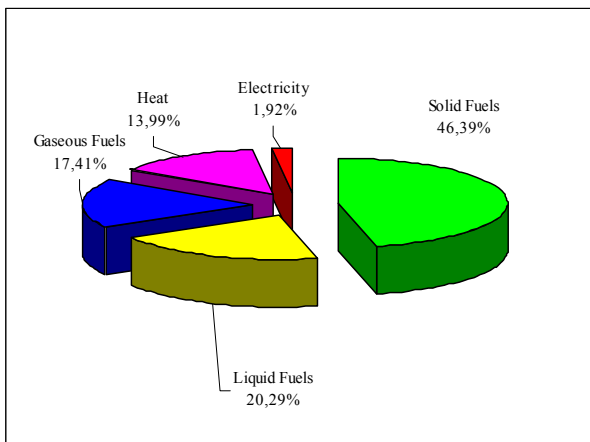


Total Primary Energy Sources – EU 25

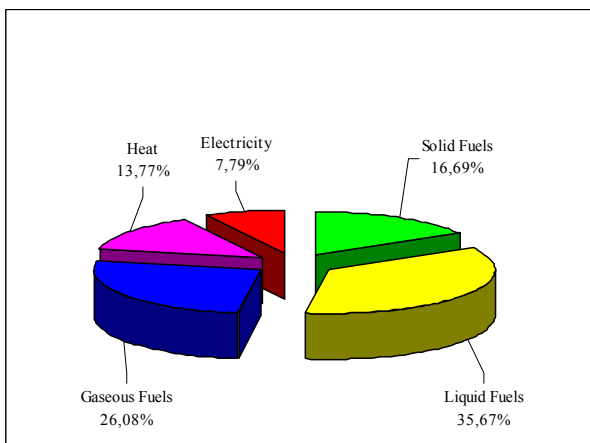


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Total Primary Energy Sources – Czech Republic 2005

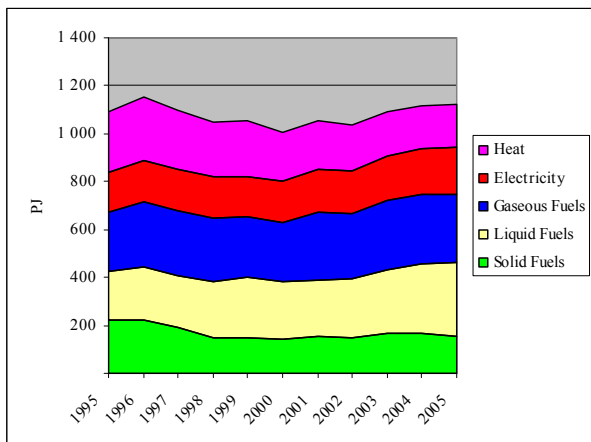


Total Primary Energy Sources – EU 25 2005

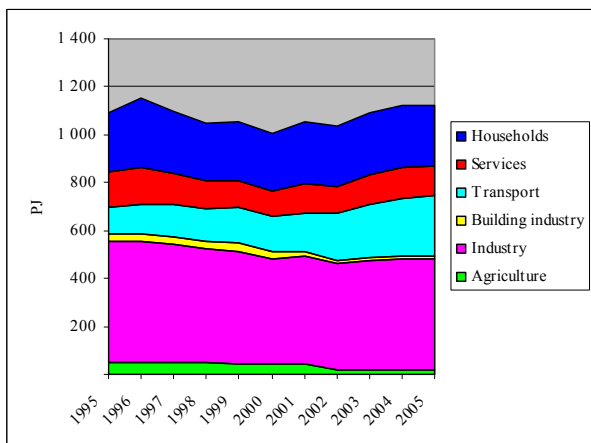


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Total Final Energy Consumption – Czech Republic 1995-2005

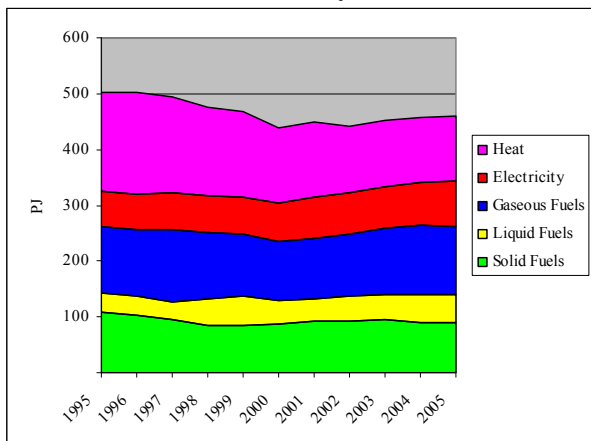


Total Final Energy Consumption – Czech Republic 1995-2005

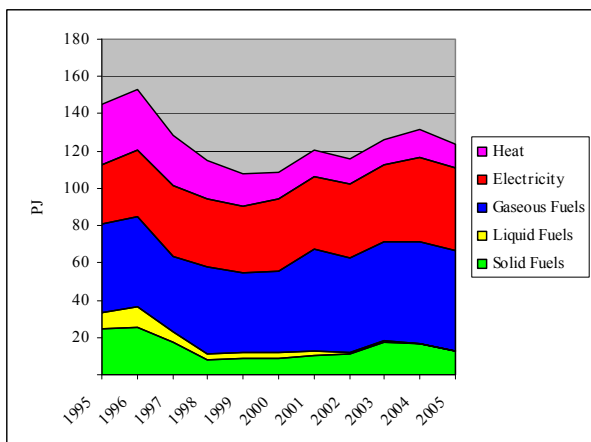


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Total Final Energy Consumption – Czech Republic - Industry

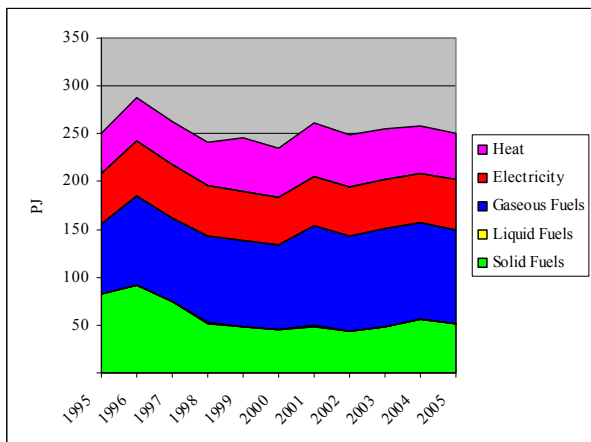


Total Final Energy Consumption – Czech Republic - Services

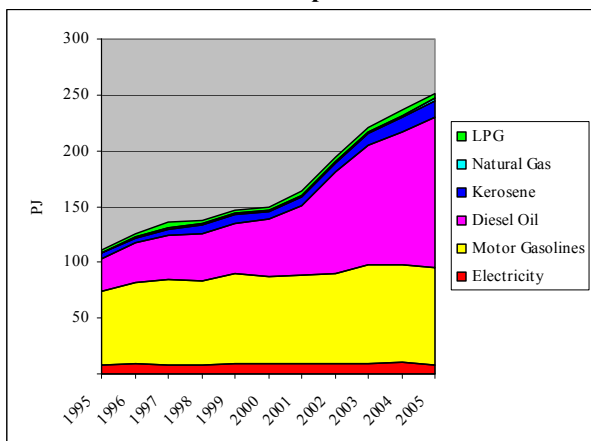


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Total Final Energy Consumption – Czech Republic - Households

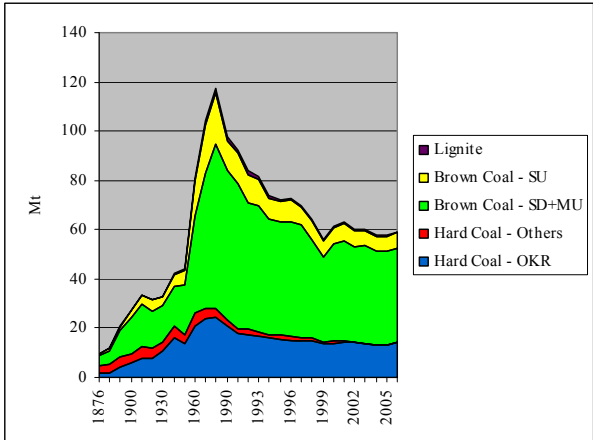


Total Final Energy Consumption – Czech Republic - Transport

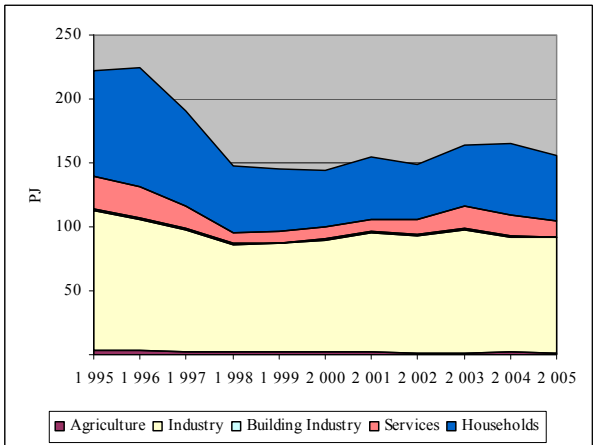


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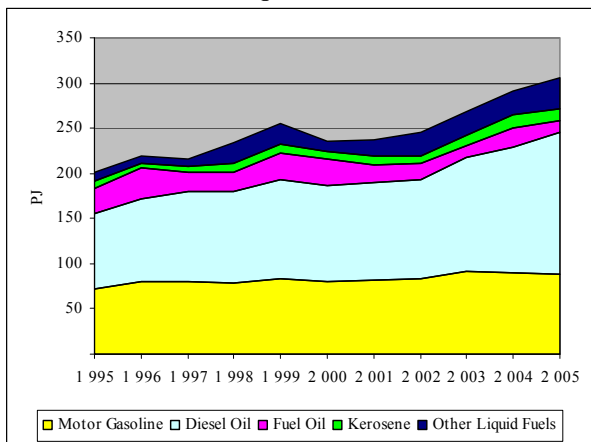
Coal Production – Czech Republic



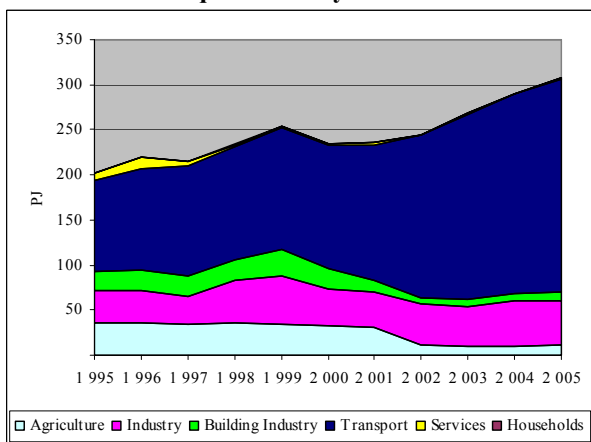
Total Final Energy Consumption – Czech Republic Solid Fuels by Sectors



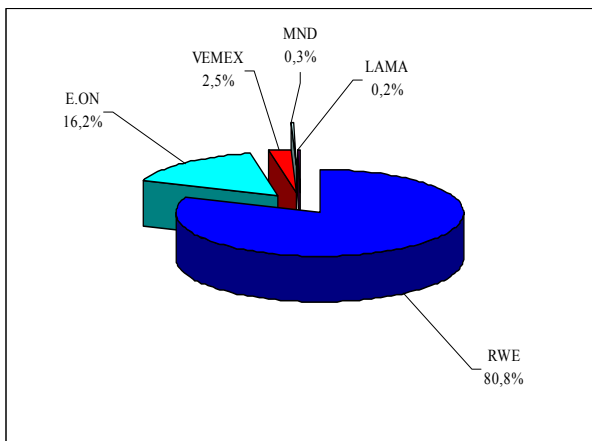
**Total Final Energy Consumption – Czech Republic
Liquid Fuels**



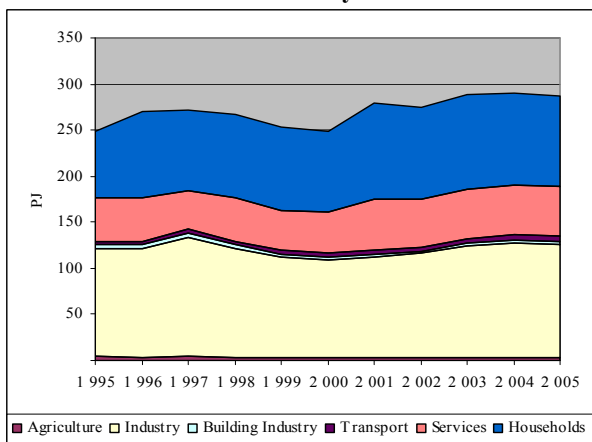
**Total Final Energy Consumption – Czech Republic
Liquid Fuels by Sectors**



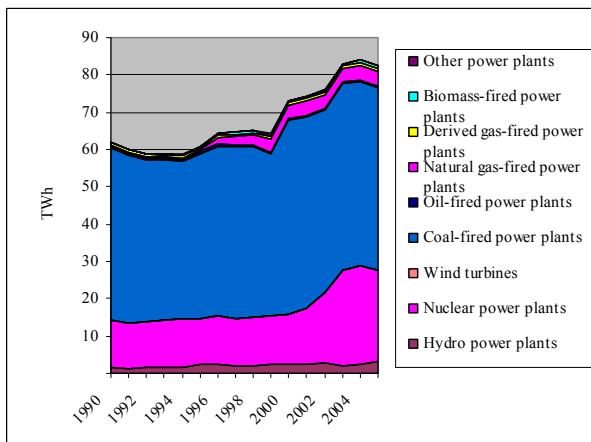
Gas Market in the Czech Republic (20.5.2007)



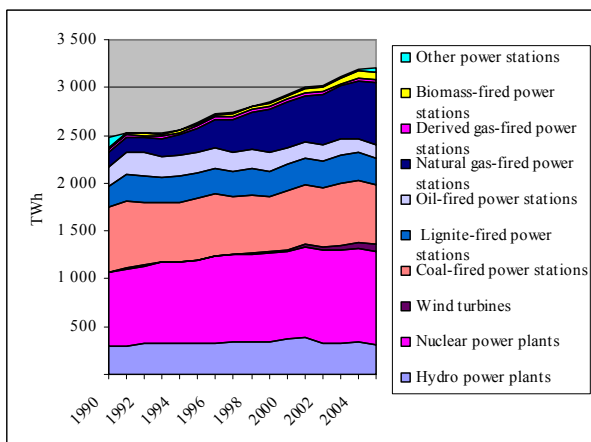
**Total Final Energy Consumption – Czech Republic
Gaseous Fuels by Sectors**



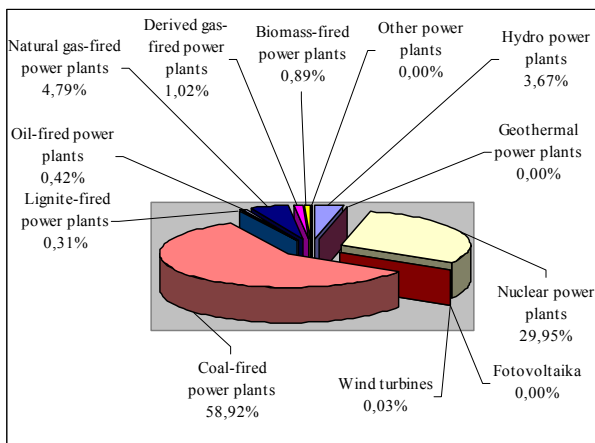
Gross Electricity Generation - Czech Republic



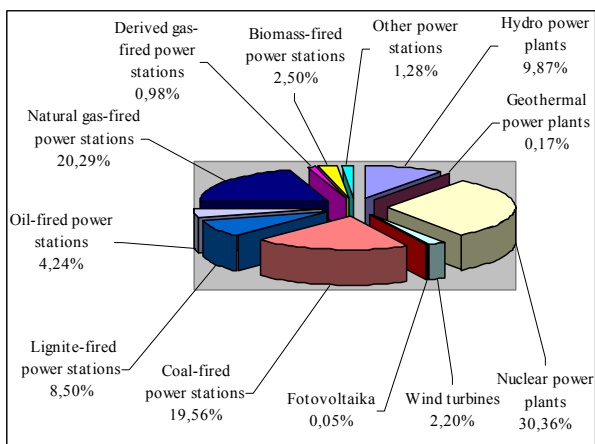
Gross Electricity Generation – EU 25



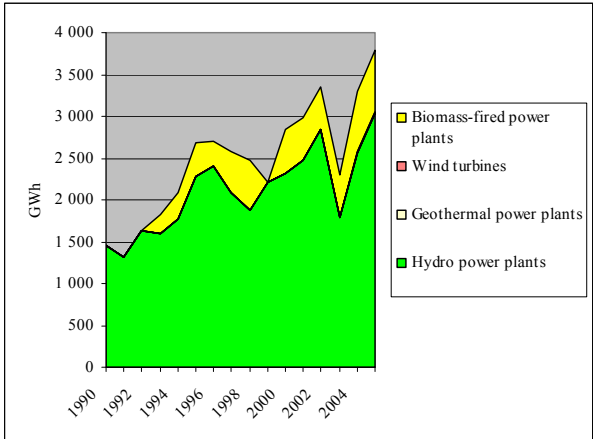
Gross Electricity Generation - Czech Republic



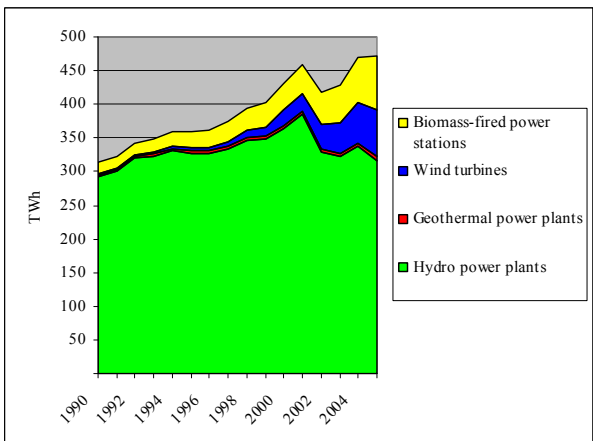
Gross Electricity Generation – EU 25



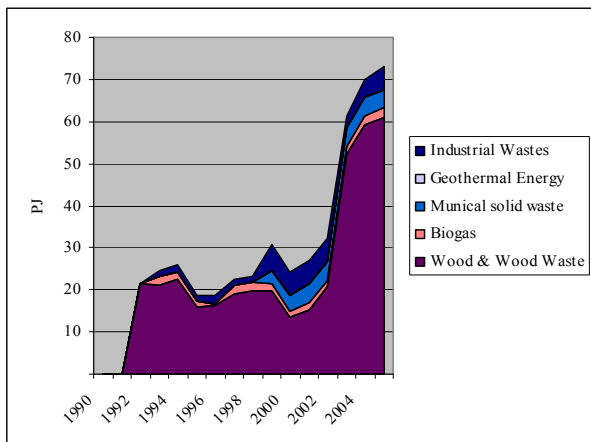
**Gross Electricity Generation from Renewables
Czech Republic**



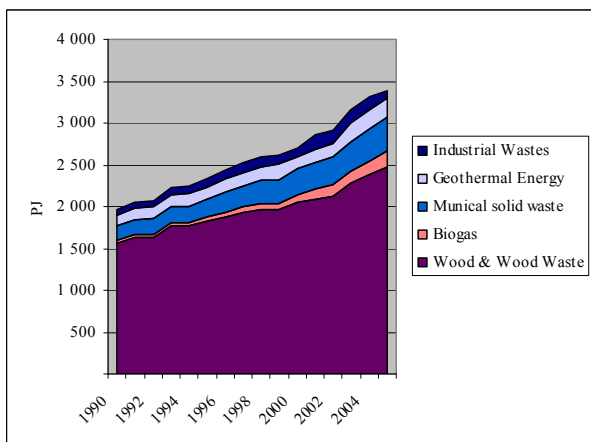
**Gross Electricity Generation from Renewables
EU 25**



Renewable Energy in the Czech Republic

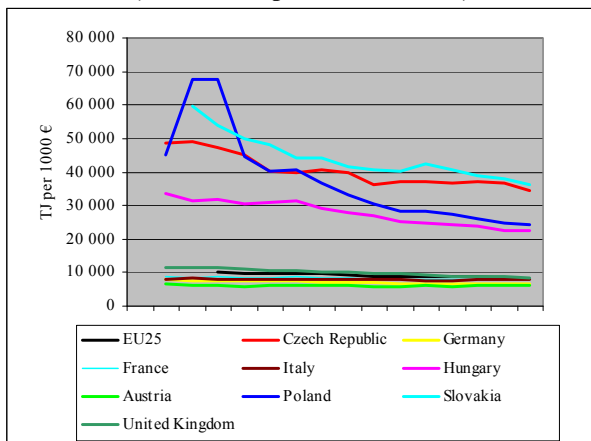


Renewable Energy in the EU 25

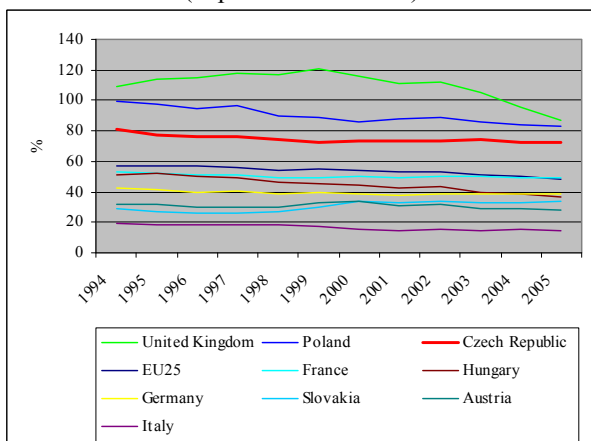


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Energy intensity of the economy - Gross inland consumption of energy divided by GDP (at constant prices, 1995=100)

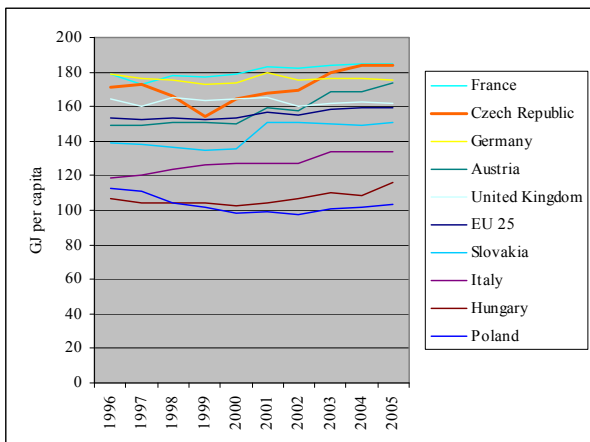


Energy Independence (export – over 100 %)

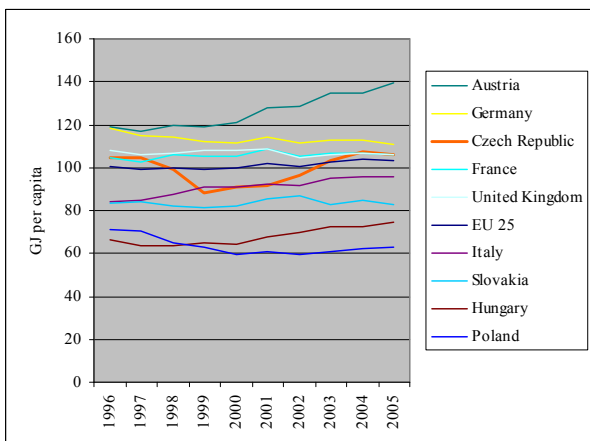


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Gross Inland Consumption (per capita) 1996-2005

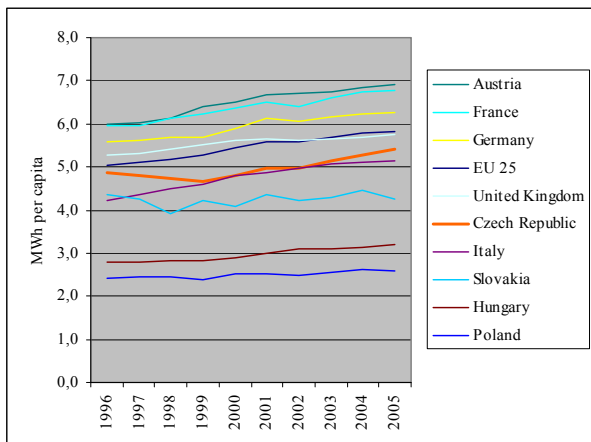


Final Energy Consumption (per capita) 1996-2005

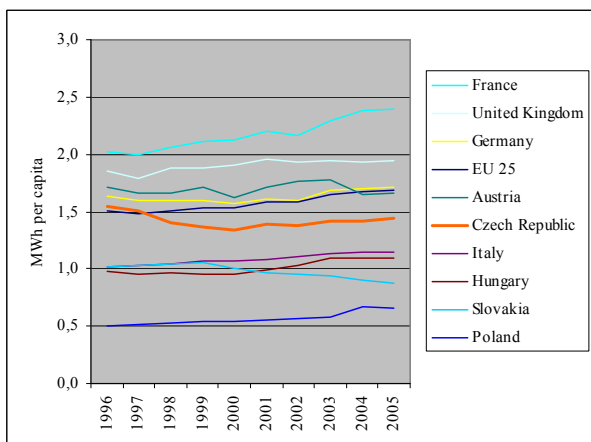


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Final Electricity Consumption (per capita) 1996-2005

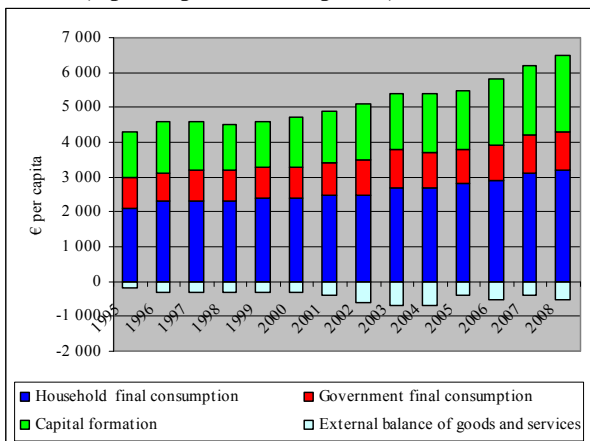


Final Electricity Consumption (per capita) Households 1996-2005

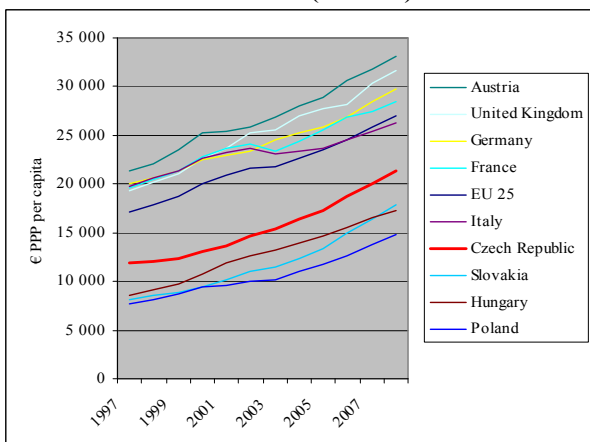


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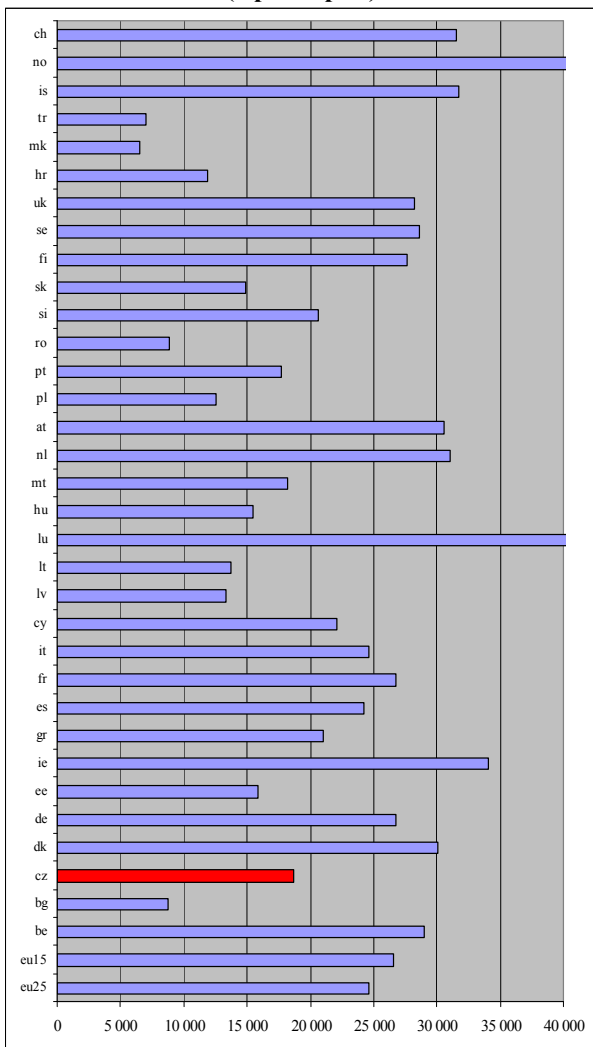
GDP at market prices in the Czech Republic (€ per capita at 1995 prices) 1995-2005



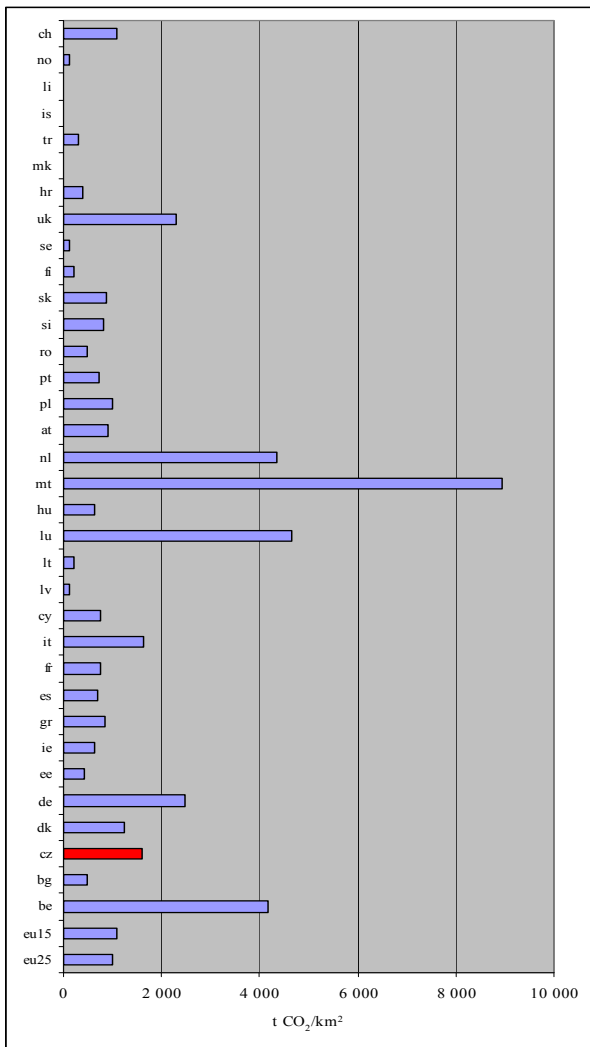
GDP (PPP) 1997-2007 (outlook)



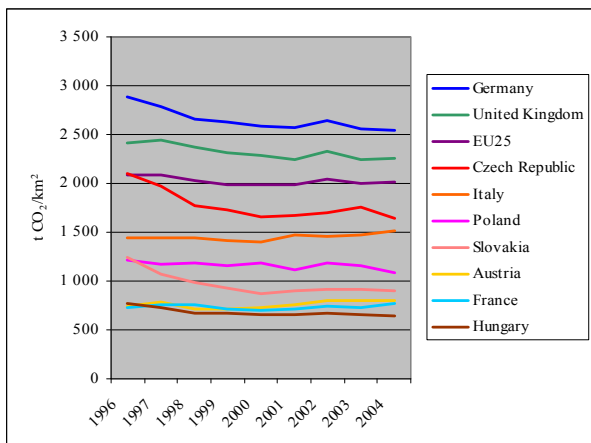
GDP (PPP) 2006
(€ per capita)



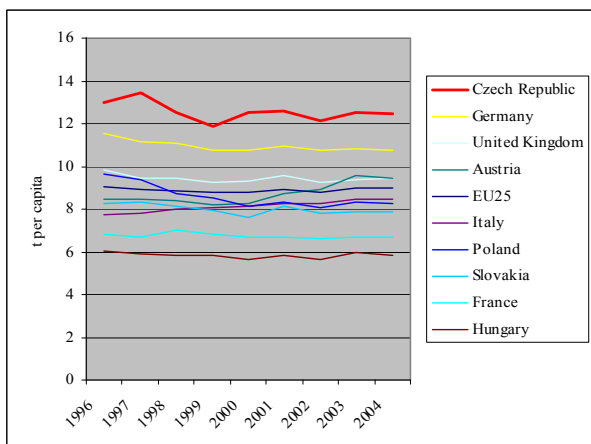
CO₂ Emissions
t CO₂/km²



CO₂ Emissions
1996-2005

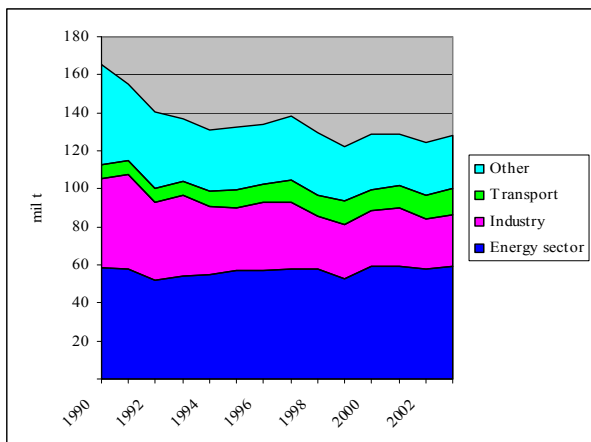


CO₂ Emissions
1996-2005

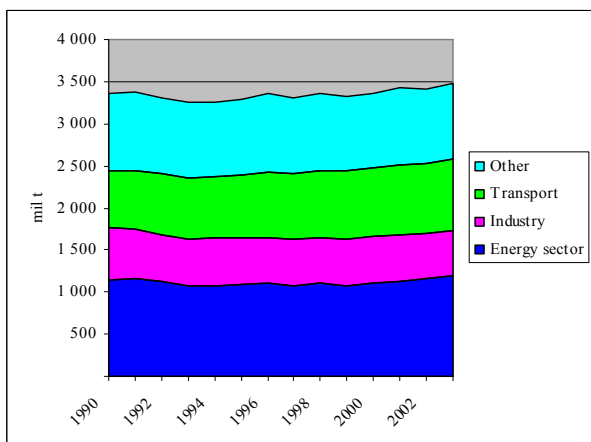


ENERGY OF THE CZECH REPUBLIC

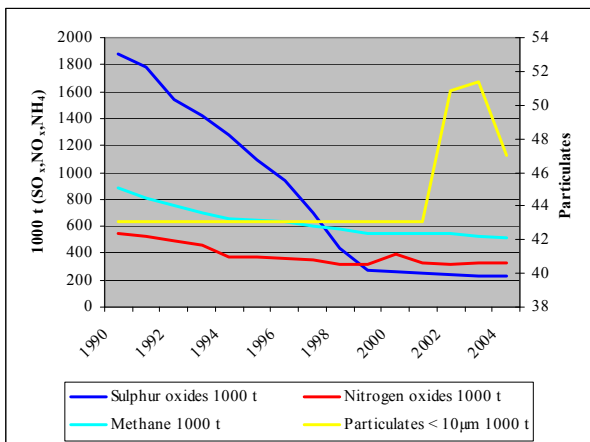
Emissions CO₂ by Sectors in the Czech Republic 1990-2005



Emissions CO₂ by Sectors in the EU 25 1990-2005



Other Emissions in the Czech Republic
1990-2005



Other Emissions in the EU 25
1990-2005

