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KEY MESSAGES

A natural greenhouse effect is a positive phenomenon, essential to the existence of life on Earth.

GHG emissions in the Czech Republic, including LULUCF slumps, expressed as the carbon dioxide equivalent (CO₂ eq.) reached 144.8 million tonnes in 2006, i.e. a 23.9% decrease compared to the reference year of 1990.

The Czech Republic's commitment stipulated in the Kyoto Protocol for the 2008–2012 control period (decreasing total greenhouse gases emissions by 8% compared to 1990) will certainly be achieved.

The Czech Republic continues to have problems with high specific GHG emissions expressed in tonnes of CO₂ eq. per capita. Even though these emissions have significantly dropped since 1990, the current value of 14.5 tonnes of CO₂ eq. per capita is roughly 40% higher than the EU average.

Total GHG emissions in the Czech Republic has been stagnating; growing road motor transportation emissions that have increased by 191% since 1990 are problematic. The proportion of motor road transportation in greenhouse gases emissions increased from 3.1% in 1990 to 12.0% in 2006 (an average annual increase by 0.5%).



REFERENCES AND OTHER INFORMATION

- ☉ Climate change
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<http://www.chmu.cz/klim-zmena.pdf>
<http://www.chmi.cz/cc/start.html>
- ☉ European Environment Agency
<http://www.eea.europa.eu/themes/climate>
- ☉ Climate change and the emissions trade
Ministry of the Environment
<http://www.mzp.cz/AIS/web.nsf/pages/klima>
- ☉ The National Inventory System of Greenhouse Gases and the Climate Change Issue
Czech Hydrometeorological Institute
<http://www.chmi.cz/cc>
- ☉ The National Climate Programme of the Czech Republic
Czech Hydrometeorological Institute
<http://www.chmi.cz/nkp/nkp.html>
- ☉ The United Nations Framework Convention on Climate Change and the Kyoto Protocol
<http://unfccc.int>
- ☉ Intergovernmental Panel on Climate Change (IPCC)
<http://www.ipcc.ch>
<http://www.chmi.cz/cc/ipcc.html>



Climate Change



THE ENVIRONMENT OF THE CZECH REPUBLIC



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CZECH REPUBLIC



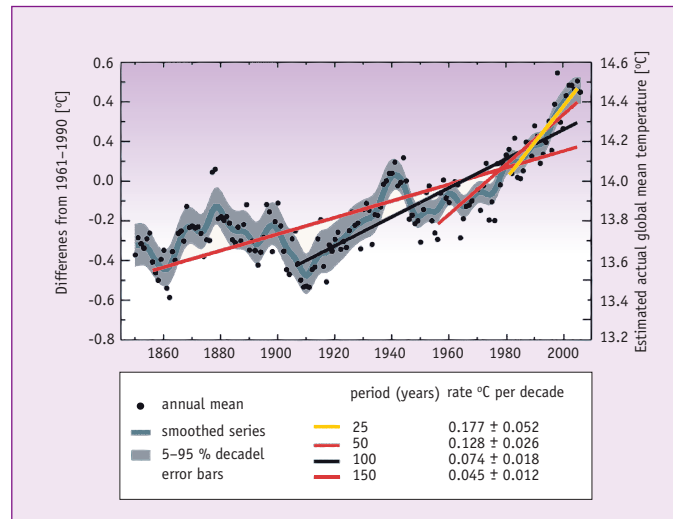
THE ENHANCEMENT OF THE NATURAL GREENHOUSE EFFECT AND ITS CONSEQUENCES

The production of anthropogenic greenhouse gases affects the energy balance of the climate system on Earth and enhances the greenhouse effect. The consequence of the process is a climate-wide temperature increase that is not evenly manifested on the planet. The global temperature has grown by 0.74 °C over the last hundred years and it can be expected to grow by additional 0.2 °C over the next 10 years. Temperature changes are manifested by different routines and intensity of circulation and by more frequent dangerous weather phenomena in central Europe (high temperatures, intense precipitation, drought periods, hail, strong winds, etc.).

In the Czech Republic, research into the climate change impact is carried out mainly by the National Climate Programme of the Czech Republic, founded in 2001. The foundation's impact estimates are calculations of changes for selected climate features (e.g. temperature and humidity, precipitation, wind speed and global radiation).

Changes in the mean global temperature over the last 150 years [°C]

Source: IPCC



MEASURES TO DECREASE GHG EMISSIONS

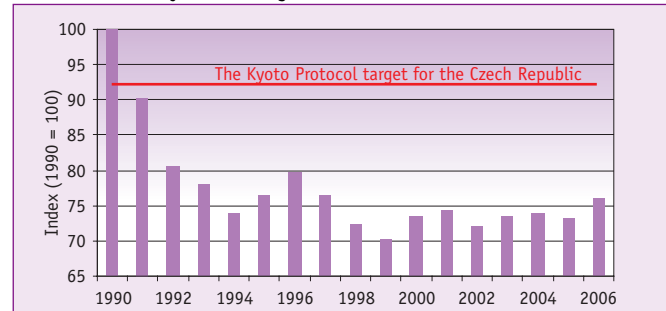
GHG emissions are monitored by the United Nations Framework Convention on Climate Change and the Kyoto Protocol pursuant to Decision No. 280/2004/EC of the European Parliament and the Council.

THE DEVELOPMENT OF GREENHOUSE GASES EMISSIONS IN THE CZECH REPUBLIC

The Czech Republic agreed to reduce GHG emissions by 8% before the 2008–2012 control period compared to 1990 levels. Compared to the reference year, GHG emissions, including LULUCF slumps, have dropped by 23.9%. The commitment stipulated in the Kyoto Protocol will be certainly achieved.

The fulfilment of the Kyoto Protocol target in the Czech Republic (index, year 1990 = 100), 1990–2006

Source: Czech Hydrometeorological Institute

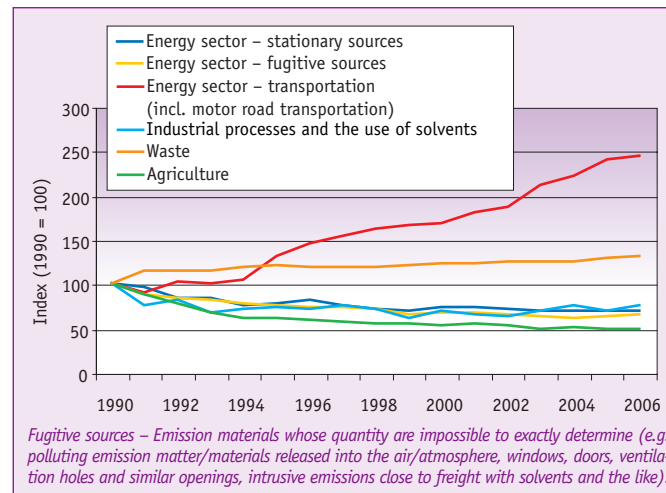


THE CURRENT PROBLEM: GHG EMISSIONS FROM TRANSPORTATION

A major reduction in greenhouse gases production in the Czech Republic occurred between 1990 and 1994. Since 1995, GHG emissions have been stagnating and since 2002 a slight increase has been reported. This is mainly caused by growing GHG emissions from motor road transportation. For most other sources, these emissions have decreased or stagnated.

The development of greenhouse gas emissions by sector in the Czech Republic (index, year 1990 = 100), 1990–2006

Source: Czech Hydrometeorological Institute



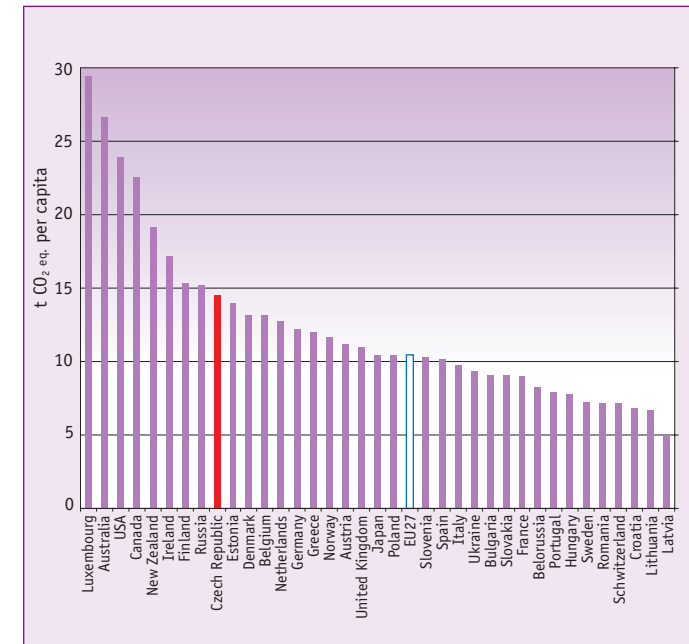
Fugitive sources – Emission materials whose quantity are impossible to exactly determine (e.g. polluting emission matter/materials released into the air/atmosphere, windows, doors, ventilation holes and similar openings, intrusive emissions close to freight with solvents and the like).

The Czech Republic is an industrial country with one of the most significant shares of energy-intensive production, a high use of solid fuels in electricity and heat generation and a relatively low share (34.8%) of nuclear power plants and RES. Thus, with 14.5 tonnes of CO₂ eq. per capita of GHG emissions, the Czech Republic is 40% above the EU average.

LULUCF – Land Use, Land-Use Change and Forestry

Specific GHG emissions per capita (excl. LULUCF) in selected countries [tonnes CO₂ eq. per capita], 2006

Source: UNFCCC, CAIT



THE ANTICIPATED IMPACT OF THE CLIMATE CHANGE IN THE CZECH REPUBLIC

As far as the water regime and water management are concerned, a decrease in snow cover and water reserves from winter snowfall and increased evaporation in summer are anticipated as a consequence of higher temperatures. Warming water and lower water flows due to increased evaporation pose a higher risk of the eutrophication of water courses. In relation to weather extremes, there will be a higher risk of floods and inundation and drought periods. Major parts of the most productive agricultural areas are much more endangered by drought. On the other hand, the anticipated increase in precipitation can cause soil erosion and a 10% increase of erosion endangered soil.

The temperature and water stresses, especially at lower and middle altitudes, will negatively impact the health condition of forests. Forests with an impaired health condition will be more prone to the activity of both biotic and abiotic agents. The climate change will affect biological diversity from individual genes to the entire landscape. The most vulnerable parts of the Czech Republic are the mountain eco-systems and eco-systems made up of the remains of grass stands. Changes will be most evident in eco-systems above the moving forest border where the vulnerability is enhanced by small areas. The main negative impacts of the climate change on human health in the Czech Republic are related to heat stress, a more frequent occurrence of Lyme disease transmitted by ticks and an earlier start of the pollen season for spring tree species that cause allergies. Changes can also be manifested in domestic tourism (e.g. less snow in winter) and energy management (e.g. the availability of energy generation in small water plants).