

Budapest, Appendix “Under 2 MOU”

The capital city of Hungary is Budapest, which has 1.7 million inhabitants, and it is divided by the Danube River. The Hungarian capital has a peculiar dual self-government system. This means that in addition to the Budapest Municipality, which serves as the local government of the City of Budapest, each of the twenty-three districts of Budapest has their own government, i. e. district governments.

Energy consumption and greenhouse gas emission are concentrated in the cities, therefore cities have a crucial role in inducing climate change. The negative effects of climate change are more intense in cities, thus influencing the everyday life of residents. One of the major challenges nowadays is the mitigation and the adaptation to the negative effects of climate change. The Hungarian carbon dioxide emission per capita is considerably lower compared to the EU countries' average emission per capita; however, regarding climate change mitigation, further greenhouse gas reduction is required in the capital city and in Hungary, as well.

Emission Targets

Budapest undertook several commitments relating to the reduction of carbon dioxide emission by agreeing to reduce CO₂ emission by 21% by 2020 compared to 2005 as the base year.

Considering the downwards trend of carbon dioxide emission in Budapest in the recent years, the Municipality of Budapest is committed to achieve a per capita annual GHG emission goal of less than 2 metric tons by 2050. According to the Sustainable Energy Action Plan of the capital city, the CO₂ emission was 6.0 tons/capita in 2005, but this value was successfully reduced to 5.0 tons/capita in 2013. Assuming a constant population number (~ 1.7 million inhabitants), Budapest has to reduce the GHG emission to 3.4 million tons. In order to achieve these emission reduction targets, measures and action programmes are implemented by Budapest.

The baseline emission inventory was prepared for 2005 as the base year and a monitoring status inventory was also prepared in which the changes until 2010 were also taken into account. Following this, the strategic planning process began. The necessary and potential interventions were defined by taking into account the proposed measures of the urban environmental programme and their CO₂ emission impacts. The implementation process of the strategy, developments and action programmes relating to the Action Plan 2020 are carried out and controlled through regular monitoring. The results must be supervised by the Municipality of Budapest biannually until 2020, in accordance with the originally adopted strategy.

As a result of the CO₂ emission related to the final energy consumption of Budapest in 2013 (8,678,048 tons of CO₂ emission), 5.0 tons of CO₂ relates to one resident, which reflects a gradually declining trend since 2005. In view of the 2005 annual base figure and the emission reduction target of at least 21% CO₂ set for 2020, the change reflects the commitments. The CO₂ emission in 2013 corresponds with an approximate of 15% reduction.

The Municipality of Budapest has significant programmes that help to reduce the greenhouse gas emission.

Profile:

Population: 1.7 million (2013)

Gross Domestic Product: 11,372,362 million HUF, 37,908 million EUR (2013)

Country: Hungary

Annual carbon dioxide emissions:

Budapest CO₂ emission	2005	2013	2020 (target)	2050 (target)
Total CO ₂ emission (tons)	10,237,178	8,678,048	8,087,000*	3,400,000*
CO ₂ emission per capita (tons/capita)	6.0	5.0	4.8	2.0

Tools:

Energy supply and energy consumption

The emission of greenhouse gases relates to the energy consumption and is also responsible for climate change.

Basically, two types of tools are available to achieve the emission reduction targets of the buildings' energy consumption: on the one hand, reduction of energy consumption, on the other hand, increasing the ratio of renewable energy.

The rehabilitation of the existing building stock has a significant energy reduction potential in Budapest. Furthermore, the minimization of energy consumption in the newly-built houses is a major goal nowadays, thus avoiding the environmental pressures on the energy production side.

By continuing the implementation of energy efficiency measures, especially by reducing residential natural gas consumption for heating purposes (26% of energy, which is 17% of CO₂) making up the most significant part, the emission can be reduced to a great extent. Increasing the share of renewable energy resources in local energy production equipment is another objective in favour of the reduction of fossil energy consumption (24% of energy, which is 45% of CO₂).

Transportation

Nowadays city life is highly determined by the means of transport the residents use. The emission of vehicles is one of the main problems of traffic; however, it is impossible to imagine a city without buses and cars. In addition to buildings' emission, the transportation sector also significantly contributes to energy consumption and GHG emission.

The energy consumption of the transportation in Budapest in 2013 generated 18% of all CO₂ emissions, including 3.0% contribution of the public transport – taking into account the electric vehicles (1.6%) and the municipal vehicles, as well.

The aim of the Municipality of Budapest is to further continue the environmentally friendly developments in the transportation sector, including the modernization of the public vehicle fleet, the establishment of P+R parking lots, the refurbishment of the cycling and the tram transport and the establishment of new tramlines. Besides traditional fuel consumption, the use of electric vehicles has begun to spread. Currently, the electric charging stations are becoming widespread throughout Budapest, thus helping to increase the proportion of the zero-emission vehicles.

Waste management

Waste management in Budapest is developing dynamically: owing to the incinerator, the majority of municipal waste is used for energy purposes and a selective waste collection system has also been widely introduced, as a result of which less waste is deposited.

Door-to-door selective waste collection has been introduced in households on the whole territory of the city, in relation to which the Municipality of Budapest has begun to enhance its own selective waste selection and treatment (recycling) capacities (vehicle purchase, construction of selection plants, extension of the composting site, etc.). Therefore, the ratio of recycled waste is gradually increasing.

As part of the complex waste management system, it is an important objective to decrease the proportion of landfilled biodegradable waste. Another thermo electric power plant in the suburbs could be one alternative to achieve this goal. The project for a new waste recycling and sewage sludge incineration plant is in the preparatory phase.

Waste water management

Owing to the development actions taking place in the recent years, 95% of the waste water generated in the city is led into the Danube following biological treatment. Within the framework of the Budapest Complex Integrated Sewage Project (BKISZ), 240 km of new sewage pipes are to be laid down in two years, with which the sewage coverage will soon reach 99.9%. As an overall impact, the quality of the water of the river is improving gradually.