

Air pollution load charge in Hungaryⁱ

Author: Andrea Illes (IEEP)

Brief summary of the case

Although Hungary has achieved important improvements in combatting air pollution in the last decade, it is still a major problem in many parts of the country. While the amount of emissions have decreased, this has not resulted in major improvements in air quality in general. The main problems are linked to nitrogen oxide, PM and ozone pollution. This case study focuses on emissions in the industry and power sector, however it is worth noting that the most significant emissions in Hungary arise from road transport and the residential heating sector.

An air pollution load charge was introduced in 2003 and applies to emissions of nitrogen oxides, sulphur dioxides and non-toxic dust. The charge is based on Act LXXXIX of 2003 on environmental load charges which also introduced charges on water pollution and soil pollution load. In 2015, revenues of the three environmental load charges (on air, water and soil) were HUF 5.560 billion (approximately EUR 17.7 million). There is no publicly accessible information on the specific revenues from the air pollution load charge, revenues are not earmarked and go to the general State budget.

There is limited information available on the air pollution load charge and no evaluations have been undertaken to date on the effectiveness of the charge. The NGO Clean Air Action Group (*Levegő Munkacsoport*) seems to have played a key role in the introduction of the charge and supported the then Ministry of Environment (now part of the Ministry of Agriculture) in the development of the instrument.

1 Description of the design, scope and effectiveness of the instrument

1.1 Design of the instrument

Hungary introduced an air pollution load charge in 2003. The legal base of the charge is laid down in the Act LXXXIX of 2003 on environmental load charges [2003. évi LXXXIX. Törvény a környezetterhelési díjról] which covers the key requirements of the air pollution load charge, the water pollution load charge and the soil pollution load charge. The main objective of the act is to protect the environment, to reduce the pressure on it, to incentivise environmental-friendly behaviours and to raise revenues for environmental and nature protection.

The air pollution load charge taxes emissions of nitrogen oxides, sulphur dioxides and non-toxic dust. The tax rates are calculated as follows:

$$\text{LTD (HUF/year)} = (\text{Mi [kg/year]} \times \text{Pi [Ft/HUF]})$$

Where

LTD: is the charge to be paid annually

Mi: is the yearly amount of the pollutant

Pi: is the flat rate of the specific pollutant, which is HUF 50/kg (EUR 0.16/kg) for SO₂, HUF 120/kg (EUR 0.38/kg) for NO_x and HUF 30/kg (EUR 0.09/kg) for non-toxic dust

A phased introduction of the rates was applied. Emitters were required to initially pay 40% of the charges in 2004, 75%, 90% and 100% in 2006, 2007 and 2008, respectively. The rates have not been increased since 2008 (Email exchange with Ministry of Agriculture 2016).

The charge is paid by point-source emitters, mainly in the industry and power sector. Exemptions are applied to domestic emitters, district heating suppliers and to all emitters in emergency situations.

1.2 Drivers and barriers of the instrument

The NGO Clean Air Action Group [*Levegő Munkacsoport*] seems to have been a key driver in the introduction of the air pollution load charge, initiating the discussion with the then Ministry of the Environment and participating in many forums to express their views of the benefits of such charges (Interview with Mr. Lukács 2016).

According to Mr. Lukács, Director of the NGO, one of the main barriers to the introduction of the air pollution load charge was resistance by the industry and power sector which argued that such a charge would be too costly and would have negative economic impacts on the sector (Interview with Mr. Lukács 2016). In order to overcome these concerns the government organised multiple discussion platforms before the introduction of the charge.

1.3 Revenue collection and use

In 2015, total revenues from the three environmental load charges on air, water and soil amounted to HUF 5.560 billion (approximately EUR 17.7 million)¹ (KSH 2016). No information is publicly available by the Central Statistical Office on the breakdown of these revenues, i.e. how much was raised solely by the air pollution load charge.

While the Act LXXXIX of 2003 on environmental load charges indicates that one of its objectives is to raise revenues for environmental and nature protection, the Fourth National Environmental Protection Programme of Hungary, which establishes a national environmental strategy for the period 2014-2019, notes that in many cases revenues of environmental taxes are not ring-fenced to environmental protection actions (Ministry of Agriculture 2015). This is also the case for the air pollution load charge with revenues going to the general State budget and revenue collection is done by the National Tax and Customs Administration (Email exchange with Ministry of Agriculture 2016).

1.4 Environmental impacts and effectiveness

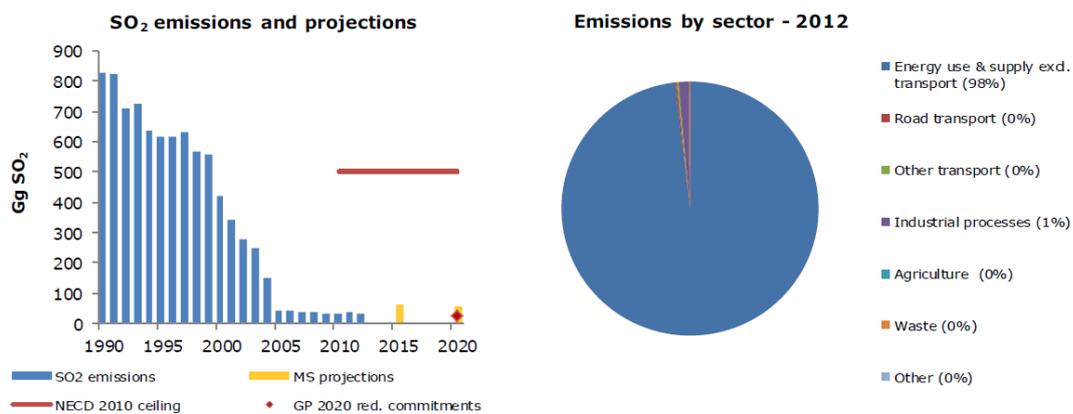
The charge was expected to provide an incentive to emitters to install abatement technologies and therefore improve local air quality (*Levegő Munkacsoport* 2003). The Clean

¹ Exchange rate in December 2015: 1 EUR=314 HUF

Air Action Group has repeatedly asked the Ministry of Environment to undertake an evaluation of the charge (Interview with Mr. Lukács), however no evaluation has been undertaken to date. As there is no information available on the effectiveness of the charge², this section sets out some general trends in air pollution in Hungary.

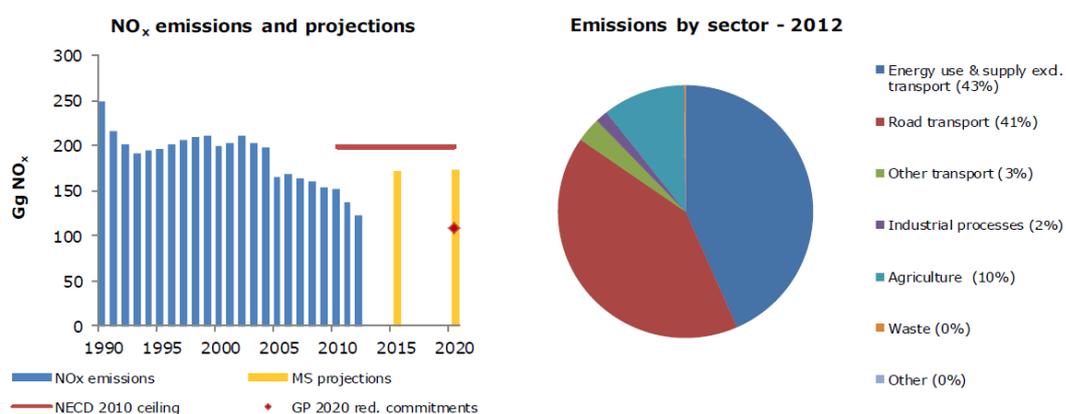
Although Hungary has achieved important improvements in combatting air pollution in the last decade, it is still a major problem in many parts of the country in particular as regards emissions of NO_x, PM and ozone pollution. In contrast, as a result of the improvements of the power sector and the quality of fuels, sulphur dioxide is no longer a major concern (see Figure 1).

Figure 1: SO₂ emissions and projections and the share of emissions by sectors in 2012 (EEA 2014, p.7)



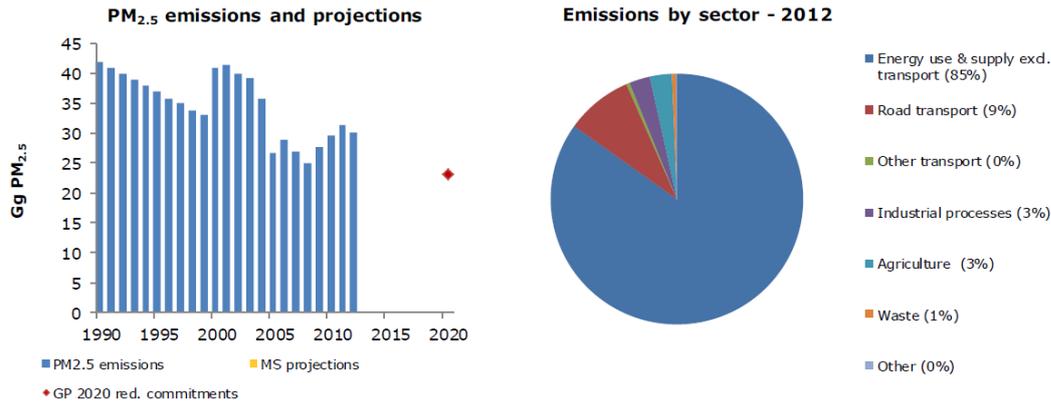
While NO_x emissions have been also decreasing in recent years (see Figure 2) PM emissions show a more mixed picture (see Figure 3). Compared to SO₂ and PM emissions, a large share (41%) of NO_x emissions arise from road transport. Based on these figures, no clear conclusions can be drawn on the role of the air pollution load charge in driving these changes.

Figure 2: NO_x emissions and projections and emissions by sectors in 2012 (EEA 2014, p.6)



² Pending: to be checked with the Ministry

Figure 3: PM (2.5) emissions and projections and emissions by sectors in 2012 (EEA 2014, p.8)



1.5 Other impacts

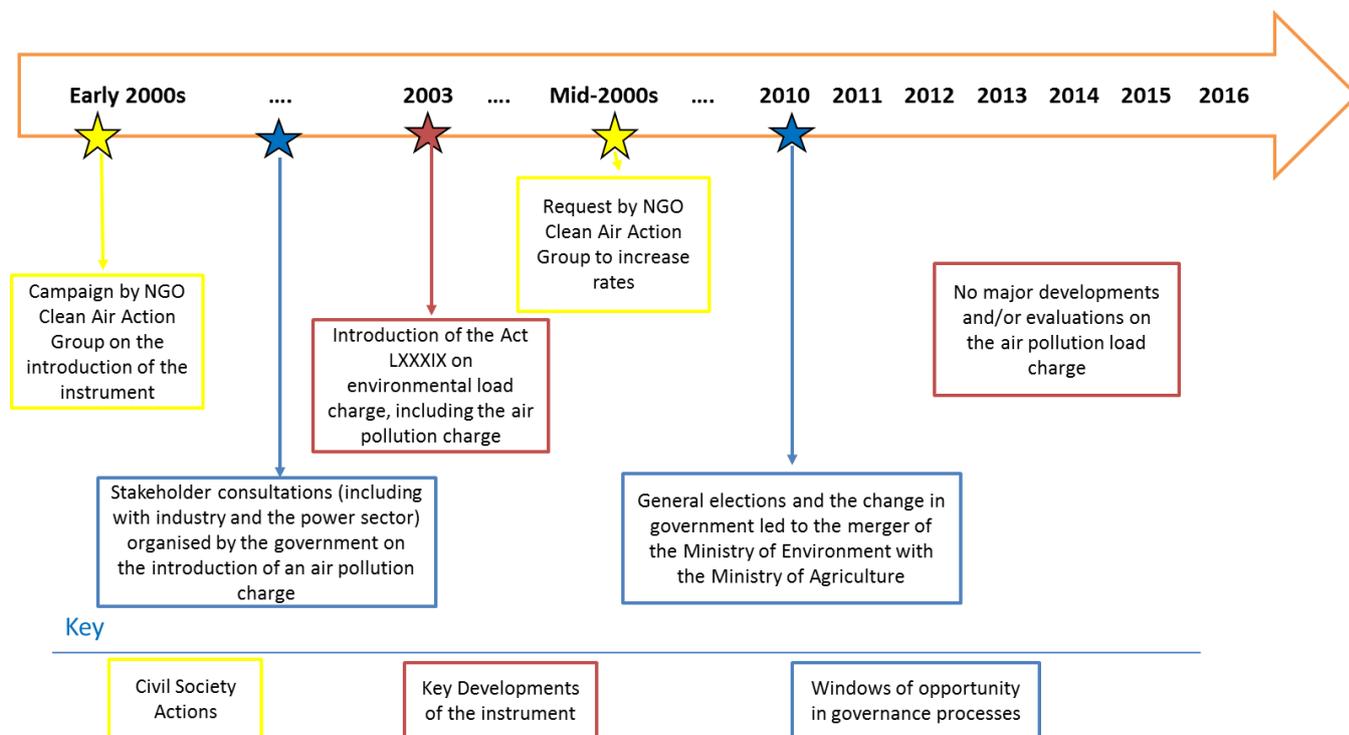
The charge is expected to have a beneficial impact on human health, nevertheless, as indicated above, the main source of air pollution in Hungary is not primarily the industry and power sector, but the transport and residential heating sectors. In addition, the charge could have had positive impacts on innovation and the use of abatement technologies (Levegő Munkacsoport 2003), however no quantified information is available on these aspects.

2 Stakeholder engagement

Figure 4 provides an overview of the key milestones in the development of the air pollution load charge in Hungary. As noted above, **the NGO Clean Air Action Group seems to have played a key role in the introduction of the charge.** The Group was very active on issues of environmental tax reform at the time and produced many reports in this topic (see for instance Levegő Munkacsoport 2003, Lukács A. and Pavics L. 2006, Lukács A., Pavics L. and Kiss K. 2008). In the early 2000s, the Group campaigned for the introduction of the air pollution load charge and these efforts eventually led to the introduction of the charge in 2003. The NGO's report on how the 2004 state budget could be reformed through environmental fiscal reform (Levegő Munkacsoport 2003) specifically discussed the newly proposed air pollution load charge and re-iterated its role in reducing air pollutants and delivering socio-economic objectives. According to this report, the government was planning to introduce the environmental load charges in 1999 nevertheless there was a significant delay in this process.

Figure 4: Timeline of key developments

Timeline of key developments in the Hungarian air pollution load charge



During discussions on the potential introduction of the charge, the then Ministry of Environment organised various forums which brought together representatives from industry and the power sector (Interview with Mr. Lukács). Since 2003, the Clean Air Action Group has also repeatedly tried to convince the Ministry to raise the air pollution charge rates. However, no increases have been introduced to date since 2008 - since when emitters are required to pay the full amount of the charge (Email exchange with Ministry of Agriculture 2016).

Since the introduction of the charge in 2003, no major changes have taken place and no evaluations on the effectiveness of the charge have been carried out by the government. There have been a number of structural institutional changes since 2010 when the new right-wing Government came into office. The Ministry of Environment was merged into the Ministry of Agriculture and there is currently only a Deputy State Secretary with responsibility for environmental issues within the Ministry of Agriculture. These changes reflect the reduced priority of environmental policies in the agenda of the current Government.

4 Insights into future potential/reform

4.1 Planned reforms and stakeholder engagement

The Ministry of Agriculture, which now includes the Department for Environmental Protection, has no plans to undertake a revision of the current air pollution load charge (Email exchange with Ministry of Agriculture 2016).

4.2 Suggestions for future reforms – instrument design and civil society engagement

The rates could be raised to provide further incentives for the reduction of emissions. For instance, Eunomia and the Aarhus University (2014) suggest a substantial increase in the rates as follows: SO_x EUR 1,000 per tonne, NO_x EUR 1,000 per tonne and PM₁₀ EUR 2,000 per tonne.

Furthermore, a critical step would be to undertake a detailed evaluation of the effectiveness and key impacts of the charge, and encourage revision of the charge in light of the findings.

4.3 Suggestions for replicability

Given the limited amount of information available on the charge it is challenging to provide any suggestions for replicability beyond the simple recommendation that taxes on air pollution can be useful tools to provide incentives to reduce emissions.

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ⁱ This case study was prepared as part of the study 'Capacity building, programmatic development and communication in the field of environmental taxation and budgetary reform', carried out for DG Environment of the European Commission during 2016-2017 (European Commission Service Contract No 07.027729/2015/718767/SER/ENV.F.1) and led by the Institute for European Environmental Policy (www.ieep.eu). This manuscript was completed in December 2016.