

The situation of environment protection in Hungary and in the EU.

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Abstract: For decades, environmental and environmental experts have been concerned about the use of the world's energy and the use and exploitation of its environmental resources. The study reviews the situation of the domestic environment and its main tools, which presupposes that it should be strengthened by central measures in addition to local communities, as shown by international trends. Hungarian environmental protection is still very restrained, although there are some signs of trust.

Keywords: environment protection, green house gas, environmental law

1. Introduction

We can rightly say that one of the most urgent tasks of the past decades is to eliminate the environmental damage caused by people. This issue is not only at the household level, but also at the level of industry, agriculture and trade. The majority of European countries wants to handle this problem, and for this reason the EU has set up a series of programs and related actions and plans. According to the approach of law, “Environmental protection is a set of activities and measures aimed at preventing, damaging, contaminating the environment, mitigating or eliminating damage, restoring a state of pre-emptive activity.” (1995. évi LIII. törvény)

It can be seen from the definition that environmental protection concerns prevention and mitigation as well as restoration. A wide range of human exposure or protection is covered by the definition. In addition to legal regulation, environmental protection is a part of state activities such as public procurement. (strategic planning, operating a monitoring system, supporting research, setting up institutions). The work of several social organizations (environmental associations) is also aimed at this, and environmental users are also burdened with environmental obligations, eg. to apply specific technologies, to design and carry out accident prevention measures, and to repair possible damage. If they are met, it is also about environmental protection.

2. Environment protection and greenhouse gases

With regard to the avoidable behaviors such as pollution, damage and danger, and the use of the environment (use, load), the aim is to keep the environmental impacts at a level that ensures that loads and loads do not exceed the level that the environment can handle. (its renewable or self-cleaning ability). (Fodor László: Környezetjog Debrecen 2015.)

According to the environmental and nature conservation lexicon, “Environmental protection is a purposeful, organized, institutionalized human (social) activity aimed at eliminating and preventing the harmful consequences of man's industrial, agricultural, mining activities for the survival of wildlife and man without damage. The scientific foundations of this activity are primarily technical sciences, applied science and economics. Efficiency and functionality are provided by legal regulations and institutional systems based on user responsibility. ” (Környezet- és természetvédelmi lexikon, Akadémiai, Bp. 2002.)

Human's earthly existence is already in contact with his environment, but the existence itself has an impact on the environment and the environment is returning to it. If you do not comply with natural laws, you will have a lasting effect in the environment that is usually negative. That is, it destroys, damages the environment, the wildlife, the nature. If this intervention is small, nature can restore it, but if its level is higher than the regeneration capacity per unit time, then the state of the environment will deteriorate or, in worse case, will permanently deteriorate. He has been pursuing this destructive activity for centuries intensively. However, after the industrial revolution, the rate has increased and an environmental load that has been difficult to reverse has begun.

For example, among the pollutants that pollute the atmosphere, they are already regulated such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF₆) and natrium trifluoride (NF₃) in all sectors of the inventories, including international aviation, including indirect CO₂emissions and excluding emissions or removals from land use, land use change and forestry (LULUCF). One of the main aim is to reduce 20% of GHG emissions by 2020 harmony with the EU international headline target.

Carbon dioxide (CO₂) is the primary greenhouse gas from human activities. For example in 2017, CO₂ accounted for about 81.6 percent of all U.S. greenhouse gas emissions from human activities. Carbon dioxide is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals). Human activities are changing the carbon cycle—both by adding more CO₂ to the atmosphere, by influencing the ability of natural sinks, like forests, to remove CO₂ from the atmosphere, and by influencing the ability of soils to store carbon. While CO₂

emissions come from a variety of natural sources, human-related emissions are responsible for the increase since the industrial revolution. (EPA, 2019)

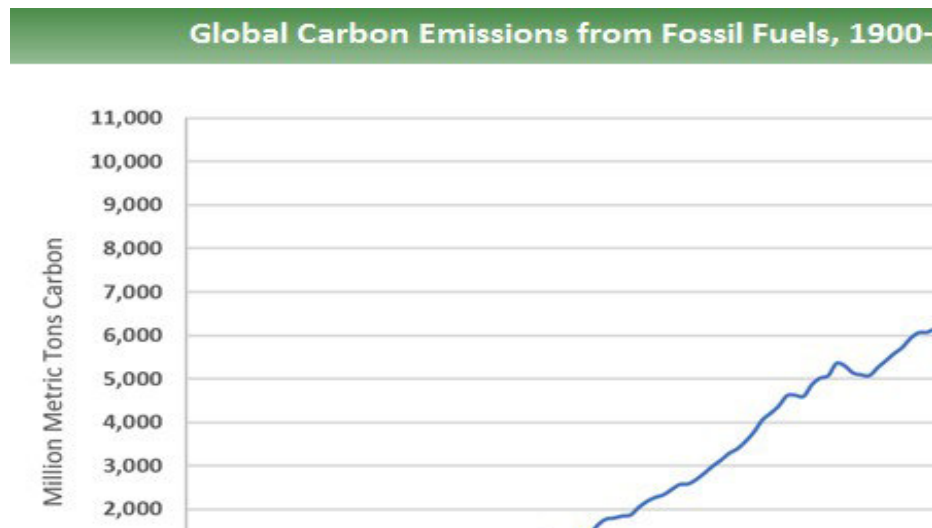


Figure 1
Global Carbon Emissions from Fossil Fuels, 1990-2014
Source: United States Environmental Protection Agency

According to researches the main cause of environment load by human activity that emits CO₂ is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation, although certain industrial processes and land-use changes also issue CO₂. The main sources of CO₂ emissions for example North America are described below. (EPA, 2019)

Transportation. The burning of fossil fuels such as gasoline and diesel transporting people and goods was the largest source of CO₂ emissions in 2017, accounting for about 34.2 percent of total U.S. CO₂ emissions and 27.7 percent of total U.S. greenhouse gas emissions. While in Europe there was 24% in 2016 and we can see an increase from 1990 when 15% was this figure. It is interesting that in Hungary the role of transportation is not too high (9%), because the level of Hungarian transportation is lower than in the EU average due to the lack of the main transport and lower level of aviation. This category includes transportation sources such as highway vehicles, air travel, marine transportation, and rail. The higher level of population causes higher level of transportation but the reason is not the same in the different countries.

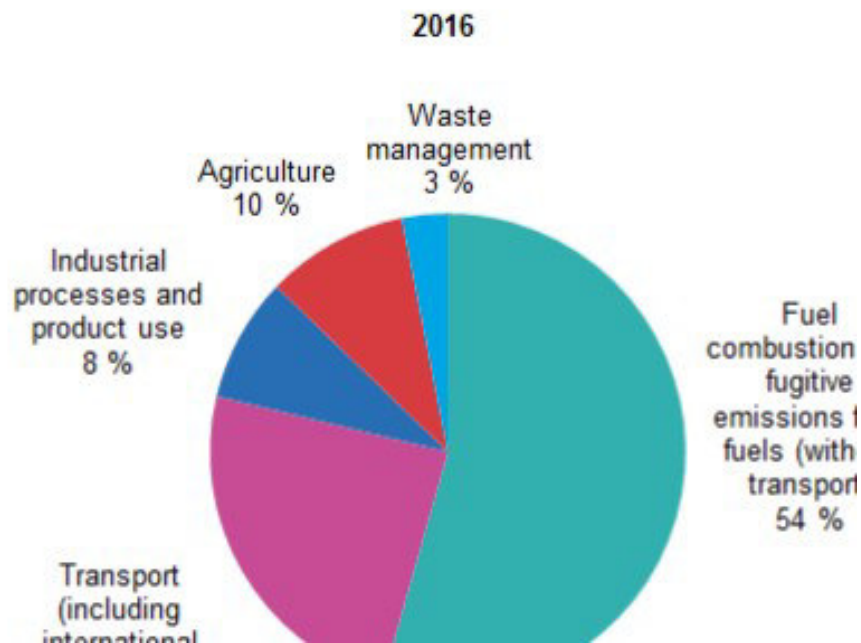


Figure 2
2016 EU Carbon dioxide emissions, by source
Source: Eurostat

Electricity. Electricity is an important source of energy in developed countries and is used to power homes, services, and industry. In 2017 the burning of fossil fuels to generate electricity was the second largest source of CO₂ emissions in the US and EU, accounting for about 32.9 percent of total U.S. CO₂ emissions and 26.7 percent of total U.S. greenhouse gas emissions. While in Hungary its ratio is 29% because we have more plants using fossil materials as coal or lignite. To produce a given amount of electricity, burning coal will produce more CO₂ than oil or natural gas.

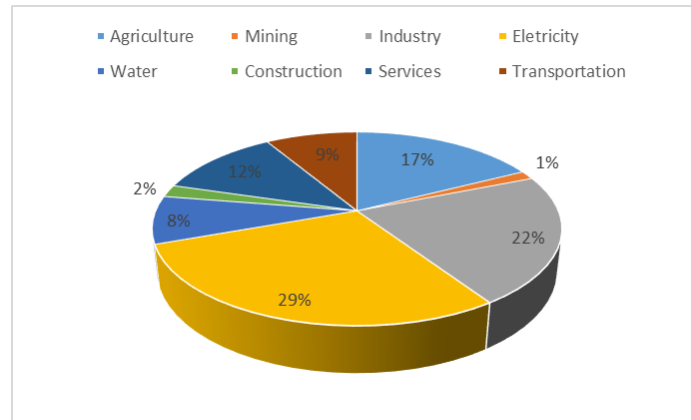


Figure 3
2018 Hungary Carbon dioxide emissions, by source
Source: KSH, own edition

Industry. Many industrial processes make an output of CO₂ through fossil fuel consumption. More processes produce CO₂ emissions through chemical reactions that do not involve firing; for instance, the production and consumption of mineral products such as cement, lime the production of metals such as copper and steel, and the production of chemicals. Fossil fuel firing accounted for about 15.4 percent of total U.S. CO₂ emissions and 12.5 percent of total U.S. greenhouse gas emissions in 2017. While the European average is 8 % and Hungarian one is 22%. What can stand in the background of it? Despite Hungarian Industry stands lower level than western European one, but its technological level is lower than developed ones. Therefore the ratio of output of CO₂ level is specifically higher. Many industrial processes also use electricity and indirectly cause the emissions from the electricity production.

Greenhouse gas emissions trend, EU-28, 1990 - 2016 (Index 1990=100)

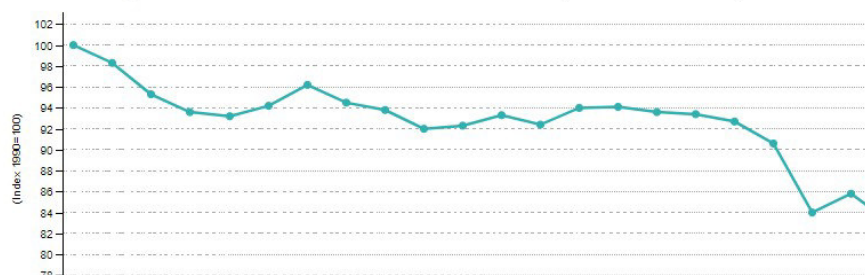


Figure 4
Greenhouse gas emission trend EU-28
Source: Eurostat

Carbon dioxide is being exchanged among ocean, land surface and the atmosphere, as it is both produced by many plants, and animals. Since the Industrial Revolution began around 1750, human activities have contributed substantially to climate change by adding CO₂ and other heat-trapping gases to the atmosphere. (EPA, 2019)

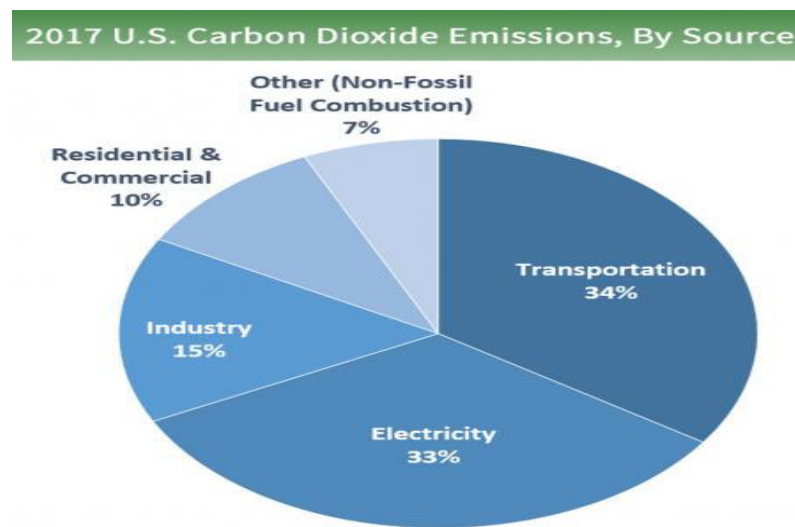


Figure 5
2017 US Carbon dioxide Emissions, by source
Source: United States Environmental Protection Agency

From the model of Caisis et al. we can see that the industrial activity with 1060 units, decomposition with 347 units, fires with 3 units and off site decomposition with 278 units contributes to the carbon cycle. In opposite net primary production contributes with 595 units to the balance. As we can see from this model the production gives more green house gases to the atmosphere than it gives back. Therefore it is urgen necessary to handle GHG question in Hungary, the EU and the world.

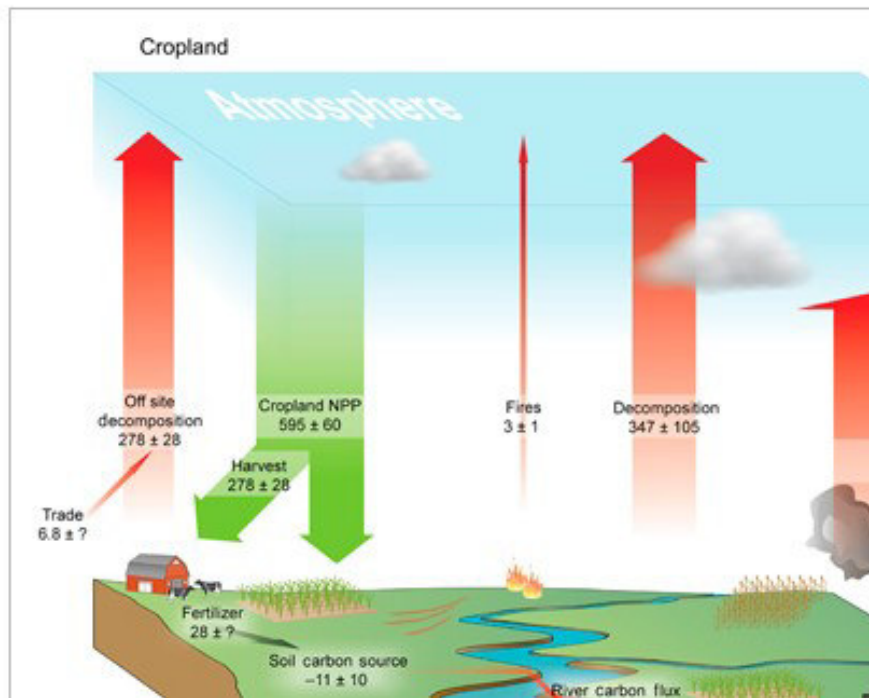


Figure 6
2010 EU Carbon cycle
Source: P. Ciais et al., 2010

3. Material and method

In terms of material and methodology, I mainly took into consideration the official statistical data on the subject, and besides, I conducted the literature research on the literature, and drew conclusions from them. Using average and correlation calculation for reason finding in the factors. After deducting the main connections I draw conclusions and suggestions.

4. Results

One of the target of the environmet program of the EU (EAP) is the safe of the environment to be able to live in safe and in good environment conditions.

“It identifies three key objectives:

- to protect, conserve and enhance the Union’s natural capital
- to turn the Union into a resource-efficient, green, and competitive low-carbon economy
- to safeguard the Union's citizens from environment-related pressures and risks to health and wellbeing

Four so called "enablers" will help Europe deliver on these goals:

- better implementation of legislation
- better information by improving the knowledge base
- more and wiser investment for environment and climate policy
- full integration of environmental requirements and considerations into other policies

Two additional horizontal priority objectives complete the programme:

- to make the Union's cities more sustainable
- to help the Union address international environmental and climate challenges more effectively.” (EU environment action programme)



Figure 7
Sustainable Development Goals
Source: Eurostat

The EU 2020 environment programme contains the following points:

- EU environment action programme to 2020
- Climate and energy targets 2020
- Energy strategy
- EU biodiversity strategy
- The circular economy action plan. (ec.europa.eu)

We can see that the large of the environment protection increased in the last interval. Poland and the UK had the largest increase in this period of time. Poland had an intensive environment protection programme while the UK doubled this value because of new environment protection plan. We can see government actions in the background so the roles of the central decisions and programmes are very large.

If we can analyse the data of EU in environment protection and CO₂ emission the correlation factor is -0,86 which means a strong and negative connection. If there is an increase in the level of CO₂ emissions there is a decrease of the total EU level of environment protection expenditure.

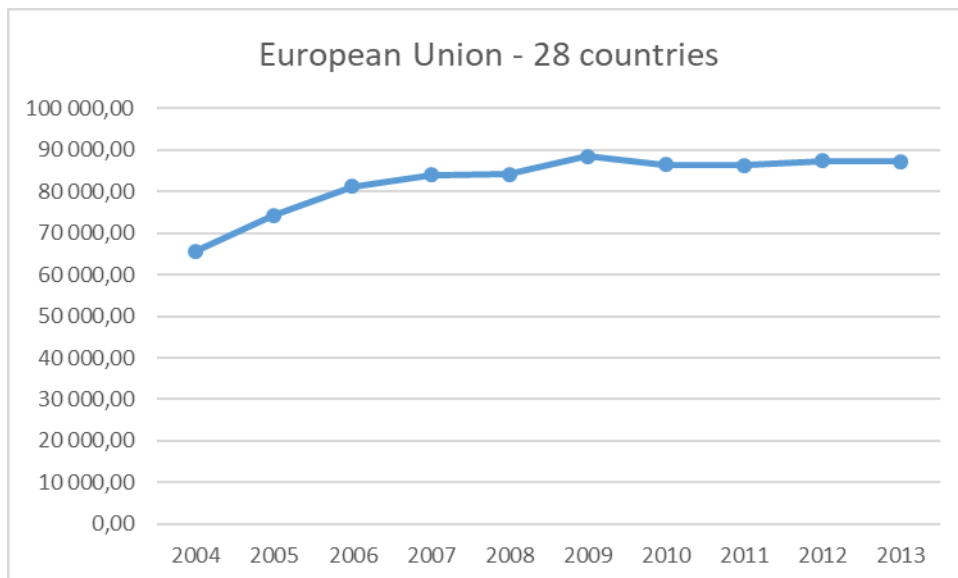


Figure 8
Environmental protection expenditure in million euro
Source: Eurostat, own edition

There is no strong connection between GDP or GPD per capita and environment protection expenditure, which means that the condition of economy cannot affect

to the expenditures. But There is a negative strong correlation between GPD or GPD per capita and co2 emission. What does it mean? The main ratio of DP affector cannot affect to the CO2 emission (like services) or the sum of consumption, investment, government expenditure and export import volume can affect negatively to the co2 emission. What would stand in the background?

If there is an increase in the level of agriculture or industrial production therefore increase of the level of CO2 emission we are sure there is a decrease in the level of GDP. Industrial and Agricultural activity could affect negatively to the GDP level.

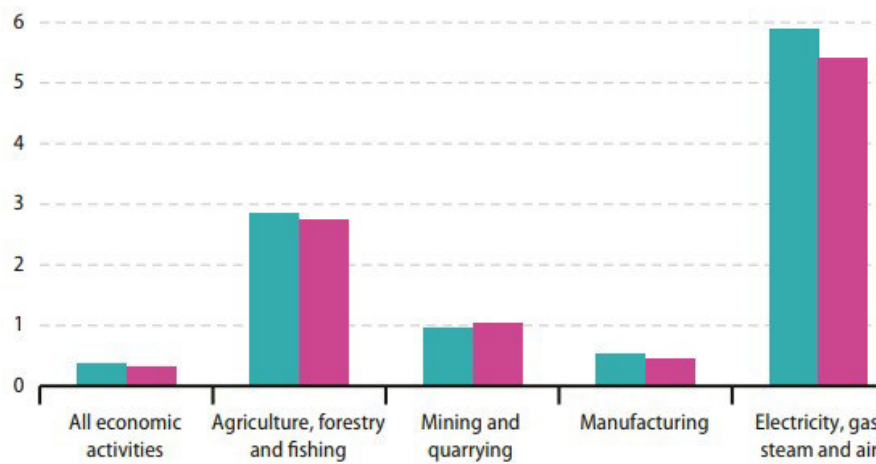


Figure 9
Sustainable Development Goals
Source: Eurostat

Conclusions

Environmental protection measures are a priority objective of both the EU and the Hungarian government, supported by the existence of action programs up to 2020 and a series of related measures, as well as the objectives of the 2030 Agenda. Behind the plans, there are also activities and sums of money available, which means that the plans can be realized with them. From the available data, we see that environmental degradation has stopped in Europe, at least partly through the measures, partly due to the increase in the budget. It may be surprising that there was no strong positive correlation between GDP size and co2 output, and the relationship with the last decade was negative. It follows that GDP is now not dependent on polluting production branches, ie not on those that have the greatest impact on the environment, but on the role of services. However, most of these services do not have a high environmental impact.

The other surprising lesson from the studies was that there was an unexpected relationship between the amount of environmental spending and the co2 emission word, ie when the amount of spending fell, co2 emissions fell and vice versa, when spending increased, co2 emission increased as well.

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