18th International Research/Expert Conference
"Trends in the Development of Machinery and Associated Technology"
TMT 2014, Budapest, Hungary 10-12 September, 2014

HOW CAN WE CONTRIBUTE TO DECREASING HARMFUL EMISSIONS THROUGH LEGAL MEASURES AIMED AT REGULATING TRAFFIC?

Mirzet Husić
Faculty of Civil and Geodetic Engineering
Jamova 2
Ljubljana, Slovenia

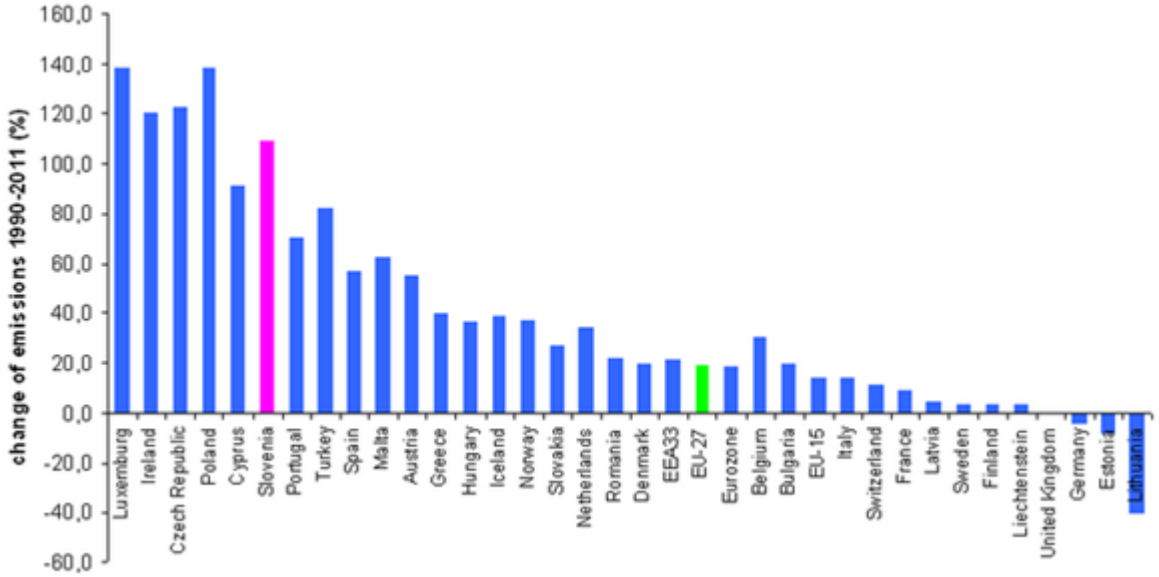
ABSTRACT
Over the recent years, modern societies have been increasingly intensifying their efforts to resolve the issues of global warming an climate change. Greenhouse gas emissions are increasing with each passing year, which is primarily due to the extremely steep increase in the emissions from road traffic, which is generally regarded as the most problem-riden area of environmental protection. Different measures are employed in the attempts to decrease emissions from road traffic. The subject of this research assignment is the consideration of legal measures in the area of road traffic, with the problem being the increasing harmful emissions from road traffic. According to the data of national statistical offices, the number of registered vehicles increases every year in the majority of EU Member States; and this number has more than doubled over the last twenty years. EUROSTAT ranks most EU Member States among societies with a high motorisation rate.
Keywords: *harmful emissions, traffic limitation, road traffic, motorisation rate.*

1. INTRODUCTION
This research is primarily based on the analysis and comparison of positive legal regulations in the field of transport involved in selected EU Member States legal system, which is being successfully implemented in order to fulfil the commitments undertaken under the Kyoto Protocol [1]. The Rio Earth Summit in 1992 established the momentum for recognition of global climate change. Subsequently, the Kyoto Protocol in 1994 resulted in national governments setting target of reducing CO2 emissions where road transport has contributed intensively. The Stern Report on the Economics of Climate Change (2006) suggested that developed countries like UK will need to achieve 60 – 80 per cent reduction in total emissions bay 2050 [2].
In this regard, the objective of the research assignment is to carry out an analysis of positive legal regulations in the area of traffic, including the directives of the European Union and national law, and especially the cases from the Court of Justice of the European Union in order to emphasise the role and impact of legal measures on the efforts of the society to reduce harmful emissions from traffic. Different measures are employed in the attempts to decrease emissions from road traffic. The subject of this research assignment is the consideration of legal measures in the area of road traffic, with the problem being the increasing harmful emissions from road traffic. The above clearly shows that the complexity of the topic itself coupled with environmental law inevitably requires studying the issue from the point of view of other sciences, especially sociology.

2. SOCIAL CHALLENGES ON MOBILITY
Decisions on which living arrangements should be legally regulated and why the legal consequences are important for the society always need to consider the value-driven and sociological approach.
This point of view is of special importance to representatives of sociological jurisprudence, who seek the essence of legal development in the society and its regulations. Our main problems that need to be

approached are how the society and its composition influence the decisions on legal regulation, furthermore, how the society, social reasons and social interests influence the understanding and application of normative legal acts, and last but not the least, how do the rules affect the society, its relations and its development. In real life, these questions are intertwined and influence each other [3]. Legal regulation of traffic, meaning limitations, is a very sensitive area and the legal measures need to be thoroughly considered and precisely defined. Access to a reliable traffic system is of key importance to the inhabitants with a modern lifestyle, as mobility represents a basic condition for a quality life for most of them. Nevertheless, the people also acknowledge the negative effects of traffic system on the quality of life and are therefore worried. On one hand, the traffic is useful, and on the other hand, it is harmful. Resolving the dilemma of balance between the positive and negative effects of the traffic requires a lot more than just acknowledging the fact that this dilemma exists [4]. „Green" automobiles with completely benign environmental impacts might be possible, but today they are nothing more than a pipe-dream. Yet even if they could realized and mass produced, they would remain as antagonists within a larger nightmare. In the face of growing push for „alternative" cars and the American valuation of automobility, this paper intends to argue for diffrent path forward. The automobile and the way it is used today is at least problematic, if not criminal. This is not to say that cars or driving are inherently bad – something that many critics of automobility seem to imply – but just that they are harmful to the extent and in the fashion that are curently used [5].

Image 1: Changes in total greenhouse gas emissions by transport in European countries during 1999-2011 [6].



We can learn about the usage and number of personal vehicles of EU inhabitants from EUROSTAT data, which shows that in most of the EU member states, the number of registered personal vehicles is still growing despite various legal measures that are trying to stabilize the condition. Automobility is a source of freedom, the „freedom of the road". Its flexibility enables the car-driver to travel at speed, at any time in any direction along the complex road systems of western societies that link together most houses, workplaces and leisure sires.

Cars therefore extend where people can go to and hence what as humans they are able to do. Much of what many people now think of as „social life" could not be undertaken without the flexibilities of the car and its availability 24 hours a day.

One can travel to and from work, friends and family when one wants to and not when the bus or rail operator determines. Cars avoid much of the time-tabling involved in most public transport, as well as the dangers of being a pedestrian or a cyclist. It is possible to leave late by car, to miss connections, to travel in relatively time-less fashion. People find pleasure in travlling when they want to, along routes that they chouse, finding new places unexpecteldy, stopping for relatively open-ended periods of time,

and moving on when they desire. They are what Shove terms another of the „convencience devices“ that make complex, harried patterns of contemporary life just about possible[7].

3. LEGAL INTERVENTIONS IN THE FIELD OF TRAFFIC AND THEIR CONTRIBUTION TO CUTTING EMISSIONS

The Convention on Climate Change [8], which represents one of the five global international legal documents for a sustainable development of the world, requires that the signatory states should regularly report about the condition (evidence) of emissions, measures on cutting them, monitoring the climate changes and measures for reduction of consequences [9].

The signatory states are bound to reduce the emissions of greenhouse gasses and Article 4 defines that each signatory state shall form and implement programs for cutting emissions. Next to this Convention, also the Kyoto Protocol bound the signatory states to reduce or limit the greenhouse gases to a level that the countries agreed on in the base year period, which in average means that the emissions should be reduced for approximately 5 %, and considering the base year, the average reduction of greenhouse gases in EU is slightly higher and consists of approximately 8% [10].

The Kyoto Protocol introduced three essential mechanisms that the signatory states need to regulate in their legislation:

- Joint Implementation - JI;
- Clean Development Mechanism - CDM;
- Emission Trading - ET.

In 2003, EU adopted the Directive 2003/87/EC [11] in order to regulate greenhouse gas emission allowance trading. In accordance with the regulation of EU, the rights to emit greenhouse gases become a subject of trade within a European trading scheme, and later also on the international market, namely in all the countries that have undertaken to respect the Kyoto Protocol.

The Data of the European Environment Agency shows that the emissions of greenhouse gases from traffic have increased for 16 % in the area of EU-15 and for as much as 20 % in the entire EU area in the period from 1990-2010. For this reason, new measures for cutting traffic emissions had to be adopted.

The Directive 2009/30/EC of the European Parliament and Council amended the Directive 98/70/EC on specifications regarding petrol, diesel and gas-oil, introduced a mechanism for monitoring and reduction of greenhouse gas emissions, amended the Directive 1999/32/EC about fuel specifications used by the vessels for waterway transport, and repealed the Directive 93/12/EEC.

The Directive 2009/30/EC defines that the fuel suppliers shall reduce the life cycle greenhouse gas emissions from road traffic, the member countries shall encourage the use of clean vehicles and energy efficient vehicles for road traffic, and at the purchase of a vehicle, the exterior costs of the vehicle life span need to be considered, including the greenhouse gas emissions and fuel consumption [12], while strict technical specifications shall assure a purchase of more environment friendly vehicles.

The member states of the EU developed various operational programs for cutting greenhouse gas emissions, of which we only mention the most common ones: an Urban Air Quality Improvement Program, a scheme to shift domestic hauliers from HDV trucking to public transportation services, a High-Speed Motorway Bus Transfer Scheme, a Rail Traffic Enhancement Scheme, a Park & Ride Scheme (with P&R lots on the outskirts of cities, at railway stations and at motorway exits), toll collection measures, the implementation of an Odd-Even Traffic Scheme, a vehicle speed reduction system, “urban trap” prevention measures, low pollution zones, rules on parking tickets, the transportation of children, traffic bans, traffic limitation, setting an approximate timetable for public transportation services.

4. CONCLUSION

As the research shows, vehicle traffic is a very demanding and sensitive field when it comes to legal regulation. The lawmaker or more specifically the regulations maker considers all the sociological aspects of this area and tries to reduce the emissions from traffic with various measures, but the emissions did not stabilize significantly. Despite several measures on the EU level and on the level of individual member states as well as the efforts of the international community, traffic greenhouse gas emissions remain a big problem for most member states of the EU. We need to be aware of the fact that the environmental pollution is becoming a bigger and bigger issue that is threatening not only our need for a pleasant natural environment, but also the needs of future generations, which is in conflict with or definition striving towards a sustainable development. Therefore it is necessary to study the options and propose new and more efficient legal solutions that would actually stabilize the harmful traffic emissions.

5. REFERENCES

[1] Kyoto Protocol to the United nations Framework Convention on Climate Change, Kyoto, 16 February, 2005.

[2] Nelson D. John, Paulus T. Aditjandra: "Mobilities: new perspectives on transport and socyety", (ed.) Margaret Grieco & John Urry, Ashgate,Burlington, USA, 2011.

[3] PAvčnik M.: "Teorija prava:prispevek k razumevanju prava", GV Založba, Ljubljana, Slovenia, 2011.

[4] EEA, 2006, Plevnik A: "Okolje in promet", Ministrstvo za okolje in prostor, Ljubljana, Slovenia, 2008.

[5] Bly John: "Breaking Down Automobility: Examining the coercive roles the car plays in America", Chicago, May 2011.

[6] Source: Annual European Union greenhouse gas inventory 1990-2011 qnd inventory report 2013 - data viewer.

[7] Urry John: "Automobility, Car Culture and Weightles Travel"Employment Research Centre, Dublin, Ireland, 1999.

[8] United Nations Framework Convention on Climate Change, New York City, US, 1992.

[9] Blobel Daniel, Mayer-Ohlendorf Nils: "United Nations Framework Convention on Climate Change, Technografic Design and Print LTD, Halesworth, UK, 2006.

[10] Weishar, E., Stefan: Emissions Trading Design, Edward Elgar Publishing, 2014.

[11] Council Directive 84/360/EEC on the combating of air pollution from industrial plants, Bruxelless, 28 June, 1984.

[12] Merkisz, Jerzy, Pielecha, Jacek, Radzimirski, Stanislaw: New Trends in Emission Control in the European Union, Springer International Publishing Switzerland, 2014.