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INTERLINKAGE AND SYNERGIES BETWEEN SELECTED OTHER POLICY AREAS AND ENERGY EFFICIENCY

**PART OF WORK PACKAGE 1: MAPPING OF ENERGY EFFICIENCY POLICY INSTRUMENTS AND
AVAILABLE TECHNOLOGIES IN BUILDINGS AND TRANSPORT**

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HERON: Forward – looking socio-economic research on Energy Efficiency in EU countries

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ACRONYMS

DH	District Heating
EEAP	Energy Efficiency Action Plan
EUE	Efficient Use of Energy

EXECUTIVE SUMMARY

Relatively modestly developed policy instruments directed to improve energy efficiency in building and transport sector make even more important implementation of general, energy related policy instruments, or policy instruments from others sectors, which can contribute to energy efficiency improvements. This is especially important for achieving of energy savings proposed in the second Energy Efficiency Action Plan (Government of the Republic of Serbia, 2013b).

As general, energy policy instruments that indirectly or/and in the synergy with energy efficiency policy instruments contribute to energy efficiency in buildings sector, **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** is selected, while **Introduction of electrical buses instead of diesel fueled buses in public transport in cities** is selected for transport sector.

The focus of **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** is the supply of thermal energy, with the objective to introduce market principles in the operation of district heating companies (Government of the Republic of Serbia, 2015a) and improvement of efficiency (including the energy efficiency) of production, distribution and supply of thermal energy in the district heating systems. Implemented together with **Minimum energy performance requirements for new or reconstructed buildings** this instrument should lead to the reduction in energy consumption up to 25% in residential sector in Serbia (Jovanović Popović M. et al., 2012).

The aim of **Introduction of electrical buses instead of diesel fueled buses in public transport in cities** is the substitution of using more expensive and imported diesel fuel with significantly cheaper and domestic electricity, in public transport. According to the analysis and testing, done by the Belgrade Public transport enterprise in 2014, in Serbian conditions introduction of electrical buses in Belgrade theoretically should enable saving of up to 70% of diesel fuel and significant reduction of local pollution (Živanović et al., 2014). Implemented together with **Traffic management system**, these policy instruments should provide optimal routes for electric busses, green lines, etc. and maximize saving potential, but also verify environmental and financial results of this instrument.

Introduction of green roofs and green walls is policy instrument that includes designing and building of roofs and walls covered with vegetation, fully or partially. **Introduction of green roofs and green walls** is included in system of urban planning (Government of the Republic of Serbia 2014b). This measure creates a better microclimate and reduces the heat island effect. That's why this instrument is a significant measure for climate changes adaptation (City of Belgrade, 2015). Introduction of green roofs or walls due to their insulating properties should contribute in achievement of **energy performance requirements** and have positive influence on results of **energy audits**.

Subsidies for the purchasing of new vehicles and the replacement of old one (so called "old for new mechanism") was introduced as policy instrument with the motivation to support the Serbian automotive industry, and overall economic development of the country. The most significant results were achieved in passenger cars sector where regulation was formalized to encourage the replacement of old vehicles equipped with engines that do not meet even Euro 3 standard, with new domestic vehicles equipped with Euro 5 engines. The subsidy per vehicle varied in the range from 600 to 1,000 Euro (Government of the Republic of Serbia, 2011b). The Fund for Environmental Protection subsidized old for new mechanism as an instrument of environmental and climate change policy. The total value of funds available for this purpose amounted to 20,000,000 dinars (app. 200 thousands euro), or 100,000 dinars (app. 1,000 euro) per vehicle (Government of the Republic of Serbia, 2013b). Currently, this instrument is conducted by domestic manufacturer of cars (FCA

Serbia)¹. Energy efficiency potential of this instrument is recognized, and it is estimated that achieved shavings in period 2010 – 2012 were 0.00765 Mtoe (0.32 PJ). This instrument is compatible, and represents the support to proposed regulatory instrument - **Fuel economy standards/vehicle CO₂ - emission standards**. Simultaneous implementation of these two measures should contribute in total to 3.85 PJ of energy savings in period 2010 – 2018 (Government of the Republic of Serbia, 2013b).

¹ <http://www.fiatsrbija.rs/> (04.08.2015.)

CHAPTER 1: ACHIEVING ENERGY EFFICIENCY THROUGH INTEGRATION IN OTHER POLICY AREAS

1.1 POLICY INSTRUMENTS WITH A DIRECT LINK TO ENERGY

1.1.1 CASE STUDY FOR THE BUILDINGS SECTOR

Introduction

Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system is policy instrument legally supported by Energy Law (Government of the Republic of Serbia, 2014a), Law on Efficient Use of Energy (Government of the Republic of Serbia, 2013a) and Methodology for determination of heat energy price (Government of the Republic of Serbia, 2015b). Horizontal measure with the same name was also proposed in the second EEAP (Government of the Republic of Serbia, 2013b). Focus of this instrument is the supply of thermal energy and the target groups are district heating companies, as well as the consumers of their service. Objective of this policy instrument is the introduction of market principles in the operation of DH companies (Government of the Republic of Serbia, 2015a) and improvement of efficiency (including the energy efficiency) of production, distribution and supply of thermal energy in the DH systems.

Relation to Energy Efficiency

Dominant, current practice in the most of Serbian DH systems is billing based to heated area (flat rate) (Econoler, 2012). Such practice makes operation of DH systems non-transparent. In such surrounding there is no motivation for consumers to save energy or to invest in energy efficiency improvement, as their bill is going to be the same anyway. On the other side, DH companies (mostly public) are not motivated to invest in more efficient production and distribution of energy, since they will be unable to transfer their costs and losses to end users.

By the Energy Law, DH systems are under the jurisdiction of local self-governments, and out of 57 municipalities with DH systems (Government of the Republic of Serbia, 2015a), billing based on consumption was introduced in just few of them², although the mandatory term for introduction of billing based to actual consumption of heat energy was six months after the adoption of Law on EUE.

The main reasons for this delay is the fact that due to transition to new billing method, roughly 30-40 % (CEDEF, 2015) of consumers would have to pay higher bills, because of poor insulation of their buildings. Therefore local authorities started to prepare social programs, which would last a few years, for these consumers. In this period, they should have the same billing method as before, but they also should invest in improving of energy efficiency of their facilities.

This instrument also requires some technical preparations to be performed before application. However, installing of new equipment for measuring and adjusting in substations, heat meters, heat cost allocators, valves and other equipment should be very attractive for many companies who

² <http://www.toplanasabac.rs/>, <http://www.nitoplana.co.rs/>

produce or sell equipment. The estimated value of these investments in Serbia is up to 200 million € (Grujic, 2008).

The main benefit of this instrument should have the consumers of heat energy, as they will be able to manage their own energy consumption and pay according to it. In the case of full implementation of energy efficiency their bills should be significantly less. In that case, due to less energy consumption in DH systems, even the import dependency of the state should be less, as imported natural gas is the main fuel used in DH systems (Statistical Office of the Republic of Serbia, 2014).

Interaction between objectives

Minimum energy performance requirements for new or reconstructed buildings is energy efficiency policy instrument created to ensure increase of quality of design, used materials and building technology in construction of new buildings and renovation of existing ones in order to achieve improvement in energy performance of the buildings. This instrument is compatible with **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system**. Implemented together, these instruments lead to the reduction in energy consumption up to 25% in residential sector in Serbia (Jovanović Popović M. et al., 2012).

Some recent demo cases from Belgrade show that implementation of **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** enable some energy savings, while the level of savings depends of building characteristics (building envelope, internal installation, etc.). Although the costs in financial terms do not correspond linearly to energy consumption, experience from the same demo cases show that the costs of energy in the building with implemented **Minimum energy performance requirements for new or reconstructed buildings** were 13% less than in the case of flat rate billing, while in the case of building that was not reconstructed the bill was 31% higher³.

Interaction between target groups

Users of buildings connected to DH system should benefit due to implementation of **Minimum energy performance requirements for new or reconstructed buildings**, as thermal comfort in their buildings should be significantly improved, while the **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** gives them possibility to manage their consumption, as well as to reduce costs.

Installation of equipment for heat measuring and energy rehabilitation of buildings should be done by local companies, so the instruments should have positive impact to local economy.

As jointly implemented these instruments make the reduction of energy consumption, State's benefit is the reduction of imported fuel consumption.

Interaction between Rules-Influencing Mechanisms

Application of **Minimum energy performance requirements for new or reconstructed buildings** leads at the end to improving energy performance of buildings, which affects the "energy passport" of the building and increase of its market value. **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** has no direct influence to "energy passport", but implementation of this instrument and its benefits for end users, also increase market value of building.

Interaction between the Implementation Network / governance structures

³<https://drive.google.com/folderview?id=0B5otVVm41sb5fjZHzy1IbDR4bXitS2NqWlByTOVPdDFxQWNFYzk0c0ZmMEEExTS00Z1g3LUE&usp=sharing> (31.07.2015.)

Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system, as a policy instrument is under the jurisdiction of local self-government (Government of the Republic of Serbia, 2014a). In the case of **Minimum energy performance requirements for new or reconstructed buildings** implementation network consists of the Ministry for construction, transport and infrastructure that oversees and regulates the processes, and Chamber of Engineers which is in charge for training of energy auditors and organizations licensed for issuing energy certificates for buildings (Government of the Republic of Serbia, 2014b). According to the second EEAP (Government of the Republic of Serbia, 2013b), it is necessary to strengthen further the capacity of both local administration and all other institutions involved in implementation and monitoring of these policy instruments.

Generally, there is no administrative burden for full implementation of these instruments. For **Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system** local administration is obliged to adopt municipal decision about the introduction of the instrument and to provide all necessary regulations for its implementation (Government of the Republic of Serbia, 2014a).

Costs of implementation of proposed policy instruments are related to end-users. However, it is expected that the instruments will be implemented by means of loans extended by commercial banks at favorable repayment terms provided through the Budget Fund for Energy Efficiency or funds of the autonomous province or local self-government, and other favorable credit lines supported by international financial institutions or the commercial banks (Government of the Republic of Serbia, 2013b).

1.1.2 CASE STUDY FOR THE TRANSPORT SECTOR

Introduction

Introduction of electrical buses instead of diesel fueled buses in public transport in cities (City of Belgrade, 2015) is the policy instrument that should enable replacement of diesel buses by new electrical buses. It is related to public and private transport companies that provide service of passenger transport in the cities. So far, there are only individual cases of using electrical buses in Serbia.

The focus of this policy instrument is on substitution of using more expensive and imported diesel fuel with significantly cheaper and domestic electricity, in public transport. Initially, this policy instrument is envisaged for implementation in the city of Belgrade. According to the analysis and testing, done by the Belgrade Public transport enterprise in 2014, in Serbian conditions introduction of electrical buses in Belgrade theoretically should enable saving of up to 70% of diesel fuel and significant reduction of local pollution (Živanović et al, 2014).

Relation to Energy Efficiency

Effects of introduction electrical busses in the city public transport will have positive financial and environmental results due to low price of electricity in Serbia and no local pollution in final energy use. However, impact to overall energy efficiency should be further determined. Electricity production in Serbia is based on low caloric lignite (Jovančić et al. 2011) and thermal power plants which average efficiency is 35% (Statistical office of the Republic of Serbia, 2014). Also the, transport and distribution losses in electricity grid are significant - approx. 17% (Statistical Office of the Republic of Serbia, 2014). On the other hand, positive impact to energy efficiency of proposed instrument has the share of renewable energy sources (mainly large hydro) in electricity production

in Serbia. This share is annual variable, and in 2010 it was 34.5% (Government of the Republic of Serbia, 2015a), making overall efficiency of production approx. 43% (Statistical Office of the Republic of Serbia). According to National Renewable Energy Action Plan of the Republic of Serbia the share of renewables in gross final energy consumption will grow from 21% in 2010 to 27% in 2020, with the expected average share of renewable energy sources in the electricity production of 36.6% (Ministry of Energy, Development and Environmental Protection, 2013).

This is policy instrument which implementation delayed because the lack of financial resources. It is expected that the first – demo contingent will be used for demonstration of their efficiency.

Interaction between objectives

This policy instrument can be linked with the traffic-planning instrument **Traffic management system**. Traffic management system as policy instrument can be used in traffic control, incident management, travel demand management, operation and maintenance, environmental conditions monitoring, automated dynamic warning and enforcement and non-vehicular road user safety, so joint implementation of these two instruments should provide optimal routes for electric busses, green lines, etc. and maximize saving potential, but also verify environmental and financial results of this instrument.

Interaction between target groups

Traffic management system is targeting all transport modes and numerous different target groups. However, passengers in public transport, as well as public transport providers (public and commercial) are the common target groups. Passengers should benefit from using new, environmentally friendly busses in well-managed transport systems in the cities. The owners of transport enterprises (public and commercial) should realize significant savings because of lower operational costs and better-organized transport system.

Interaction between Rules-Influencing Mechanisms

Introduction of electrical buses instead of diesel buses in public transport in cities should increase competitiveness of the bus market and potentially it could influence to **Fuel economy standards/vehicle CO₂ - emission standards** as regulatory instrument. Currently all new imported vehicles must be equipped with engines that meet at least Euro 5 standard (Government of the Republic of Serbia, 2013b), while for the import of used vehicles minimum Euro 3 standard is required (Government of the Republic of Serbia, 2010b). Wider implementation of electric buses should make **Fuel economy standards/vehicle CO₂ - emission standards** more restrictive.

Interaction between the Implementation Network / governance structures

Road traffic safety Agency, Ministry of Construction, Transport and Infrastructure and Ministry of Interior are key players in proposed energy efficiency instruments in transport sector. According to Law on Communal Utility Activities (Government of the Republic of Serbia, 2011a) passenger transport in the cities is under the jurisdiction of local self-government. According to the second EEAP (Government of the Republic of Serbia, 2013b) it is necessary to strengthen further the capacity of both local administration and all other institutions involved in implementation and monitoring of these policy instruments. Although there is no visible administrative burden for the implementation of selected instruments, their implementation could be delayed due to different lists of priorities. High initial costs are the key financial problem for introduction of electrical buses.

1.2 POLICY INSTRUMENTS WITH AN INDIRECT LINK TO ENERGY

1.2.1 CASE STUDY FOR THE BUILDINGS SECTOR

Introduction

Introduction of green roofs and green walls is policy instrument that includes designing and building of roofs covered with vegetation, fully or partially. This is instrument of climate change policy, well recognizable as simultaneous action in adaptation and mitigation area. Legal bases for implementation of this policy instrument are strategic documents and law related to climate change issue (Government of the Republic of Serbia 2008, 2010a), (National Assembly of the Republic of Serbia, 2007). As a policy instrument, **Introduction of green roofs and green walls** is included in system of urban planning (Government of the Republic of Serbia 2014b).

Vegetation, which consists of trees or plants well adapted to the local weather conditions, is planted over a waterproof membrane. The growing medium may be sand, gravel or soil. The green roofs can range from the extensive green roofs, to the intensive green roofs with higher soil layer in order to include trees and shrubs, which means additional weight and lower slope. The intensive green roof requires more maintenance, while the extensive is self-sustaining with minimal maintenance. The green walls are vertical green spaces which are formed by planting plants that grow on facades or near the objects⁴.

In cities, the most suitable areas for building green roofs or walls are the central or urban areas, as well as new projected or existing buildings in commercial and industrial areas. The most suitable buildings for implementation of this measure are those with flat roof. Application of the measure in public buildings, with a large number of visitors, should raise awareness about the effects of it among the large number of people. According to results of Tabula project for Serbia, almost 30% of buildings in residential sector initially satisfy conditions for implementation of this policy instrument (Jovanović Popović et al. 2012).

This measure creates a better microclimate and reduces the heat island effect. That's why this instrument is a significant measure for climate changes adaptation. These oases of greenery, which are also places for rest and relaxation, reduce energy consumption and noise in buildings at the same time (City of Belgrade, 2015).

Relation to Energy Efficiency

Increasing of energy efficiency is usually stated as climate change mitigation measure (Ministry of Environment and Spatial Planning, 2010). In that sense, this policy instrument is connected to energy efficiency, although the adaptation and comfort themes (better microclimate, places for rest and relaxation, GHG reduction, noise reduction, etc.) are usually more dominant in its promotion. Green roofs and walls are good insulators, so they can significantly reduce heat losses in buildings. During summer, they reduce demands for cooling and electricity consumption and so additionally enhance living comfort in buildings.

It is shown that energy savings during the winter months could reach 5% (La Rochea, and Berard, 2014). For example, the main advantages of green roofs are decreasing of a building energy consumption by increasing insulation thickness of a roof, providing a natural shade against direct rays of the sun, thus decreasing temperature of inner and outer surfaces of the roof as well as decreasing

⁴ <http://www.knaufinsulation.rs/sites/rs.knaufinsulation.com/files/URBANSCAPE-Ravni-Krovovi-Brosura.pdf>

inside temperature of the building, and therefore optimizing a rate of energy consumption in a building Refahi, and Talkhabi, 2015). Reduction of daily temperature swing and reduction of the heat flow are also benefits of green architecture.

There are few examples of green roofs and walls built in Serbia⁵. But their number would be higher if some barriers were overcome. Main barriers to wider application are (Econoler, 2012):

- Many older buildings don't have a project for building permit which includes data on statics;
- Property relations are not completely solved in many public buildings;
- All owners of flats must be consistent with construction of green roofs or walls in residential buildings.

Additional measures that have to be applied in order to overcome mentioned barriers (City of Belgrade, 2015), are as follows:

- Forming the list of public buildings suitable for construction of green roofs or walls;
- Preparation of static calculation for the most suitable buildings;
- Facilitating and acceleration procedures for solving property relations;
- Raising awareness of residents regarding the benefits.

All residents/employees and visitors of buildings with green roofs/walls should benefit from the use of this instrument in the sense of indoor climate. The energy costs should be significantly lower for users/owners of buildings. Also, constructing companies, doing buildings' envelope improvement, should have additional field for work (UNDP, 2013).

Interaction between objectives

Minimum energy performance requirements for new or reconstructed buildings and **Energy audit (mandatory)** are regulatory policy instruments aimed to reduce energy consumption in buildings. Introduction of green roofs or walls due to their insulating properties should contribute in achievement of energy performance requirements and have positive influence on results of energy audits.

Appropriate energy certificate and audit report that show the improvement of energy efficiency, have the positive influence to market price of building. Obviously, these instruments are compatible and have common objective, to reduce energy consumption in buildings.

Interaction between target groups

In residential buildings, construction of green roof or walls can be one technical measure for improvement energy performance of building related to heating under **Minimum energy performance requirements for new or reconstructed buildings** instrument. All residents in residential buildings should benefit not just concerning heating (according to minimum energy performance requirements), but also concerning cooling and overall comfort. In public or commercial buildings where these instruments should be applied, the employees and visitors would be target groups. Both mentioned instruments provide lower energy costs and better indoor comfort, while the attractiveness of the object, also should be higher.

Interaction between Rules-Influencing Mechanisms

Introduction of green roofs and green walls, as well as the application of **Minimum energy performance requirements for new or reconstructed buildings** leads at the end to improving energy

⁵http://www.zinco-greenroof.com/EN/zinco_worldwide/export_details.php?id=Serbien%20%3Cbr%3EBosnien%20und%20Herzegovina%20%3Cbr%3EMontenegro

performance of buildings, which affects the energy class reported in “energy passport” of the building and increase its market value, both for selling or for renting.

Interaction between the Implementation Network / governance structures

Implantation of green roofs and walls as a part of local spatial and urban plans is under the jurisdiction of local self-government (Government of the Republic of Serbia, 2014b). In the case of **Minimum energy performance requirements for new or reconstructed buildings** implementation network consists of the Ministry for construction, transport and infrastructure that oversees and regulates the processes, and Chamber of Engineers which is in charge for training of energy auditors and organizations licensed for issuing energy certificates for buildings. According to the second EEAP (Government of the Republic of Serbia, 2013b), it is necessary to strengthen further the capacity of both local administration and all other institutions involved in implementation and monitoring of these policy instruments.

Generally, there is no administrative burden for implementation of these instruments. For **Implantation of green roofs and walls** local administration is obliged to adopt municipal decision about the introduction of the instrument and to provide all necessary regulations for its implementation (Government of the Republic of Serbia, 2014b).

Costs of implementation of proposed policy instrument are related to investors in new or reconstructed buildings. Concerning positive impact to energy efficiency proposed instrument could be also appropriate for financing by means of loans extended by commercial banks at favorable repayment terms provided through the Budget Fund for Energy Efficiency funds or funds of the autonomous province or local self-government, and other favorable credit lines supported by international financial institutions or the commercial banks (Government of the Republic of Serbia, 2013b).

1.2.2 CASE STUDY FOR THE TRANSPORT SECTOR

Introduction

Subsidies for the purchasing of new vehicles and the replacement of old one (so called “old for new mechanism”) is the policy instrument that exist in Serbia, in different forms, for a while. The Government of Republic of Serbia passed in period 2010-2012 regulations on the conditions and manner of subsidized acquisition of vehicles (cars, trucks, and construction machineries) manufactured in the Republic of Serbia in accordance with the old-for-new policy. The purpose of this measure was stimulation and promotion of economic development of the country. The most significant results were achieved in passenger cars sector where regulation was formalized to encourage the replacement of old vehicles equipped with engines that do not meet even Euro 3 standard, with new domestic vehicles equipped with Euro 5 engines. The subsidy per vehicle varied in the range from 600 to 1,000 Euro (Government of the Republic of Serbia, 2011b).

The Fund for Environmental Protection subsidized old for new mechanism as an instrument of environmental and climate change policy in period 2011-2012. In 2012, the Fund adopted a Decision on the awarding of grants to automotive companies aimed at encouraging the purchase of environmentally friendly vehicles, i.e. vehicles with CO₂ emissions below 100 g/km. The total value of funds available for this purpose amounted to 20,000,000 dinars (app. 200 thousands euro), or 100,000 dinars (app. 1,000 euro) per vehicle (Government of the Republic of Serbia, 2013b).

Currently, this instrument is conducted by domestic manufacturer of cars (FCA Serbia)⁶. Each customer who purchases new car in this company is subsidized with 2,500 euro, if replace and recycle old car. The value of old car is also subtracted from the bill for new car, but the request is that the old vehicle is also manufactured in Serbia.

Relation to Energy Efficiency

Primary motivation for introduction of this policy instrument was the support of Serbian automotive industry. This was especially supported by programs realized by Government of the Republic of Serbia, and in the current program of FCA Serbia. The program realized by the Fund for Environmental Protection insisted on reduction of emissions of pollutants (NO_x, CO, PM, etc.) and CO₂. Most of the old vehicles that were replaced had been manufactured before 1990 and had not met even Euro 3 standard. As CO₂ reduction can be achieved only if new vehicle consume less fuel than the old vehicle, it is clear that this instrument provides reduction of energy consumption and emission of CO₂ and other pollutants.

Energy efficiency potential of this instrument is recognized, and it is estimated that achieved shavings in period 2010 – 2012 were 0.00765 Mtoe (0.32 PJ), while the saving potential for period 2010-2018 amounts 0.034 Mtoe (1.42 PJ) (Government of the Republic of Serbia, 2013b). However, for this achievement, besides voluntary approach of domestic car producers, the Government and the Ministry in charge of Economy need to continue to support this type of subsidization.

Users and/or purchasers of vehicles (both legal and natural persons) should have clear benefit (less fuel consumption and costs) of using more energy efficient cars.

Interaction between objectives

Although improvement of energy efficiency in transport sector was not primary motive for introduction of **Subsidies for the purchasing of new vehicles and the replacement of old one**, this instrument is compatible, and represents the support to proposed regulatory instrument - **Fuel economy standards/vehicle CO₂ - emission standards**.

Simultaneous implementation of these two measures should contribute in total to 3.85 PJ of energy savings in period 2010 – 2018 (Government of the Republic of Serbia, 2013b).

Interaction between target groups

Implementation of both instruments helps customers to purchase cheaper new vehicles. The vehicle producers, importers and dealers should have interest because implemented together these instruments raise demand for new vehicles. Finally, improved air quality saved energy resources and decreased import dependency are benefits for whole country and society.

Interaction between Rules-Influencing Mechanisms

Both policy instruments are currently directed to Euro 5 standard, while in the near future introduction of Euro 6 standard is expected. In that sense, implementation of these instruments would have significant influence to Serbian new cars market.

Interaction between the Implementation Network / governance structures

Implementation of **Fuel economy standards/vehicle CO₂ - emission standards** is responsibility of Road Traffic Safety Agency and the Ministry of Interior, while institutions in charge for monitoring are Road Traffic Safety Agency, Customs Administration and Ministry of Construction, Transport and Infrastructure, while the institution in charge of the implementation of **Subsidies for the purchasing of new vehicles and the replacement of old one were in the jurisdiction of** Ministry in charge of

⁶ [http://www.fiatsrbija.rs/\(04.08.2015.\)](http://www.fiatsrbija.rs/(04.08.2015.))

Economy (or currently, production/commercial company conducts it). Institutions in charge for monitoring are Ministry in charge of Economy and Customs Administration. These institutions are capable to design, support and ensure the implementation of the policy instruments, although administrative capacities must be strengthened (Government of the Republic of Serbia, 2013b).

Concerning numerous institutions involved, the second EEAP (Government of the Republic of Serbia, 2013b) emphasizes lack of inter-sectors communication and coordination during the policy implementation.

Lack of financial resources in Serbian budget stopped the realization of subsidies, and they are continued by commercial resources.

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