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# LANDSCAPE OF ENERGY EFFICIENCY POLICY PACKAGES IN A MULTI-LEVEL GOVERNMENT SYSTEM

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

## NATIONAL REPORT FOR SERBIA

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

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## ACRONYMS

DHS	District Heating System
EE	Energy Efficiency
EEAP	Energy Efficiency Action Plan
EPBD	Energy Performance Building Directive
EUE	Efficient Use of Energy
HVAC	Heating, Ventilating, Air Conditioning
Mtoe	Million tons of oil equivalent
NGO	Non-Governmental Organization
RES	Renewable Energy Sources
SEAP	Sustainable Energy Action Plan

## EXECUTIVE SUMMARY

The Republic of Serbia officially applied for European Union membership in 2009, and received full candidate status in 2012. However, the Republic of Serbia is contracting party of the Energy Community Treaty since 2006. Recently, the Republic of Serbia adopted a new Energy Law (Government of the Republic of Serbia, 2014a) that transposes the EU's Third Energy Package. Basic EU documents that defines energy efficiency policy packages in Serbia are, as follows:

- Directive 2006/32/E3 on energy end-use efficiency and energy services<sup>1</sup>,
- Directive 2010/30/EU on the indication by labeling and standard product information of the consumption of energy and other resources by energy-related products, and
- Directive 2010/31/EU on energy performance of buildings.

In 2015, Serbian Government adopted **Energy Sector Development Strategy of Republic of Serbia up to 2025 with projections to 2030** (Government of Serbia, 2015). Energy efficiency is further promoted in this document as "new energy source", while a scenario of energy sector development assuming wider implementation of energy efficiency measures was developed. Increase of energy efficiency in all sectors of consumption is established as strategic goal. This goal should be achieved by implementation of provisions of the Law on Efficient Use of Energy (Government of the Republic of Serbia, 2013a) and actions defined in the national Action Plans for Energy Efficiency (Government of the Republic of Serbia, 2013b).

**The Second Energy Efficiency Action Plan of the Republic of Serbia for the period from 2013 to 2015** (Government of the Republic of Serbia, 2013b) has been prepared at the request of Directive 2006/32/E3 on energy end-use efficiency and energy services, and in accordance with the model developed by the Working Group on Energy Efficiency established in the Energy Community Secretariat.

The Second EEAP is related to the period from 2013 to 2015. This strategic document defines specific quantitative targets for energy savings in line with the general objectives of other policy documents in this area. The average indicative target for saving for the period from 2013 to 2015 was defined at the level of 3.5% of the final energy consumption in 2008 (0.2952 Mtoe). The overall saving in the period from 2010 to 2015 should be 0.3975 Mtoe (4.7%). The total target of at least 9% of the final energy consumption in the ninth year (2018) of implementation remains the same as in the First EEAP (0.7524 Mtoe). The final energy savings during the period 2013-2015 should be achieved by the implementation of energy efficiency improvement measures in the household sector (0.0693 Mtoe or 23.4%), the public/commercial sector (0.0499 Mtoe or 16.8%), the industry sector (0.081 Mtoe or 27.7%) and the transport sector (0.095 Mtoe or 32.1%).

The buildings sector has not been analyzed as a specific sector in the Second EEAP. However, the most of the measures for energy efficiency improvement and related calculations are provided for the household sector and the public/commercial sector. Using provided data for these two sub-sectors in the Second EEAP, total planned savings in 2015 in the buildings sector amounts 0.1374 Mtoe, while planned savings in 2018 amounts 0.2666 Mtoe. The Second EEAP for the buildings sector targets both supply and demand side. Demand side is dominant for the residential sub-sector, while for the public/commercial sub-sector besides similar measures on demand side, supply side is considered by promotion of incentive rates for highly efficient coupled/combined heat and power generation, and by mandatory regular control of the combustion facilities, as well as air conditioning sys-

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<sup>1</sup> Directive 2012/27/EU on energy efficiency is not binding yet on the Parties to the EC Treaty.

tems. Also, in the public/commercial sub-sector specific organizational measures target energy efficiency at both demand and supply side.

Planned savings in the Transport sector according to the Second EEAP amounts 0.1032 Mtoe in 2015, and 0.2107 Mtoe in 2018. Policy package defined by the second EEAP is mostly directed to vehicle efficiency. Out of five proposed measures, four is directed to vehicle efficiency. Only one measure (Promotion of eco-driving and car sharing scheme) is directed to travel efficiency and in less extent to system efficiency.

At a national level, energy efficiency is generally under the authority of the Ministry of Mining and Energy – Department for Energy Efficiency and Renewable Energy and this institution is recognized as the key player for implementation of all measures and instruments quoted in the second EEAP related to the buildings sector. Besides this Ministry, the Ministry of Construction, Transport and Infrastructure, the Standing Conference of Towns and Municipalities and other relevant institutions at the level of the autonomous province and local self-government are appointed as institutions in charge for the implementation of activities under specified measures.

Responsibility for implementation of measures in the transport Sector is split between different ministries and governmental institutions. The most of responsible institutions (Road Traffic Safety Agency, Ministry of Construction, Transport and Infrastructure, Ministry of Interior, etc.) are only indirectly connected to energy issues and energy efficiency improvement. A favorable circumstance is that actions primary directed to improve safety and efficiency of transport, or to diminish environmental and impact on climate, have positive effects on energy efficiency. Unfortunately, there are no official coordination mechanisms in place for the national energy efficiency policy in the Transport sector. As the public transport is within the responsibility of local self-governments, under their responsibility are all activities, necessary for introduction of energy efficiency as a criterion for fleet modernization with an assignment of improvement of public transport service performance.

**The budget Fund for Energy Efficiency** is planned to be national program, comprehensive mechanism for financing different measures and activities aimed to improve energy efficiency. Activities and projects that are appropriate for financing are: different technical measures for improvement of energy efficiency in the private, public, commercial sectors, development of energy management system for entities that are not designated organizations, promotion and implementation of energy audits of facilities, production processes and services, introduction of systems for combined heat and power generation for investors that use thermal and electrical energy exclusively for own use, development of energy services market in the Republic of Serbia, use of renewable energy sources for electricity and heat generation for individual usage, and all other activities aimed to the improvement of efficiency of energy use. According to the experience from 2014, one of the priorities of this program is directed to improvement of energy efficiency in the buildings sector.

Serbia is not the full member of EU and it's participation in EU projects is limited. However, as a contracting party of the **Energy Community Treaty**, performances of national policy packages for energy efficiency are regularly evaluated by Secretariat of this institution. It was concluded that with the adoption of the Law on Efficient Use of Energy, the second EEAP and Labeling Regulation, Serbia achieved a significant step forward towards the transposition of the energy efficiency acquis (Energy Community, 2015). State and possibilities for Serbian buildings sector were only partly analysed in **ENTRANZE Project**. An overview of Serbian building stock until 2010 based on literature review, as well analysis of energy balance for 2008 were done. Also, expected final energy demand for space heating and hot water in Serbia in 2020 and 2030 for three different policy scenarios was presented. However, in-depth policy discussion wasn't carried out, as well as thorough analysis of the current state of policies in Serbia. The **IEE Project TABULA**<sup>2</sup> was aimed at defining common principles for the

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<sup>2</sup> <http://www.building-typology.eu>

creation of national typologies of residential buildings. In 2013, the project "Tabula" was completed, and for the first time in the Republic of Serbia provided classification of buildings in family and multi-family housing. Results of the Tabula project (Jovanovic Popovic et al., 2013) were used during development of the second EEAP. **IEA Energy Efficiency Policy and Measures Database**<sup>3</sup> includes some indicators and information on energy efficiency policy in Serbia. Although elaborated decrees can be, in wider context, put in relation with energy efficiency, they are primarily directed to RES promotion and feed-in tariff system implementation.

Although national level's authority is dominant in conducting energy efficiency programs and initiatives, regional (Autonomous Province of Vojvodina) and local authorities have important roles in these activities too. Responsibility for implementation of the second Energy Efficiency Action Plan (EEAP) is also attributed to provincial or local governments, within their respective jurisdictions.

Some of local authorities in Serbia are very active in different energy efficiency initiatives on national, regional and international level. Concerning the **Covenant of Mayors**, interest in Serbian municipalities is still very modest compared to other European countries. Currently, 12 Serbian municipalities are signatories, but six of them are on hold, as they have not submitted their SEAPs before the deadline. Only one Serbian city, the City of Niš, has submitted the SEAP<sup>4</sup>.

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<sup>3</sup> <http://www.iea.org/policiesandmeasures/energyefficiency/?country=Serbia>

<sup>4</sup> <http://www.ni.rs/wp-content/uploads/141224-seap.pdf>

# 1. THE ROLE OF GOVERNANCE AND ENERGY EFFICIENCY POLICY PACKAGES ON THE NATIONAL LEVEL

## 1.1 POLICY PACKAGES AND POLICY GOVERNANCE IN SERBIA

Modern strategic and regulatory framework in Serbian energy sector was established after 2000. The first adopted energy sector development strategy (Government of Serbia, 2005) promoted energy efficiency (in the production, distribution and utilization of energy by end consumers of energy-related services) as the second directed priority of energy sector development. Additionally, more energy efficient and environmentally acceptable energy technologies and installations/equipment for energy utilization are promoted as the third, special priority of this document. This document does not have specified quantitative energy efficiency target.

The Republic of Serbia officially applied for European Union membership in 2009, and received full candidate status in 2012. However, Serbia particularly is contracting party of the Energy Community Treaty since 2006. This was the first contract signed between the Republic of Serbia and EU. By this document the Republic of Serbia assumed obligation of implementation of European Union regulations (Acquis Communautaire on Energy, Environment, Competition and Renewables) (Government of the Republic of Serbia, 2006). Significance of the Energy Community Treaty is confirmed by ratification of Stabilization and Association Agreement in 2008. In this Agreement the necessity of cooperation of the Republic of Serbia and European Union, for the development of Community acquis and integration of the Republic of Serbia into energy market of the European Union is emphasized. Recently, the Republic of Serbia adopted a new Energy Law (Government of the Republic of Serbia, 2014a) that transposes the EU's Third Energy Package. Basic EU documents that defined energy efficiency policy packages in Serbia are, as follows:

- Directive 2006/32/E3 on energy end-use efficiency and energy services<sup>5</sup>,
- Directive 2010/30/EU on the indication by labeling and standard product information of the consumption of energy and other resources by energy-related products, and
- Directive 2010/31/EU on energy performance of buildings.

In 2015, Serbian Government adopted the **Energy Sector Development Strategy of Republic of Serbia up to 2025 with projections to 2030** (Government of Serbia, 2015) and sent it to the National Assembly for approval. Energy efficiency is further promoted in this document as a “new energy source” and complete scenario of energy sector development assuming wider implementation of energy efficiency measures was developed. Increase of energy efficiency in all sectors of consumption is established as strategic goal. This goal should be achieved by implementation of provisions of the Law on Efficient Use of Energy (Government of the Republic of Serbia, 2013a) and actions defined in the national Action Plans for Energy Efficiency (Government of the Republic of Serbia, 2013b). Further this document insists on defining the national saving goals (in total and per sectors) and monitoring of effects of implementation of energy efficiency measures (with emphasized need for capacity building of energy statistic). Significance of non-technical measures is recognized and promoted, and as priorities introduction of energy management systems and informing and education of the public are appointed. As this document was prepared after the adoption of the Second Energy Efficiency Action Plan, national energy efficiency targets in both documents are the same. Also, in the Energy Sector Development Strategy, significance of energy efficiency for overall social and economic

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<sup>5</sup> Directive 2012/27/EU on energy efficiency is not binding yet on the Parties to the EC Treaty.



development of the country was emphasized. It is stated that investments required for transition of the Republic of Serbia towards more energy efficient energy use are very high for its economic state, but that they are justified, because they shall reduce import dependency, contribute to competitiveness of the economy, reduce costs of environmental protection and directly and indirectly contribute to better living standard of the citizens.

**The Second Energy Efficiency Action Plan of the Republic of Serbia for the period from 2013 to 2015** (Government of the Republic of Serbia, 2013b) has been prepared at the request of Directive 2006/32/E3 on energy end-use efficiency and energy services, and in accordance with the model developed by the Working Group on Energy Efficiency established in the Energy Community Secretariat.

In the First Energy Efficiency Action Plan (EEAP) of the Republic of Serbia for the period from 2010 to 2012, an average indicative saving target for 2010-2012 period was defined as 9% of the final domestic energy consumption in 2008 (0.1254 Mtoe), (Government of the Republic of Serbia, 2010). Also, the total target of at least 9% of the final energy consumption in the ninth year (2018) of application was also calculated with regard to the final energy consumption in 2008. This specific year was selected for calculation, because data about energy consumption in the Republic of Serbia for 2008 were the most reliable at the time of adoption of the First EEAP.

The Second EEAP is related to the period from 2013 to 2015. This strategic document defines specific quantitative targets for energy savings in line with the general objectives of other policy documents in this area. The Second EEAP contains analysis and performance evaluation of the implementation of the First EEAP, presents the key parameters of the Second EEAP and proposes measures to increase energy efficiency. Measures for the reduction of final energy consumption are followed by sets of indicative targets for the second reporting period 2013-2015. A review of horizontal measures, as well as institutional and financial framework for the implementation of energy efficiency measures are also included in the second EEAP. They are aimed to improve the implementation, monitoring and evaluation of achieved savings. The average indicative target for savings for the period from 2013 to 2015 was defined at the level of 3.5% of the final energy consumption in 2008 (0.2952 Mtoe). Therefore, the overall savings in the period from 2010 to 2015 should be 0.3975 Mtoe (4.7%). The total target of at least 9% of the final energy consumption in the ninth year (2018) of implementation remains the same as in the First EEAP (0.7524 Mtoe). Final energy savings over a period 2013-2015 should be achieved by the implementation of energy efficiency improvement measures in the household sector (0.0693 Mtoe or 23.4%), public/commercial sector (0.0499 Mtoe or 16.8%), industry sector (0.081 Mtoe or 27.7%) and transport sector (0.095 Mtoe or 32.1%).

For achieving the goals set out in the EEAP, different policy instruments (described in detail in D 1.2) are developed by adoption sets of laws, regulations and rulebooks. Main official national documents that provide information about national energy efficiency packages in the buildings and the transport sector are listed in Table 1. This table contains exact title, date, institution that is responsible for respective document, main information of the document and internet link.

**Table 1: List of national documents concerning Serbian energy efficiency packages**

Name of the document	Institution and the date of adoption	Main information and internet link
<b>General documents</b>		
Energy Sector Development Strategy of Republic of Serbia up to 2025 with projections to 2030,	Government of the Republic of Serbia, 29.05.2015 <sup>6</sup>	Energy efficiency is promoted as "new energy source" and complete scenario of energy sector development assuming wider implementation of energy efficiency measures was developed. Increase of energy effi-

<sup>6</sup> This document is in National Assembly of the Republic of Serbia for final adoption.

Name of the document	Institution and the date of adoption	Main information and internet link
		ciency in all sectors of consumption is established as strategic goal. <a href="http://www.srbija.gov.rs/vesti/dokumenti_sekcija.php?id=45678">http://www.srbija.gov.rs/vesti/dokumenti_sekcija.php?id=45678</a>
The First Energy Efficiency Action Plan of the Republic of Serbia for the Period from 2010 to 2012	Government of the Republic of Serbia, 2010	Document presents the key parameters and proposes measures to increase energy efficiency. Measures for the reduction of final energy consumption are followed by sets of indicative targets for the reporting period 2010-2012. <a href="http://mre.gov.rs/doc/efikasnost-izvori/Prvi_akcioni_plan_za_energetsku_efikasnost.pdf?uri=CELEX:32009L0028">http://mre.gov.rs/doc/efikasnost-izvori/Prvi_akcioni_plan_za_energetsku_efikasnost.pdf?uri=CELEX:32009L0028</a>
The Second Energy Efficiency Action Plan of the Republic of Serbia for the Period from 2013 to 2015	Government of the Republic of Serbia, 21.10.2013	Document defines specific quantitative targets for energy savings. It contains analysis and performance evaluation of the implementation of the First EEAP, presents the key parameters and proposes measures to increase energy efficiency. Measures for the reduction of final energy consumption are followed by sets of indicative targets for the second reporting period. A review of horizontal measures, as well as institutional and financial framework for the implementation of energy efficiency measures are also included. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/B_01_Drugi_akcioni_plan_za_energetsku_efikasnost_za_Republiku_Srbiju_za_period_od_2013_do_2015_godine.pdf?uri=CELEX:32009L0028">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/B_01_Drugi_akcioni_plan_za_energetsku_efikasnost_za_Republiku_Srbiju_za_period_od_2013_do_2015_godine.pdf?uri=CELEX:32009L0028</a>
Law on Efficient Use of Energy	Government of the Republic of Serbia, 15.03.2013.	This Law regulates the conditions and ways of efficient use of energy and energy sources in the production, transmission, distribution and consumption of energy; policy of efficient use of energy; energy management system; energy labeling; minimum energy efficiency requirements in production, transmission and distribution of electricity and heat, as well as natural gas distribution; funding, incentives and other measures in this area, as well as other issues of importance to the rights and obligations of natural and legal persons in connection with the efficient use of energy. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/A_01_Zakon_o_efikasnom_koriscenju_energije.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/A_01_Zakon_o_efikasnom_koriscenju_energije.pdf</a>
<b>Buildings Sector</b>		
Law on Construction and Planning,	Government of the Republic of Serbia, 2014	This Law regulates: conditions and manner of spatial planning, regulation and use of land and construction of buildings; monitor the implementation of the provisions of this law and inspection; other issues of importance for spatial planning, regulation and use of land and building construction. Energy efficiency improvement in buildings sector is one of the objectives of this Law. <a href="http://www.ingkomora.org.rs/zakoni/zakon_o_planiranju_i_izgradnji2014.pdf">http://www.ingkomora.org.rs/zakoni/zakon_o_planiranju_i_izgradnji2014.pdf</a>
Regulation on types of products that affect the consumption of energy and require labelling of consumption of energy and other resources	Government of the Republic of Serbia, 21.10. 2013	Regulation prescribes types of products for energy labeling, as well as the dynamics of the compulsory introduction of energy efficiency labels for different product types. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_01_Uredba_o_vrstama_proizvoda_koji_uticu_na_potrosnju_energije_za_koje_je_neophodno_oznacavanje_potrosnje_energije_i_drugih_resursa.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_01_Uredba_o_vrstama_proizvoda_koji_uticu_na_potrosnju_energije_za_koje_je_neophodno_oznacavanje_potrosnje_energije_i_drugih_resursa.pdf</a>
Regulation on Programme of financing activities and measures for improvement efficient energy use in 2014	Government of the Republic of Serbia, 17.01.2014.	Regulation prescribes program of financing activities and measures for improvement efficient energy use in 2014. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/C_01_Uredba_o_utvrđivanju_programa_finansiranja_aktivnosti_i_mera_unapredjenja_efikasnog_koriscenja_energije_u_2014_godini.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/C_01_Uredba_o_utvrđivanju_programa_finansiranja_aktivnosti_i_mera_unapredjenja_efikasnog_koriscenja_energije_u_2014_godini.pdf</a>
Regulation on determination of methodology for determination of price for supply of end user by heat energy	Government of the Republic of Serbia, 10.07.2015.	Regulation prescribes methodology for determination of price for supply of end user by heat energy. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/uredba_metodologija_toplotna_energija0138_cyr.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/uredba_metodologija_toplotna_energija0138_cyr.pdf</a>
Rulebook on licensing exams in the field of spatial and urban planning, preparation of technical documentation, construction and energy efficiency and on issuing and revocation of licenses for the	Ministry of Construction, Transport and Infrastructure, 16.03.2015.	Document prescribes rules for licensing exams in the field of spatial and urban planning, preparation of technical documentation, construction and energy efficiency and on issuing and revocation of licenses for the authorized urban planner, designer, contractor and responsible planner. <a href="http://www.ingkomora.rs/zakoni/pravilnici/59713_Pravilnik_o_polaganj">http://www.ingkomora.rs/zakoni/pravilnici/59713_Pravilnik_o_polaganj</a>

Name of the document	Institution and the date of adoption	Main information and internet link
authorized urban planner, designer, contractor and responsible planner		<a href="#">u_strucnog_ispita.pdf</a>
Rulebook on the labelling of energy efficiency of household refrigerating appliances	Ministry of Energy, Development and Environment, 20.01.2014.	Document prescribes rules for labeling of energy efficiency of household refrigerating appliances with volume between 10 and 1500 liters. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_06_Pravilnik_o_ozacavanju_energetske_efikasnosti_rashladnih_uredjaja_za_domacinstvo.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_06_Pravilnik_o_ozacavanju_energetske_efikasnosti_rashladnih_uredjaja_za_domacinstvo.pdf</a>
Rulebook on the labelling of energy efficiency of household washing machines	Ministry of Energy, Development and Environment, 21.02.2014.	Document prescribes rules for labeling of energy efficiency of household washing machines. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_02_Pravilnik_o_ozacavanju_energetske_efikasnosti_masina_za_pranje_vesa_u_domacinstvu.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_02_Pravilnik_o_ozacavanju_energetske_efikasnosti_masina_za_pranje_vesa_u_domacinstvu.pdf</a>
Rulebook on the labelling of energy efficiency of household dishwashers	Ministry of Energy, Development and Environment, 21.02.2014.	Document prescribes rules for labeling of energy efficiency of household dishwashers. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_03_Pravilnik_o_ozacavanju_energetske_efikasnosti_masina_za_pranje_sudova_u_domacinstvu.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_03_Pravilnik_o_ozacavanju_energetske_efikasnosti_masina_za_pranje_sudova_u_domacinstvu.pdf</a>
Rulebook on the labelling of energy efficiency of electric ovens	Ministry of Energy, Development and Environment, 24.02.2014.	Document prescribes rules for labeling of energy efficiency of electric ovens. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_04_Pravilnik_o_ozacavanju_energetske_efikasnosti_elektricnih_pecnica.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_04_Pravilnik_o_ozacavanju_energetske_efikasnosti_elektricnih_pecnica.pdf</a>
Rulebook on the labelling of energy efficiency of electric bulbs and lamps	Ministry of Energy, Development and Environment, 21.02.2014.	Document prescribes rules for labeling of energy efficiency of electric bulbs and lamps. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_05_Pravilnik_o_ozacavanju_energetske_efikasnosti_elektricnih%20sijalica_i_svetiljki.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_05_Pravilnik_o_ozacavanju_energetske_efikasnosti_elektricnih%20sijalica_i_svetiljki.pdf</a>
Rulebook on the labelling of energy efficiency of TVs	Ministry of Energy, Development and Environment, 20.02.2014.	Document prescribes rules for labeling of energy efficiency of TVs. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_07_Pravilnik_o_ozacavanju_energetske_efikasnosti_televizora.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_07_Pravilnik_o_ozacavanju_energetske_efikasnosti_televizora.pdf</a>
Rulebook on the labelling of energy efficiency of air-conditioning devices	Ministry of Energy, Development and Environment, 28.02.2014.	Document prescribes rules for labeling of energy efficiency of air-conditioning devices. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_08_Pravilnik_o_ozacavanju_energetske_efikasnosti_uredjaja_za_klimatizaciju.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/D_08_Pravilnik_o_ozacavanju_energetske_efikasnosti_uredjaja_za_klimatizaciju.pdf</a>
Rulebook on Conditions, Content and Manner of Issuance of Certificates of Energy Performance of Buildings	Ministry of Environment, Mining and Spatial Planning, N/A	Document prescribes rules for conditions, content and manner of issuance of certificates of energy performance of buildings. <a href="http://www.kombeg.org.rs/Slike/UdrGradjevinarstvo/Statika/Informacij_e-zakoni/EnergetskaEfik.pdf">http://www.kombeg.org.rs/Slike/UdrGradjevinarstvo/Statika/Informacij_e-zakoni/EnergetskaEfik.pdf</a>
Rulebook on Energy Efficiency of Buildings	Ministry of Environment, Mining and Spatial Planning, 5.8.2011.	Document prescribes energy properties and method of calculating the thermal properties of buildings, as well as energy requirements for new and existing buildings. <a href="http://www.ingkomora.org.rs/strucniispiti/download/ee/PRAVILNIK_O_EEZ_za%20obuku.pdf">http://www.ingkomora.org.rs/strucniispiti/download/ee/PRAVILNIK_O_EEZ_za%20obuku.pdf</a>
Rulebook on Model Energy Service Contracts for the Implementation of Energy Efficiency when Users are from Public Sector	Ministry of Mining and Energy, 16.4.2015.	Document prescribes model energy service contracts for the implementation of energy efficiency when users are from public sector. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/00%20-%20Pravilnik.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/00%20-%20Pravilnik.pdf</a>
Rulebook on the manner of implementation and content of training program for energy managers, expenditures for attending the training courses, and detailed conditions, curriculum, and taking of the examination for energy managers	Ministry of Mining and Energy, 22.1.2015.	Document prescribes the manner of implementation and content of training program for energy managers, expenditures for attending the training courses, and detailed conditions, curriculum, and taking of the examination for energy managers. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/Pravilnik%20o%20nacinu%20sprovodjenja%20obuke.pdf?uri=CELEX:32009L0028">http://www.mre.gov.rs/doc/efikasnost-izvori/Pravilnik%20o%20nacinu%20sprovodjenja%20obuke.pdf?uri=CELEX:32009L0028</a>
Rulebook on conditions in terms of personnel, equipment and facilities of the organization that conducted the training for energy managers and authorized energy advisors	Ministry of Mining and Energy, 22.1.2015.	Document prescribes conditions in terms of personnel, equipment and facilities of the organization that conducted the training for energy managers and authorized energy advisors. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/Pravilnik%20o%20uslovima%20u%20pogledu%20kadrova.pdf?uri=CELEX:32009L0028">http://www.mre.gov.rs/doc/efikasnost-izvori/Pravilnik%20o%20uslovima%20u%20pogledu%20kadrova.pdf?uri=CELEX:32009L0028</a>
Rulebook on the conditions for allocation and use of the Budget Fund for improving energy efficiency of the Republic of Serbia and criteria for exemption from the	Ministry of Energy, Development and Environment 27.1.2014.	Document prescribes the conditions for allocation and use of the Budget Fund for improving energy efficiency of the Republic of Serbia and criteria for exemption from the obligation of performing an energy audit. <a href="http://www.mre.gov.rs/doc/efikasnost-">http://www.mre.gov.rs/doc/efikasnost-</a>

Name of the document	Institution and the date of adoption	Main information and internet link
obligation of performing an energy audit		<a href="#">izvori/efikasnost/C_02_Pravilnik_o_uslovima_za_raspodelu_i_koriscenje_sredstava_Budzetskog_fonda_za_unapredenje_energetske_efikasnosti.pdf</a>
<b>Transport Sector</b>		
Law on Efficient Use of Energy	Government of the Republic of Serbia, 15.03.2013.	The Law prescribes that competent authority of local self-government with more than 20,000 inhabitants is obliged to adopt a program to improve energy efficiency in the transport within period of three years. Legal persons performing compulsory technical inspection of motor vehicles accordance with the Law are obliged to provide data that enable identification and tracking Indicators of energy consumption in road transport. <a href="http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/A_01_Zakon_o_efikasnom_koriscenju_energije.pdf">http://www.mre.gov.rs/doc/efikasnost-izvori/efikasnost/A_01_Zakon_o_efikasnom_koriscenju_energije.pdf</a>
Strategy of the Railway, Road, Inland Waterway, Air and Intermodal Transport Development in the Republic of Serbia (2008-2015)	Government of the Republic of Serbia 27.12.2007.	Strategy proposes a concept of development of infrastructure and transport, defines goals and objectives of transport system development and action plan for their implementation until 2015. <a href="http://www.putevi-srbije.rs/strategijapdf/Strategijatransport_eng.pdf">http://www.putevi-srbije.rs/strategijapdf/Strategijatransport_eng.pdf</a>
Law on Road Traffic Safety	Government of the Republic of Serbia, 6.8.2010.	This Law regulates the rules of traffic, conduct of traffic participants, traffic restrictions, traffic signals, signs and instructions to which all traffic participants shall adhere, the conditions which drivers shall meet in order to drive a vehicle, driver's education, passing driving tests, right to drive a vehicle, issuing of driving licenses, issuing of the labels for disabled persons' vehicles, the demands vehicles shall meet, technical examinations, inspections and vehicle registration, special measures and powers applied to road traffic, as well as other issues related to road traffic safety. <a href="http://en.abs.gov.rs/regulations">http://en.abs.gov.rs/regulations</a>
Regulation on motor vehicle import	Government of the Republic of Serbia, 2010	Document prescribes specific conditions for vehicle import in the Republic of Serbia. <a href="http://www.abs.gov.rs/odluke-i-uredbe">http://www.abs.gov.rs/odluke-i-uredbe</a>
Regulation on marking of oil products	Government of the Republic of Serbia, 20.5.2013.	Document closely regulates the conditions, manner and procedure of marking (labeling) refined petroleum products placed on the market. <a href="http://www.mre.gov.rs/doc/nafta-i-gas/B02%20Uredba%20o%20obelezavanju%20(markiranju)%20derivata%20nafte.pdf">http://www.mre.gov.rs/doc/nafta-i-gas/B02%20Uredba%20o%20obelezavanju%20(markiranju)%20derivata%20nafte.pdf</a>
Law on Ratification of the Agreement on the adoption of unified technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or used on vehicles with wheels and conditions for reciprocal recognition of approvals awarded in line with these regulations	National Assembly of the Republic of Serbia, 2011	Document prescribes unified technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or used on vehicles with wheels and conditions for reciprocal recognition of approvals awarded in line with these regulations. Approval of vehicles according to United Nations Economic Commission for Europe (UNECE) regulations include determination and verification that vehicle's characteristics meet the requirements related to the active safety, passive safety, environmental protection and energy saving (fuel consumption), control of the conformity of series production, a unique method of application and acceptance by all contracting parties. <a href="http://demo.paragraf.rs/combined/Old/t/t2011_12/t12_0360.htm">http://demo.paragraf.rs/combined/Old/t/t2011_12/t12_0360.htm</a>
Rulebook of the technical measures for slowing road traffic	Ministry of Transport, 17.1.2014.	Document prescribes technical measures for slowing road traffic. <a href="http://slglasnik.info/sr/9-30-01-2014/22305-pravilnik-o-tehnickim-sredstvima-za-usporavanje-saobracaja-na-putu.html">http://slglasnik.info/sr/9-30-01-2014/22305-pravilnik-o-tehnickim-sredstvima-za-usporavanje-saobracaja-na-putu.html</a>
Rulebook on technical and other requirements for petroleum-derived liquid fuels	Ministry of Energy, Development and Environment, 27.12.2012.	This document prescribes technical and other requirements for petroleum-derived liquid fuels. <a href="http://www.mre.gov.rs/doc/nafta-i-gas/izmena/C12%20Pravilnik%20o%20tehnickim%20i%20drugim%20zah-tevima%20za%20tecna%20goriva%20naftnog%20porekla.pdf">http://www.mre.gov.rs/doc/nafta-i-gas/izmena/C12%20Pravilnik%20o%20tehnickim%20i%20drugim%20zah-tevima%20za%20tecna%20goriva%20naftnog%20porekla.pdf</a>

## 1) Buildings Sector

### Objectives

The buildings sector has not been analyzed as a specific sector in the Second EEAP. However, the most of the measures for energy efficiency improvement and related calculations are provided for

household sector and public/commercial sector. Using provided data for these two sub-sectors in the Second EEAP, total planned savings in 2015 in the buildings sector amounts 0.1374 Mtoe, while planned savings in 2018 amounts 0.2666 Mtoe. These **energy efficiency targets for the buildings sector** represent 1.5% and 2.9% respectively of total final energy consumption in 2013 in Serbia (Statistical Office of the Republic of Serbia, 2014).

The buildings sector had share of 38.5% in final energy consumption in the base year 2008. According to a new energy balances after 2010, this share raised to 49.16% in 2011 (Statistical Office of the Republic of Serbia, 2012). Share of the buildings sector in the final energy savings according to the Second EEAP should be 36.55% in 2018.

Summary of proposed measures and expected savings in the Second EEAP is presented in Table 2.

**Table 2: Summary of proposed measures and expected savings in the Buildings Sector**

Name of measure in the Second EEAP	Expected savings in 2015 [Mtoe]	Expected savings in 2018 [Mtoe]
Energy efficiency improvement measures in residential buildings	0.0218	0.0436
New rules for the design and construction of buildings, the minimum requirements in terms of energy performance of buildings and their certification in accordance with the revised EPBD	0.0418	0.0848
Promotion of the use of energy-efficient household appliances	0.005762	0.01194
Energy efficiency improvement measures in public/commercial buildings	0.00691	0.0170
New rules for the design and construction of buildings, the minimum requirements in terms of energy performance of buildings and their certification in accordance with the revised EPBD	0.02676	0.05352
Introduction of Energy Management Systems in the public and commercial sector	0.008141	0.04477
Determination of energy efficiency as one of the criteria for the most economically advantageous tender in public procurement	Not estimated	Not estimated
Incentive rates for highly efficient coupled/combined heat and power generation	0.00431	0.00862
Mandatory regular control of the combustion process of boilers and other combustion chambers with the capacity over 20 kW, as well as air conditioning systems	0.00242	0.00242

The second EEAP has not further elaborated significance of energy efficiency for economic development (employment, energy costs), fuel poverty reduction, etc. Such elaboration (for all sectors) is presented in the Energy Sector Development Strategy of Republic of Serbia up to 2025 with projections to 2030.

### Synthesis of policy packages

The Second EEAP, as comprehensive policy package, in the buildings sector targets both supply and demand side. Demand side is dominant in residential sub-sector (energy efficiency improvement measures in residential buildings, new rules for the design and construction of buildings, promotion of the use of energy-efficient household appliances), while for the public/commercial sub-sector besides similar measures on demand side, supply side is considered by promotion of incentive rates for highly efficient coupled/combined heat and power generation, and by mandatory regular control of



the combustion process of boilers and other combustion chambers with the capacity over 20 kW, as well as air conditioning systems. Also, in the public/commercial sub-sector specific organizational measures (Introduction of Energy Management Systems and determination of energy efficiency as one of the criteria for the most economically advantageous tender in public procurement) target energy efficiency at both demand and supply side.

Also, some of horizontal measures proposed by this document (Billing based on actual consumption of heat energy for the consumers connected to district heating system, Promotion of ESCO model for energy efficiency projects financing) have influence both on demand and supply side in the buildings sector, while horizontal measure Raising awareness about the energy efficiency importance is mostly directed to demand side.

List of measures, their short description and proposed instruments for their achievement is presented in Table 3. Instruments are quoted as they are written in the Second EEAP. Only some of them are completely developed and covered by appropriate regulations.

**Table 3: Measures for energy efficiency in Buildings Sector and instruments for their achievement**

Name and description of measure in the Second EEAP	Proposed instruments
<i>Residential Sub-sector</i>	
<p><b>H1 Energy efficiency improvement measures in residential buildings</b> Measure includes energy savings for heating and cooling through the intervention on building envelope (improvement or replacement of external windows and doors, installation or improvement of existing thermal insulation of walls, roofs, ceilings over open passages, walls and floors on the ground, and the other walls to unheated spaces) and reducing the energy consumption of HVAC system (better HVAC equipment with automatic control systems, more efficient equipment for biomass combustion, thermal solar collectors use, more effective heating devices - heat pumps, etc.).</p>	<p>Financial instrument (credit line, subsidy, loan) Energy audit</p>
<p><b>H2 New rules for the design and construction of buildings, the minimum requirements in terms of energy performance of buildings and their certification in accordance with the revised EPBD</b> Measure includes savings based on the new regulations in the construction industry. New regulations on energy performance of buildings prescribe mandatory use of the relevant ISO/EN standards for the energy performance of buildings, and include standards for thermal performance of buildings and other standards relating to the design of buildings and their HVAC systems. Measure also insists on energy certification of buildings.</p>	<p>Provisions (standards and norms)</p>
<p><b>H3 Promotion of the use of energy-efficient household appliances</b> Measure includes reducing of electricity consumption by introducing energy-efficient household appliances (refrigerators, stoves, washing machines, dishwashers, air conditioners, light bulbs, etc.).</p>	<p>Public information campaigns (information) Energy labeling (mandatory information measures) Financial instruments (subsidies, credit lines)</p>
<i>Public/commercial sub-sector</i>	
<p><b>PC1 Energy efficiency improvement measures in public/commercial buildings</b> Measure includes energy savings for heating and cooling through the intervention on building envelope (improvement or replacement of external windows and doors, installation or improvement of existing thermal insulation of walls, roofs, ceilings over open passages, walls and floors on the ground, and the other walls to unheated spaces), reducing the energy consumption of HVAC system (better HVAC equipment with automatic control systems, more efficient equipment for biomass combustion, thermal solar collectors use, more effective heating devices - heat pumps, etc.) and reduction of electricity use for lighting (using more energy efficient bulbs, and implementation of other measures for improving the lighting system).</p>	<p>Financial instrument (credit line, subsidy, loan) Energy audit</p>
<p><b>PC2 New rules for the design and construction of buildings, the minimum re-</b></p>	<p>Provisions (standards and norms)</p>

Name and description of measure in the Second EEAP	Proposed instruments
<p><b>Requirements in terms of energy performance of buildings and their certification in accordance with the revised EPBD</b></p> <p>Measure includes savings based on the new regulations in the construction industry. New regulations on energy performance of buildings prescribe mandatory use of the relevant ISO/EN standards for the energy performance of buildings, and include standards for thermal performance of buildings and other standards related to the design of buildings and their HVAC systems. Measure also insists on energy certification of buildings.</p>	
<p><b>PC3 Introduction of Energy Management Systems in the public and commercial sector</b></p> <p>This measure is based on the Law on Efficient Use of Energy. Energy manager who possesses the appropriate license in accordance with the same Law implements this measure. Measure includes:</p> <ol style="list-style-type: none"> <li>1) Collecting and analysing data on energy consumption, proposing measures and activities aimed at increasing energy efficiency,</li> <li>2) Developing programmes and plans for efficient energy use,</li> <li>3) Implementing proposed measures and activities,</li> <li>4) Communication with the Ministry in charge for energy issues,</li> <li>5) Implementing mandatory periodic energy audits.</li> </ol>	Command and control instrument
<p><b>PC4 Determination of energy efficiency as one of the criteria for the most economically advantageous tender in public procurement</b></p> <p>Measure includes energy savings resulting from the procurement of energy-efficient equipment and appliances.</p>	Regulations (Information and mandatory information measures)
<p><b>PC5 Incentive rates for highly efficient coupled/combined heat and power generation</b></p> <p>Measure envisages the increasing of energy efficiency in public and commercial buildings through the implementation of projects of combined heat and power generation.</p>	Financial instruments
<p><b>PC6 Mandatory regular control of the combustion process of boilers and other combustion chambers with the capacity over 20 kW, as well as air conditioning systems</b></p> <p>This measure includes energy saving achieved by applying periodic control of boilers and other combustion plants, better regulation of the combustion process, and control of heating and air conditioning systems.</p>	Information and mandatory information measures. Regulations

### Target groups

The buildings Sector is considered in the second EEAP through the residential and commercial/public sectors. The second EEAP is written without specifying measures that should be directed to specific region or municipality. Measures that target residential or public/commercial sectors are directed to province or local self-governments (municipalities), in the sense that the province or local self-governments (municipalities) are fully or partly responsible for conducting of measures in buildings in their ownership. Except Introduction of Energy Management Systems in the public and commercial sector that is foreseen to municipalities with more than 20,000 inhabitants, all other measures are general and they are related to (national, regional, local) target groups as follows:

- Final energy consumers or end-use technologies in the buildings
  - Existing buildings, lighting systems in existing buildings, HVAC systems in existing buildings (H1, PC1)
  - Reconstructed buildings and new buildings (H2, PC2)
  - Households (H3)
  - Local self-governments with more than 20,000 inhabitants, facilities which are the property of public administration bodies, autonomous province and commercial sector, with energy consumption exceeding the prescribed limits (PC3)
  - Facilities and equipment which are the public sector property (PC4),

- Supply side actors
  - Public and commercial companies, owners of CHP facilities (PC5)
  - Public and commercial companies, owners of boilers and other combustion plants, and air conditioning systems (boilers and other combustion chambers with the capacity over 20 kW, as well as air conditioning systems with the capacity over 12 kW).

### Governance framework

At national level, energy efficiency is under the authority of the Ministry of Mining and Energy – Department of Energy Efficiency and Renewable Energy, and this institution is recognized as the key player for implementation of all measures and instruments quoted in the second EEAP related to the buildings sector. Besides this Ministry, the Ministry of Construction and Urban Planning, the Standing Conference of Towns and Municipalities and other relevant institutions at the level of the autonomous province and local self-government are appointed as institutions in charge for implementation of activities related to different measures. Also, for promotion of energy-efficient household appliances the role of market inspection, electricity suppliers, NGOs and consumers associations were emphasized.

A list of all institutions that have an active role in the implementation of the national policy for energy efficiency in the buildings sector is presented in Table 4. Table contains institutions, their main activities/responsibilities, as well as the relevant internet link where additional information can be found.

**Table 4: List of institutions active in the buildings sector**

Institution	Activities/Responsibilities	Link
Ministry of Mining and Energy- Department for Energy efficiency and Renewable Energy	Preparation of expert basis for drafting laws, proposals of regulations and rulebooks, and harmonization of legislation with EU regulations; development of technical regulations in this area, as well as analysis of the effects of application of those regulations. This department is responsible for carrying out public call procedures and selecting projects that shall be financed from the Budget Fund.	<a href="http://mre.gov.rs/energetska-efikasnost.php">http://mre.gov.rs/energetska-efikasnost.php</a>
Ministry of Construction, Transport and Infrastructure- Department for Construction- Section for energy efficiency and construction products	Main actions or this section related to energy efficiency in the buildings sector are as follows: maintaining register of issued certificates on energy performance of buildings; monitoring the area of energy efficiency and building products in the EU, the world and the Republic of Serbia; drafting technical regulations in the field of construction products and energy efficiency of buildings; improving energy efficiency and building products in the Republic of Serbia.	<a href="http://www.mgsi.gov.rs/cir/odsek/odsek-za-energetska-efikasnost-i-gradjevske-proizvode">http://www.mgsi.gov.rs/cir/odsek/odsek-za-energetska-efikasnost-i-gradjevske-proizvode</a>
Ministry of Trade, Tourism and Telecommunications –Sector for Market Inspection	Sector for market inspection deals with affairs regarding inspection surveillance of application of laws and other regulations which govern: trade, online trade, conditions for trade of goods and provision of services, prices of goods and services, coordination and safety of non-food products in production and trade (technical supervision).	<a href="http://mtt.gov.rs/en/">http://mtt.gov.rs/en/</a>
Ministry of Education and Science - Department for Science,	These departments are in charge for selecting and monitoring projects funded or co-funded	<a href="http://www.mpn.gov.rs/nauka/teh-noloski-razvoj">http://www.mpn.gov.rs/nauka/teh-noloski-razvoj</a>



Department for Technological Development, Technology Transfer and System Innovation	by the state, within the topic energy, mining and energy efficiency.	<a href="http://www.mpn.gov.rs/nauka/integralna-i-interdisciplinarna-istrazivanja">http://www.mpn.gov.rs/nauka/integralna-i-interdisciplinarna-istrazivanja</a>
Serbian Chamber of Engineers	Main duties of the Serbian Chamber of Engineers concerning energy efficiency in the buildings sector are education of engineers in the field of energy efficiency in buildings, organization of licensing exams, and issuing appropriate licenses.	<a href="http://www.ingkomora.org.rs/strucniispiti/?stranica=obukeEE">http://www.ingkomora.org.rs/strucniispiti/?stranica=obukeEE</a>
Standing Conference of Cities and Municipalities - Committee for Communal Services, Urban Planning and Environment	<p>Committee for Communal Services and Energy is a permanent working body of the Conference which consider issues in the field of municipal energy sector from legal, organizational, economic and technical aspects.</p> <p>The Committee monitors, analyzes and discusses issues and problems. In particular it monitors and analyzes the state of the legal framework that regulates issues related to energy efficiency, and municipal energy.</p> <p>The Committee is a forum for exchanging of inter-municipal experience and good practice and to encourage cooperation of cities and municipalities in the area municipal energy and energy efficiency. The Committee provides expert support, suggestions and initiatives for formulation of project activities and directly involved in project development and project activities aimed at capacity building.</p>	<a href="http://www.skgo.org/pages/display/103">http://www.skgo.org/pages/display/103</a>
Provincial Secretariat of Energy and Mineral Resources	Performs complex analytical tasks related to the heat energy in municipal and industrial energy sectors; performs tasks related to the development and implementation of programs to increase energy efficiency in municipal and industrial energy sectors; monitor district heating in autonomous province Vojvodina; proposes measures to encourage more efficient use of energy; prepares analyzes, reports and information, opinions and other materials from the scope of the Sector; develops proposals material work program of the Secretariat in these areas; participates in drafting laws and other regulations in these areas.	<a href="http://www.psemr.vojvodina.gov.rs/">http://www.psemr.vojvodina.gov.rs/</a>
Local self-governments	<p>Local self-governments are responsible (with national and other institutions) for:</p> <ul style="list-style-type: none"> <li>- Introduction of energy management systems in the public sector,</li> <li>- Energy efficiency improvement measures in public buildings,</li> <li>- Determination of energy efficiency as one of the criteria for the most economically advantageous tender in public procurement,</li> <li>- Promotion of ESCO model for EE projects financing,</li> <li>- Raising awareness about the energy efficiency importance.</li> </ul>	

## 2) Transport Sector

### Objectives

The transport sector had share of 27.63% in final energy consumption in the basic 2008 (Government of the Republic of Serbia, 2013). According to new energy balances after 2010, this share decreased to 21.43% in 2011 (Statistical Office of the Republic of Serbia, 2012). Share of transport sector in the final energy savings according to the Second EEAP should be 28% in 2018.

Planned savings in transport sector according to the Second EEAP should be 0.1032 Mtoe in 2015, and 0.2107 Mtoe in 2018. These **energy efficiency targets for transport sector** represent 1.1% and 2.3%, respectively, of total final energy consumption in 2013 in Serbia (Statistical Office of the Republic of Serbia, 2014).

Summary of proposed measures and expected savings in the transport sector, in the Second EEAP is presented in Table 5.

**Table 5: Summary of proposed measures and expected savings in the Transport Sector**

Name of measure in the Second EEAP	Expected savings in 2015 [Mtoe]	Expected savings in 2018 [Mtoe]
Introduction of the EU Regulation EC 443/2009 for energy efficiency in the transport sector	0.0225	0.058
Promotion of eco-driving and car sharing scheme	0.0099	0.0198
Introduction of incentive mechanisms for replacement of the existing vehicles	0.0132	0.0340
Modernization of fleet in order to meet technical requirements for the performance of domestic and international transportation	0.0198	0.0396
Determination of energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance	0.0296	0.0593

The second EEAP does not make further elaboration of significance of energy efficiency for economic development (employment, energy costs), fuel poverty reduction, etc.

### Synthesis of policy packages

Policy package defined by the second EEAP is mostly directed to vehicle efficiency. Out of five proposed measures (listed in Table 5), four are related to vehicle efficiency. Only one measure (Promotion of eco-driving and car sharing scheme) is directed to travel efficiency and in less extent to system efficiency.

List of measures, their short description and proposed instruments for their implementation are presented in Table 6. Instruments are quoted as they are proposed in the Second EEAP. Just some of them are completely developed and covered by appropriate regulations.

**Table 6: Measures for energy efficiency in the Transport Sector and instruments for their achievement**

Name and description of measure in the Second EEAP	Proposed instruments
<b>T1 Introduction of the EU Regulation EC 443/2009 for energy efficiency in the transport sector</b> Measure includes further implementation of the Law on Ratification of the	Provisions (standards and norms)

Name and description of measure in the Second EEAP	Proposed instruments
Agreement on the adoption of unified technical regulations for wheeled vehicles, equipment and parts which can be fitted and/or used on vehicles with wheels and conditions for reciprocal recognition of approvals awarded in line with these regulations ("Official Gazette of the RS - International agreements", No. 11/11)(Government of the Republic of Serbia 2011)	
<b>T2 Promotion of eco-driving and car sharing scheme</b> Changing driving habits and vehicle maintenance, and use of alternative modes of transportation is the main aim of this measure.	Targeted public information campaigns Training and Education
<b>T3 Introduction of incentive mechanisms for replacement of the existing vehicles</b> This measure includes the reduction of energy consumption (as well as CO <sub>2</sub> emissions) through procurement of vehicles that meet the latest regulations and standards.	Financial instruments (credit line, subsidy, loan)
<b>T4 Modernization of the fleet in order to meet technical requirements for the performance of domestic and international transportation</b> Measure includes regulations for purchasing of new vehicles that meet the latest exhaust emissions standards, or that have low fuel consumption and low CO <sub>2</sub> emissions for new buses and new commercial vehicles.	Regulations
<b>T5 Determination of energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance</b> This measure envisages setting the requirements for companies which are entrusted with the performance of utilities of public transport to use vehicles that meet the latest regulations on exhaust emissions and have low fuel consumption/CO <sub>2</sub> emissions (taxis, buses, vans, etc.). Also, measure include purchasing of new vehicles that meet the latest exhaust emissions standards, or that have low fuel (energy) consumption and low CO <sub>2</sub> emissions.	Voluntary agreements and cooperation instruments (procurement, energy-efficient public procurement technology, commercial and institutional voluntary agreement)

### Target groups

The transport Sector was considered in the second EEAP as a whole, but all listed measures are directed to road transport. The second EEAP has not quoted some specific measures directed to specific region or municipality. All measures are directed to (national) target groups, as follows:

- Supply side actors
  - o Importers and car dealers (T1, T3)
- Final energy consumers or end-use technologies
  - o Drivers of passenger vehicles, bus drivers and commercial vehicles drivers; driving instructors, intermediary organisations (fleet managers, driving schools, sectoral organisations, etc.); general public (T2)
  - o Users and/or purchasers of vehicles - both legal and natural persons (T3)
  - o Companies engaged in international road passenger and freight transport (T4)

Government bodies, the autonomous province and local self-government are responsible for Determination of energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance, i.e. implementation of T5 measure.

### Governance framework

According to the second EEAP responsibility for implementation of measures in Transport Sector is split between different ministries and governmental institutions. The most of responsible institutions are only indirectly connected to energy related issues and energy efficiency improvement. A favorable circumstance is that actions primary directed to improve safety and efficiency of transport, or to diminish environmental and climate impact, have positive effects from the aspect of energy efficiency. Unfortunately, there are no official coordination mechanisms in place for a national energy efficiency policy in the transport Sector.

Introduction of the EU Regulation EC 443/2009 for energy efficiency in the transport sector is under responsibility of the Road Traffic Safety Agency, the Ministry of Mining and Energy and the Ministry of Interior. This measure is financed from the funding of the Road Traffic Safety Agency, and the Budget of the Republic of Serbia. The Road Traffic Safety Agency and local self-governments should undertake activities for introduction and promotion of eco driving and cars sharing system. Financing of related activities is envisaged from the Road Traffic Safety Agency funds and donations. The Ministry of Transport and the Ministry of Interior are responsible for modernization of the fleet in order to meet technical requirements for the performance of domestic and international transportation. Costs of modernization are responsibility of companies engaged in transportation. As the public transport is the responsibility of local self-governments, they should carry out all activities (including financing) for introduction energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance.

A list of all institutions that have an active role in the implementation of the national policy for energy efficiency in the transport sector is presented in Table 7. Table contains institutions, their main activities/responsibilities, as well as the relevant internet links where additional information can be found.

**Table 7: List of institutions that have an active role in the transport sector**

Institution	Activities/Responsibilities	Link
Ministry of Mining and Energy- Department for Energy efficiency and Renewable Energy	Preparation of expert basis for drafting laws, proposals of regulations and rulebooks, and harmonization of legislation with EU regulations; development of technical regulations, as well as analysis of the effects of application of those regulations. This department is responsible for carrying out public procurement procedures and selecting projects that shall be financed from the Budget Fund. Program for energy efficiency improvement in the transport within period of three years that shall be prepared by local authorities shall be submitted to the Ministry as well as a report on the implementation of the program.	<a href="http://mre.gov.rs/energetska-efikasnost.php">http://mre.gov.rs/energetska-efikasnost.php</a>
Ministry of Construction, Transport and Infrastructure- Department for Transport –Group for Improving roads` traffic safety	Participation in preparation of expert basis for strategies, plans, laws and other regulations in the field of road safety, participation in preparation of plans for financing measures in traffic safety, promotion of traffic safety measures, monitoring and participation in drafting technical requirements of other technical regulations, norms and standards in the field of road safety, defining traffic signalization equipment, devices and systems for regulation and control of traffic.	<a href="http://www.mgsi.gov.rs/cir/odsek/grupa-za-unapredjenje-bezbednosti-saobracaja-na-putevima">http://www.mgsi.gov.rs/cir/odsek/grupa-za-unapredjenje-bezbednosti-saobracaja-na-putevima</a>
Ministry of Construction, Transport and Infrastructure- Department for Transport –Group for intelligent transport systems	Participation in preparation of expert basis for strategies, plans, laws and other regulations in the field of intelligent transport systems; participation in preparation of plans and funding for intelligent transportation systems; participation in drafting of technical requirements, norms and standards in the field of intelligent transport systems; monitoring and assessment of the implementation of strategies, plans, laws and other regulations and initiates amendments to laws and regulations in the relevant field; preparation of regulations regarding technical require-	<a href="http://www.mgsi.gov.rs/cir/odsek/grupa-za-inteligentne-transportne-sisteme">http://www.mgsi.gov.rs/cir/odsek/grupa-za-inteligentne-transportne-sisteme</a>

Institution	Activities/Responsibilities	Link
	ments for intelligent systems; improving and defining traffic signals, equipment, devices and systems for traffic management and control.	
Ministry of Construction, Transport and Infrastructure - Department for Transport – Section for rail and intermodal transport	Development of logistics centers and services; making analysis of the situation and problems in the transport of goods and passengers by rail; monitoring the development of modern transport technologies and proposing measures for their encouragement; following up of international regulations in the field of rail and intermodal transport; proposing measures for the development of logistics centers and services; cooperation with other state institutions in order to create a basis for developing a network of intermodal transport terminals.	<a href="http://www.mgsi.gov.rs/cir/odsek/odsek-za-zeleznicki-i-intermodalni-transport">http://www.mgsi.gov.rs/cir/odsek/odsek-za-zeleznicki-i-intermodalni-transport</a>
Ministry of Interior-Sector for traffic police	Managing traffic safety and monitoring, and improvement of legislation in the field of road safety	<a href="http://prezentacije.mup.gov.rs/usp/Organizacija/Odeljenje%20za%20KIRS.html">http://prezentacije.mup.gov.rs/usp/Organizacija/Odeljenje%20za%20KIRS.html</a>
Road Traffic Safety Agency	Coordinating and performing different tasks: cooperation and coordination with regional and local road traffic safety bodies, offering professional help to the bodies in order to improve traffic safety, creating professional instructions, manuals and guides for improving the work of the local bodies, following international experiences and accomplishments in the field of road traffic safety	<a href="http://www.abs.gov.rs/">http://www.abs.gov.rs/</a>
Ministry of Construction transport and Infrastructure-Department for construction-Section for urban planning	Approval of the general urban plan, general regulation plan of local government and urban development plan; providing technical assistance in the preparation and adoption of urban plans	<a href="http://www.mgsi.gov.rs/cir/odsek/odjenje-za-planiranje-urbanog-razvoja">http://www.mgsi.gov.rs/cir/odsek/odjenje-za-planiranje-urbanog-razvoja</a>
Ministry of Trade, Tourism and Telecommunications –Sector for Market Inspection	Coordination of activities of monitoring and improving interdepartmental and regional cooperation in the area of market supervision, making and coordinating of operational interdepartmental plans, market supervision and merging of reports on coordinated market supervision for the Serbian Government, inspection surveillance of application of laws and other regulations which govern: trade, conditions for trade of goods and provision of services, coordination and safety of non-food products in production and trade (technical supervision).	<a href="http://mtt.gov.rs/en/sectors-of-the-ministry/sector-for-market-inspection/">http://mtt.gov.rs/en/sectors-of-the-ministry/sector-for-market-inspection/</a>
Local self-governments	Competent authority of local government with more than 20,000 inhabitants is obliged to adopt a program to improve energy efficiency in the transport within the period of three years. The program shall be submitted to the Ministry as well as the report on the implementation of the program no later than 30 days after the expiry of the period for which the program is adopted. Drafting and adopting Rulebooks on the criteria for the installation of technical traffic calming tools Drafting and adopting urban plans and plans of general regulation Promotion of eco-driving and car sharing scheme	

Institution	Activities/Responsibilities	Link
	Determination of energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance Promotion of ESCO model for EE projects financing Raising awareness about the energy efficiency importance	
Public enterprise Roads of Serbia, Sector for Strategy, Designing and Development	Technical preparation, strategic planning, development research, designing, planning documentation related to traffic safety and environment protection, preparation and record keeping. Definition of policy and strategy for the development of traffic safety on state roads on midterm basis and definition of annual activity plans; Regular follow up and directing of all activities related to traffic safety; Preparation of technical instructions.	<a href="http://www.putevi-srbi-je.rs/index.php?option=com_content&amp;view=article&amp;id=1220&amp;Itemid=555&amp;lang=en">http://www.putevi-srbi-je.rs/index.php?option=com_content&amp;view=article&amp;id=1220&amp;Itemid=555&amp;lang=en</a>
Standing Conference of Cities and Municipalities-Committee for Communal Services, Urban Planning and Environment	The Committee monitors, analyzes and discusses issues and problems and informs Presidency and members of the Conference, agencies, institutions and organizations of the Republic of Serbia and the Autonomous Province and local and international partners of the Conference. In particular it monitors and analyzes the state of the legal framework that regulates issues related to energy efficiency. The Committee provides expert support, suggestions and initiatives for the formulation of project activities and capacity building.	<a href="http://www.skgo.org/">http://www.skgo.org/</a>

## 1.2 NATIONAL PROGRAMMES AND INITIATIVES

The Republic of Serbia has adopted the Law on Efficient Use of Energy (Government of the Republic of Serbia, 2013a) and the second EEAP (Government of the Republic of Serbia, 2013b) in 2013, making a significant step forward towards the transposition of the energy efficiency acquis. However, more should be done in the near future for full implementation of the energy efficiency acquis (Energy Community, 2015). Adoption of the comprehensive set of secondary legislation based on the Law on Efficient Use of Energy is necessary precondition for establishment and implementation of national programs and initiatives aimed to support measures and activities in this field.

The only activity that can be, in some wider context, recognized as national program is **the budget Fund for Energy Efficiency**, as it is planned to be comprehensive mechanism for financing different measures and activities aimed to improve energy efficiency. According to the experience from 2014, one of the priorities of this program is increasing energy efficiency in the buildings sector.

### a) General information

The Law on Efficient Use of Energy stipulated the Budget Fund for Energy Efficiency. According to the Law the use of funds from the Budget Fund for Energy Efficiency shall be carried out in accordance with the annual program for funding, adopted by the Government, while the amount of funds allocated to the Fund shall be set out within the Budget of the Republic of Serbia for each year in accordance with the state and possibilities for that year. The Energy Efficiency Fund was established in 2014, when necessary secondary legislatives have been adopted: the Regulation on Program of financing activities and measures for improvement efficient energy use in 2014 (Government of the Republic of Serbia, 2014b) and the Rulebook on conditions for allocation and use of the Budget fund



of the Republic of Serbia for improvement energy efficiency and criteria for exemption from energy audit obligation (Ministry of Energy, Development and Environment, 2014a). The first call for funding was announced in 2014. The 11 projects past complete procedure and were selected for funding.

#### **b) Type of program/initiative**

The operation of the budget Fund for Energy Efficiency includes economic, regulative and informational aspects.

#### **c) Objectives**

The Budget Fund for Energy Efficiency was established with an aim to provide resources for financing activities and projects related to energy efficiency improvement in the Republic of Serbia. The activities and projects that are appropriate for financing are: implementation of different technical measures for improvement of energy efficiency in private, public, commercial, and other facilities, development of energy management system for entities that are not designated organizations, promotion and implementation of energy audits of facilities, production processes and services, introduction of systems for combined heat and power generation for investors that use heat and electrical energy exclusively for own use, development of energy services market in the Republic of Serbia, use of renewable energy sources for electricity and heat generation for individual usage, and all other activities aimed to the improvement of efficiency of energy use.

#### **d) Target group**

Target group are natural and legal persons established at the territory of the Republic of Serbia, who are eligible for grants on the basis of open competition. The first open call in 2014 was restricted only to units of self-government (Ministry of Energy, Development and Environment, 2014b). In the buildings sector activities appropriate for financing included: improvement of envelopes of buildings, improvements of heating system and system of internal lighting, or combined activities.

#### **e) Rules and influencing mechanisms**

Funds from the budget Energy Efficiency Fund are available to natural and legal persons established at the territory of the Republic of Serbia who are eligible for grants on the basis of open competition. The Minister in charge of Energy (Ministry of Mining and Energy) prescribes the requirements for the allocation and use of funds from Energy Efficiency Budget Fund, the method of allocation of these funds, as well as the method of monitoring the use of funds and contractual rights and obligations.

#### **f) Implementation network**

According to the Law on Efficient Use of Energy and Rulebook on conditions for allocation and use of the Budget fund of Republic of Serbia for improvement energy efficiency and criteria for exemption from energy audit obligation (Ministry of Energy, Development and Environment, 2014h) the most significant role in operation of the budget Energy Efficiency Fund has got the Ministry for Mining and Energy. This Ministry is obliged for selection of projects for funding, as well as for monitoring and verification of project results. In cases where banks co-finance projects, they are also included in processes of selecting and monitoring.

#### **g) Outcomes**

During the first call in 2014, 11 municipalities were selected for funding. Total of 98.7 million of dinars (app. 816,000 euro) was allocated. Three municipalities got 100% financing, while the rest got financing up to 70% of total project value (Ministry of Energy, Development and Environment, 2014j). There are no publicly available data about effects of funded projects to energy savings and energy efficiency improvement.

Horizontal measures are proposed in the second EEAP for dealing with institutional, regulatory, and financial and information mechanisms and measures. They are addressing several sectors including

the buildings and transport sectors. Level of implementation of horizontal measures, up to now differs, and there are no specific data about achieved savings. Horizontal measures are listed and their short description is given, as follows:

**Billing based on actual (measured) consumption of thermal energy for the consumers connected to district heating system;** the Law on the Efficient Use of Energy prescribes this horizontal measure and transition to billing based on heat energy consumption instead of a common practice of billing based on a flat rate. The Law also prescribes an obligation for local district heating companies and local governments to adopt municipal decision in each municipality or city, which has a district heating system, to introduce a new tariff system for billing. Currently only few municipalities (Niš, Šabac, Pančevo,...), of 57 municipalities with DHS, adopted such decision (Government of the Republic of Serbia, 2015a). As the support for more efficient implementation of this measure the Methodology for determination of heat energy price was officially prescribed (Government of the Republic of Serbia, 2015b).

**Promotion of ESCO model for EE projects financing;** The Law on the Efficient Use of Energy introduced energy services and energy performance contracting in Serbian energy sector. The ESCO By-Law (Ministry of Mining and Energy, 2015) sets out two models of ESCO agreements, one for public buildings and another one for public lighting, and generally allows public private partnerships to be established between the relevant public partner (e.g. a municipality, a public company, the State) and the relevant private partner (i.e. ESCO company) on a long-term period. Implementation and management of energy efficiency measures by a private partner should be financed from the savings achieved. Still, there is no active ESCO project in Serbia, but there are some projects in a preparation phase.

**Obligation to comply with eco-design requirements for products that affect energy consumption;** The Law on Efficient Use of Energy envisages that a product shall be placed on the market if it meets the requirements of eco-design. Based on the Law, the Government adopted the adequate Regulation (Government of the Republic of Serbia, 2013c) and in line with the Regulation, the rulebooks on labeling of energy efficiency of different household appliances were adopted (Ministry of Energy, Development and Environment, 2014 c-g).

**Raising awareness about the energy efficiency importance and education;** In the period from 2002 to 2012, relevant activities were conducted by the Energy Efficiency Agency. In 2012 the Energy Efficiency Agency ceased to exist, assuming that activities further should be conducted by Ministry of Mining and Energy. Also, significant activities related to this horizontal measure have been undertaken by provincial (Provincial Secretariat for Energy and Mineral Resources, 2015) and local self-governments (Gajic, 2013).

**Mandatory dissemination of information to energy consumers on the monthly consumption of electricity and heat, or natural gas;** In accordance with the Law on Efficient Use of Energy, public companies and other companies engaged in the distribution and supply of electricity and heat, as well as in distribution and supply of natural gas are obliged to inform the customer, once a month, on the energy bill or along with it, inter alia, on the amount of energy consumed by the customer during the previous month, the average price of energy for the customer in that month, as well as the manners of providing information to the customers about measures for energy efficiency improvement that may be taken, and other relevant data. Information dissemination to the heat customers is applied only during the heating season. Up to now this measure was implemented in electricity sector only (EPS Snabdevanje, 2015).



### 1.3 CONCLUSIONS AND LESSONS LEARNED OF OTHER PROJECTS ABOUT THE PERFORMANCE OF THE NATIONAL POLICY PACKAGES FOR ENERGY EFFICIENCY

Serbia is not the full member of EU and its participation in EU projects is limited. Still, as a contracting party of the **Energy Community Treaty** performance of national policy packages for energy efficiency are regularly evaluated by the Secretariat of this institution. It was concluded that with the adoption of the Law on Efficient Use of Energy, the second EEAP and the Labeling Regulation, Serbia achieved a significant step forward towards the transposition of the energy efficiency acquis (Energy Community, 2015). But also, it was emphasized what need to be done in the near future for full implementation: "The first priority for Serbia is the finalization and adoption of the comprehensive set of secondary legislation based on the Law on Efficient Use of Energy. The timely adoption of the secondary legislation will also support the implementation of the second EEAP and the achievement of the energy savings target. The second priority is the establishment of a stable and sustainable financing mechanism or mechanisms for effective implementation of the second EEAP. The establishment of the Budgetary Fund for Energy Efficiency is a significant step forward, but the Secretariat is concerned about the sustainability and the limitations posed by the earmarked public budget funds, as well as the possibility to attract other funds and blend these with the public ones in the current legal set up of the Fund. In order to achieve the indicative energy savings target, significant financial resources should be mobilized, in addition to public budget financing. It is necessary to further develop models for public private partnerships in the field of energy efficiency (including ESCOs). The capacities in Serbia should be strengthened in the area of policy-making in the Ministry of Mining and Energy and at the implementation (local) level and in other institutions involved in the second EEAP." (Energy Community, 2015).

State and possibilities of the Serbian buildings sector were only partly analysed in **ENTRANZE Project**. Document "The challenges, dynamics and activities in the building sector and its energy demand in the Republic of Serbia" (Entranze, 2014a) gives an overview of the Serbian building stock until 2010 based on literature review, as well as analysis of energy balance for 2008. In the document "Policy pathways for reducing energy demand and carbon emissions of the EU building stock until 2030" (Entranze, 2014b) expected final energy demand for space heating and preparation of hot water in Serbia in 2008 (base year), 2020, 2030 for three different policy scenarios is given. Scenario 1 refers to a moderate ambitious scenario according to current national and EU legislation, Scenario 2 and 3 are developed assuming more ambitious, innovative and stringent policy packages. However, some in-depth policy discussion wasn't carried out, as well as thorough analysis of the current state of policies in Serbia.

The **IEE Project TABULA**<sup>7</sup> was aimed at defining common principles for the creation of national typologies of residential buildings. In 2013, the project "Tabula" was finalized, and for the first time the Republic of Serbia provided the classification of buildings in family and multi-family housing. Results of the Tabula project (Jovanovic Popovic et al., 2013) were used during the development of the second EEAP. Development of the National typology of residential buildings in Serbia was the result of the three-year research of the group of professors and researchers from the University of Belgrade - Faculty of Architecture. For the purpose of this project, data of the Statistical Office of the Republic of Serbia were partly used, and extensive field research was conducted, including an inventory of approximately 6,000 buildings in 2011, and approximately 13,000 buildings in 2012. Although the "Tabula" defined four basic types of buildings, based on the principle of recognizing specific features of particular countries, in the case of the Republic of Serbia six types of buildings have been defined.

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<sup>7</sup> <http://www.building-typology.eu>

Within the family housing free-standing houses and row houses were defined, and within the multi-family housing, the categories of free-standing building, lamella, buildings in a row and high-rise were defined.

For the each type of buildings, typical elements of a thermal envelope were defined, followed with the calculated heat transfer coefficient. Characteristics of heating and hot water systems, incidence of types in the overall national housing fund, and improvement possibilities were identified. In accordance with the Rulebook on energy efficiency in buildings, for the each building type, annual energy required for heating per m<sup>2</sup> of heated area, final energy, total energy required for heating the entire heated area of the building, primary energy and carbon dioxide emissions were calculated. For the each building type the energy class was defined. The above data were provided for estimation of potential of energy efficiency improvement of buildings.

Potential energy efficiency improvements in the residential buildings include construction measures to intervene on the thermal envelope of building, as well as improvement of the heating system and domestic hot water system. Possible measures were considered at two levels of improvement: at the first level could be achieved improvement of a minimum one energy class of the building, and at second the maximum range of energy recovery in accordance with the specific characteristics of the building could be expected. Conducted calculations show that the first level of energy recovery could provide savings of a minimum 25% of the energy needed for heating, while the second level of energy recovery could enable savings of almost 70% of the energy needed for heating. In certain cases, by the application of these rehabilitation measures the energy required for heating could be reduced to only 5% of the energy currently used for heating.

**IEA Energy Efficiency Policy and Measures Database**<sup>8</sup> includes some indicators and information on energy efficiency policy in Serbia. Although elaborated legislations can be, in wider context, put in relation with energy efficiency, they are primarily directed to RES promotion and feed-in tariff system implementation.

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<sup>8</sup> <http://www.iea.org/policiesandmeasures/energyefficiency/?country=Serbia>

## 2. INTERACTION BETWEEN THE NATIONAL AND THE SUB-NATIONAL LEVELS

Although national level's authority is dominant in conducting energy efficiency programs and initiatives, regional (Autonomous Province of Vojvodina) and local authorities have important roles in these activities too. Responsibility for implementation of the second Energy Efficiency Action Plan (EEAP) is also attributed to provincial or local governments, within their respective jurisdictions. According to this document local self-governments are responsible (with national and other institutions) for following measures:

- Introduction of energy management systems in the public sector,
- Energy efficiency improvement measures in public buildings,
- Modernization of public lighting system in towns and municipalities,
- Determination of energy efficiency as one of the criteria for the most economically advantageous tender in public procurement,
- Promotion of eco-driving and car sharing scheme,
- Determination of energy efficiency as a criterion for fleet modernization and the assignment of public transport service performance,
- Promotion of ESCO model for EE projects financing,
- Raising awareness about the energy efficiency importance.

In addition, in accordance with the Law on Efficient Use of Energy, both the autonomous province and local self-governments are entitled to establish incentive energy efficiency funds, which are stated as important sources for financing different measures listed in the second EEAP. The provincial Government of Vojvodina set up the Fund for Energy Efficiency and in 2014 and 2015 announced several calls for financing and co-financing energy efficiency projects for local governments, civic society sector and farms (Provincial Government, 2015). At the local level, apart from few initiatives aimed to establishment of energy efficiency funds, (eg. City of Zrejanin) there are still no funds established mostly due to lack of financial resources.

The second EEAP recognizes the need to engage local self-governments in planning, implementation and reporting on energy efficiency measures, and also to strengthen capacities of the local administration.

Operative system of energy management at regional and local level is recognized both in the Law on Efficient Use of Energy and the second EEAP as the precondition for adoption and implementation of energy efficiency programs. The Law on Efficient Use of Energy has defined the framework of local energy management. Autonomous Province and all municipalities with more than 20,000 inhabitants are obliged to establish such system. However, the secondary legislative needed for setting the energy management in place has not been developed yet. As a result, only several municipalities has introduced energy management system and appointed responsible persons. Necessary framework, for successful implementation of the most of measures from national EEAP attributed to provincial or local governments, is still not established.

However, although the role of local authorities in implementing national energy efficiency policy and measures is very important, actually they don't have significant influence on their development.

Some municipalities are not interested to be involved in policy development as they don't recognize the importance of it, or don't have the capacities and knowledge to be involved as they should be. Also, Ministries don't have the appropriate mechanisms to involve municipalities in the development phase. Not being involved in policy development later causes no recognizing numerous obstacles for implementation of the policy instruments (Gajic, 2012). Unlike mentioned absence of communication in developing legislation, communications between the Ministry and local level's authorities in projects concerning infrastructure development in municipalities (kfw project "Rehabilitation of district heating systems in Serbia", World Bank project "Energy Efficiency project in Serbia"... ) were more successful.

Currently, the most significant mechanisms for the municipalities to be involved in national activities are public hearings in the biggest municipalities, and activities of the Standing Conference of Towns and Municipalities<sup>9</sup>. This association of Serbian towns and municipalities, through its Committee for Communal Services and Energy, as well as related networks of local professionals, shows significant results in representing municipalities. Representatives of the Association have good relation to line ministries and are regularly invited to working groups that develop different policy documents including national EEAPs.

Also, some of the local authorities in Serbia are very active in different energy efficiency initiatives on national, regional and international level. Concerning the biggest European initiative related to energy and aimed to local authorities, the **Covenant of Mayors**, interest in Serbian municipalities is still very modest compared to other European countries. Currently, 12 Serbian municipalities are signatories, but six of them are on hold, as they have not submitted their SEAPs before the deadline. Only one Serbian city, the City of Niš, has submitted the SEAP<sup>10</sup> to the Covenant of Mayors, which was developed in line with European Commission methodology for the development of Sustainable Energy Action Plan (SEAP). Recognizing the failure of Covenant of Mayors initiative in Serbia, the most active municipalities have gathered around, and formed the Serbian Covenant of Mayors Club<sup>11</sup>, as their own initiative, looking up to the many national Covenant of Mayors clubs from Europe.

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<sup>9</sup> <http://www.skgo.org>

<sup>10</sup> <http://www.ni.rs/wp-content/uploads/141224-seap.pdf>

<sup>11</sup> <http://www.networkingcovenantofmayors.eu/Serbia.html>

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