

ENVIRONMENTAL AND SOCIAL SYSTEM ASSESSMENT

for

ENHANCING INFRASTRUCTURE EFFICIENCY AND  
SUSTAINABILITY PROGRAM FOR RESULTS

in

The Republic of Serbia

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## LIST OF ABBREVIATIONS

|        |  |
|--------|--|
| CFC    | Chlorofluorocarbons                                      |
| CFL    | Compact fluorescent lightbulb                            |
| CSO    | Civil Society Organization                               |
| CXHP   | Corridor X Highway Project                               |
| DEI    | Department for Environmental Inspection                  |
| DEP    | Department for Environmental Protection                  |
| DLI    | Disbursement-linked indicator                            |
| DPF    | Development Policy Financing                             |
| EBRD   | European Bank for Reconstruction and Development         |
| EC     | European Commission                                      |
| ECTS   | European Credit Transfer and Accumulation System         |
| EE     | Energy efficiency  |
| EIA    | Environmental Impact Assessment                          |
| EIB    | European Investment Bank                                 |
| ELV    | Emission Limit Value                                     |
| EMAS   | EU Eco-Management and Audit Scheme                       |
| EQS    | Environmental Quality Standard                           |
| EU     | European Union   |
| FEA    | Final Environmental Approval                             |
| GDW    | German Federal Union of Companies Managing Real Estates  |
| GHG    | Green House Gasses                                       |
| GIZ    | Deutsche Gesellschaft für Internationale Zusammenarbeit  |
| GoS    | Government of the Republic of Serbia                     |
| GRB    | Gender responsive budgeting                              |
| HS     | Health and Safety  |
| IFIs   | International Financing Institutions                     |
| IPA    | Instrument for Pre-Accession                             |
| IPF    | Investment Project Financing                             |
| IPPC   | Industrial Pollution, Prevention and Control             |
| IRI    | International Roughness Index                            |
| ISO    | International Organization for Standardization           |
| KfW    |  |
| kgoe   | Kilogram of oil equivalent                               |
| Ktoe   | Kilo ton of oil equivalent                               |
| LEP    | Law on Environmental Protection                          |
| LOEIA  | Law on Environmental Impact Assessment                   |
| MAEP   | Ministry of Agriculture and Environmental Protection     |
| MCTI   | Ministry of Construction, Transport and Infrastructure   |
| MLEVSP | Ministry of Labor, Employment, Veteran and Social Policy |
| MME    | Ministry of Mining and Energy                            |
| MMR    | Monitoring mechanism regulation                          |
| NAMA   | National Appropriate Mitigation Actions                  |
| NDC    | Nationally Determined Contribution                       |
| NEEAP  | National Energy Efficiency Action Plan                   |
| NGO    | Non-governmental Organization                            |

|             |  |
|-------------|--|
| NREAP       | National Renewable Energy Action Plan of Serbia                                      |
| OG          | Official Gazette of the Republic of Serbia   |
| OHSAS       | Occupational Health and Safety Assessment Series                                     |
| P4R (PforR) | Program for Results  |
| PBC         | Performance Based Contracting  |
| PBMC        | Performance Based Maintenance Contract   |
| PERS        | Public Enterprise “Roads of Serbia”  |
| PET         | Polyethylene terephthalate   |
| PIMO        | Public Investment Management Office of Serbia  |
| PM          | Particulate matter   |
| PSUPCEP     | Provincial Secretariat for Urban Planning, Construction and Environmental Protection |
| RES         | Renewable energy sources   |
| RFHI        | Republic Fund for Health Insurance   |
| RISOPF      | Program Reconstruction and Improvement of State-Owned Public Facilities              |
| RRSP        | Road Rehabilitation and Safety Project   |
| SCTM        | Standing Conference of Towns and Municipalities                                      |
| SEA         | Strategic Environmental Assessment   |
| SEE         | South Eastern Europe   |
| SEPA        | Serbian Environmental Protection Agency  |
| TA          | Technical Assistance   |
| UNDP        | United Nations Development Programme   |
| UNFCCC      | UN Framework Convention on Climate Change  |
| VOC         | Volatile organic compound  |
| WB          | World Bank   |
| WHO         | World Health Organization  |

## Executive Summary

An Environmental and Social Systems Assessment (ESSA) has been prepared for the World Bank's Enhancing Infrastructure Efficiency and Sustainability Program financed under a Program-for-Results operation (PforR) in the Republic of Serbia. The Bank intends to support Serbia's effort to make further progress with EU accession and the country's socio-economic development through improving the condition and reliability of the road network and modernization of maintenance management system, and energy sector reconstruction and rehabilitation. The sectoral split of this multi-sectoral operation is Transport 60% and Energy 40%.

The Government of Serbia will introduce results-based financing in the infrastructure sector, as an innovative instrument with nation-wide impact and a potential to increase the transparency and efficiency of public spending and asset management on routine tasks such as road maintenance. Transition from traditional maintenance to Performance Based Maintenance Contracting (PBMC) in the period from 2017 to 2019 will bring better planning, contracting and fiscal discipline in Public Enterprise Roads of Serbia.

The Program Development Objective is to improve the management of public infrastructure on a sustainable basis through strengthened government capacity and systems to maintain the national road system and enhance energy efficiency and safety in selected public buildings. For the transport sector, the objective is to support the government's Transport program. By support to the Public Enterprise Roads of Serbia (PERS) program for road maintenance. Maintenance in this context is defined as routine, periodic, minor repairs, limited resurfacing, limited reconstruction of drainage and pavement, that would be performed within the existing Right of Way, hence expropriation of land is not anticipated and the activities on road sections that would eventually have private or land in use impacts are excluded. For the energy sector, the objective is to support the government's Program for Reconstruction and Improvement of State-Owned Public Facilities by improving energy efficiency and safety in renovated public buildings, and strengthening the implementation capacity for the Program.

Lead implementing institutions include Public Enterprise Roads of Serbia (PERS) for transport sector and Public Investment Management Office (PIMO) for the energy efficiency part of the Program. Elements of this Program are already under way and key implementing institutions have substantial experience in implementation.

### **ESSA Approach**

The ESSA evaluates the compatibility of the Program's systems with the core principles on three basic levels: (a) the systems as defined by laws, regulations, and procedures; (b) the institutional capacity of implementation entities under the program to effectively implement the system; and (c) stakeholder relations conducive to program success and/or representing potential areas of concern

that require specific actions in order to ensure their neutral or positive contribution to Program outcomes.

The preparation of ESSA and development of measures to strengthen the Program have benefited from various inputs, information and consultation process, including the following:

- Review. The review focused on legislative and strategic framework review, relevant reports related to transport and energy efficiency issues.
- Face to face interviews with officials in 10 municipalities/cities included in energy efficiency program. To develop a better understanding of access to information about the Program, internal procedures, standards, selection criteria, implementation issues and approaches for the Program, several meetings took place with the leaderships and the municipal technical staff. The meetings were structured as discussions on key areas of concern for the ESSA.
- Consultation meetings with PERS, PIMO, line Ministries and other key stakeholders - to develop a better understanding of their staffing arrangements, division of roles and responsibilities, procedures, main issues encountered in stakeholder cooperation and institutional strengths and weaknesses.
- Public consultation on draft ESSA to collect information and responses from the wider stakeholders and interested public.

The ESSA was developed in the period from June 1 to August 15, 2017 and public consultation process was held from September 14 to 21, 2017.

### **Environmental Systems Assessment**

Overall assessment of the Program's contribution and impact is a positive one. The Program will contribute to a number of environmentally significant areas and processes: the Program will directly contribute to reduction of CO2 emissions from heating and electricity production through cut in the energy demand and increase of energy efficiency, increased safety and security of roads. Indirectly, the Program will create long-term benefits by implementing the suggested measures, such as: improving environmental management and monitoring in state institutions, exercising control on origin and sustainable use of mineral natural resources, increasing quantities of recycled construction waste and creating a good practice example for waste management and monitoring for the public and private sector. While it was assessed that regulation, policies and procedures are in place on all levels and the expertise and know how are available in the country, their implementation is not uniform, is partial and inconsistent, which makes monitoring and supervision activities a key area for improvements. The level of inter-agency coordination between the competent authorities at national level in the domain of environment is satisfactory, concerning processes of planning the activities under the Program, development and coordination of technical designs. The ESSA concluded that there is deficient inter-agency communication at local level regarding the management of environmental aspects, which poses substantial risk for mitigation of related potential negative impacts.

Adverse environmental impacts of the Program are in most cases short term, typical, predictable and easy to mitigate. However, in few cases, if not monitored and adequately mitigated, these impacts

can be substantial. Both sectors within the Program produce negative impacts typical for construction works. Based on the available information on key stakeholders' capacities, existing environmental procedures and regulation analysis, the ESSA concluded that there are no major gaps between the principles of Serbian environmental and social management systems and the PforR core principles and that with the applied recommended risk mitigation measures as specified in the Program Action Plan, the system will be capable of addressing the environmental issues that may occur as a result of Program activities. The environmental sustainability is somewhat promoted in the Program design, which sets health and safety requirements that will provide public and workers' safety against the potential risks associated with the rehabilitation and operation of selected roads and reconstruction of state-owned buildings. Concerning social sustainability, this Program operates within an adequate legal and regulatory framework and is expected to provide long-term improvements to the standard of living for its beneficiaries.

The most significant role in the implementation monitoring of activities under the Program is given to the respective municipal administrations. Compared to the resource capacity of national institutions, which have a relatively sufficient number of qualified staff for the implementation of the Program, the study of the municipality structures showed that the majority are facing severe capacity constraints. Especially smaller municipalities noted that they lack sufficient environmental experts to ensure the appropriate implementation, supervision and evaluation of the environmental dimensions of the current Program. Main capacity constraints are twofold: (i) lack of number of staff, to sufficiently cover Program activities in a timely and high-quality manner; (ii) lack of expertise among staff particularly with regard to managing the social dimensions of the Program.

### **Social System Assessment**

Expected positive social impacts for the transport sector include: improved road safety; better road network; increased value of road network; and this would manifest to greater road user satisfaction. Increased capacity of PERS for full adoption of PBMC by 2019 will lead to better planning, contracting and fiscal discipline in the Public Enterprise Roads of Serbia. Expected long term gains further include enhanced competitiveness in road maintenance sector, greater transparency and greater incentives for use of innovative and more efficient approaches. Expected positive social impacts for the energy efficiency program include: better public services in reconstructed public facilities; increased value of public buildings; decreased energy consumption without compromising the comfort level, i.e. reduced costs; improved fire safety standards and practices; better conditions for staff and service users; improved and increased access for persons with disabilities to target public facilities; improved capacities for monitoring of energy consumption across participating municipalities; increased capacity of PIMO and participating municipalities to track and report on social gains from public investment in energy efficiency and reconstruction.

Negative social impacts for the energy efficiency program include a possible disruption of services or limitation of access to services during the physical works on reconstruction. In the transport sector, there will be no negative impacts related to land acquisition or expropriation. Road users may experience delays and slowed traffic during maintenance works, but this will be of a limited duration and with immediate improvement in road use after the completion of works. Thus, social risks related

to the Program for the both components are of a limited duration and it is reflected as a discomforted in the service use and very low likelihood of disruption of services for a short time.

Investments in the energy component of the program envisage energy efficiency retrofits in public social buildings—e.g., schools, pre-schools, social care and service centers, health clinics and retirement homes. The program is limited to structural and energy efficiency investments and, as such, there are no economic activities, neither legal nor illegal, that will be adversely affected by the program investments or activities. Thus, there are no relevant social risks with the program. Proposed social actions focus on capacity building of key actors for social impact monitoring, design and installation of machinery for dialogue and consultation with key stakeholders in order to increase their buy in and mitigate negative impacts early on. To this end, emphasis is placed on effective, multi-level grievance and complaints mechanisms.

Concerning the overall social management systems assessment in the context of the energy efficiency component, PIMO's capacities and procedures in managing social impact monitoring ought to be strengthened. A targeted investment should be made in making PIMO better able and equipped to capture social development outcomes in cooperation with local governments and relevant national institutions. Whereas no formal social management systems apply, this would strengthen and make more visible the program's overall success. For the transport component, road user satisfaction surveys and machinery for consultation and dialogue are identified as missing parts of the social management system. Whereas these are not mandated by national legislation, they constitute enablers of the program's success.

### **Identified Areas for Improvement**

As a whole, environmental sustainability is promoted in the Program design. With regard to social sustainability, the Program operates within an adequate legal and regulatory framework and will provide long-term social gains to beneficiaries.

The conclusion of ESSA is there are no major gaps between the core principles of the Program-for-Results and Regulative and Policy Framework of **Environmental Management System** in Serbia: the process of approximation of the national environmental legislation to EU environmental Acquis is well on its way. However, previous implementation incompliances reported by the state competent authorities and LSG authorized bodies, EU progress reports and reports of non-governmental organizations and other public stakeholders indicate several gaps in implementation of the Policy Framework in Serbia. The key areas for improvement in the domain of environment under the Program include waste management practices, use of natural resources and environmental and energy efficiency monitoring system. The waste (hazardous and non-hazardous) policy and legislation framework is in place. The number of illegal dumping sites has been reduced, however, there is still a large number of illegal dumping sites and non-sanitary landfills in use, which are not adequately supervised and monitored. Although there are clear procedures and well developed legislation for issuance of licenses and concessions for use of mineral resources that will be used in activities financed by the Program (these are predominantly stone aggregate, gravel and sand) there are evidence of unsustainable exploitation practices in Serbia and weak monitoring at the ground. Regardless of the

cause (over-generosity of concessions or deliberate exploitation over limits set in permits, concessions and licenses), due to potentially large quantities that will be used in the Program the issue of associated risks is substantial and should be addressed. Environmental monitoring of works that do not require construction permit or EIA, that is applicable to majority of activities funded under the Program, is weak under the current legislative framework as well as in policies, procedures and practices of the Program's implementing agencies. Even where there were developed environmental monitoring and supervision procedures, like in PRES, the examined field reports could not provide sufficient proof that these are being systematically implemented.

Main conclusion of the ESSA is that there are no key gaps between the principles of Serbian **Social Management Systems** and the Program-For-Results core principles. Core principles of Social Management that promote social sustainability are included in Program design. Public and worker safety is included as a concern in Serbian laws, procedures and standards. Land acquisition is not included in the Program. Vulnerable groups enjoy strategic and legal protection and there are clear responsibilities of actors with regards to affected population groups. There are no threats of escalation of social conflict resulting from Program design or implementation. The most important improvements are needed in the realm of capturing the social outcomes and its monitoring and evaluation of both road reconstruction and energy efficiency components of the Program.

### **Capacity and Performance Assessment**

The most significant role in the implementation of activities under the Program is given to PERS concerning road rehabilitation, and to PIMO and respective municipal administrations - concerning energy efficiency component of the Program. Compared to the resource capacities of the national environmental administration bodies, which have a sufficient number of qualified staff for the implementation of the Program, the study of PERS, PIMO and the municipality structures showed that these are facing some capacity constraints. In case of PERS and PIMO the level of internal coordination seems not to be fully adequate, while especially smaller municipalities lack sufficient experts to ensure the appropriate implementation, supervision and evaluation of the environmental impacts of the current Program. In this regard, capacity constraints are twofold: (i) lack of number of staff, to sufficiently cover Program activities in a timely and efficient manner; (ii) lack of expertise among staff concerning the management of the environmental dimensions of the current Program.

In respect to social impact monitoring, PIMO's current set up is not geared to this area. A capacity assessment ought to be conducted before developing a specific budget and timeline for capacity development. Based on their education and prior experiences, PIMO's staff some of the requisite competencies to design and conduct social surveys, establish baselines and develop monitoring protocols. PERS is developing some social impact monitoring practices and procedures. However, obtaining regular road user feedback is not a common practice and it can be established under the Program. Making feedback and consultation data available and relevant to road users in different categories is also a competence area that should be strengthened in order to maximize positive social impact.

## Conclusions

Summarizing the available information and the data from the conducted site visits and desk reviews, it may be concluded that the Enhancing Infrastructure Efficiency and Sustainability Program will result in long-term positive environmental and social impacts, the main of which are increase of the energy efficiency of buildings and reduction of CO2 emissions, increased number of buildings with improved fire safety standards, improved access to persons with disabilities – all resulting in better services' provision in target communities. Transport component will effectively improve road safety and introduce a novel performance based contract management system that will result in cost savings for the road maintenance works.

Negative environmental impacts will be predominately short in duration and in most cases can be mitigated to low impact. They will last only during the construction/rehabilitation period. However, some of the impacts, if not managed properly, may have a significant cumulative negative impact. All of the potentially negative Program-related impacts can be successfully managed by (i) uniformly applying the requirements of the national legislation at the local level, (ii) implementing specific measures related to environmental and social areas, as defined in the Program Action Plan and shown in this document, and (iii) ensuring effective guidance and coordination in implementation of the Program by the agencies that will lead the respective Program' components – PIMO and PERS. The specific measures, among others, include preparation of detailed environmental management procedures and guidelines in both PIMO and PERS, ensuring that local inspectors apply environmental guidelines and checklists in uniform manner, and training of relevant staff for environmental monitoring and recording.

In order to improve the implementation of the National Program from a social point of view, several measures are proposed in the Program Action Plan. They are centered to improving the monitoring and administrative capacity of PIMO and PERS, development of stakeholder consultation, and effective application of the citizen grievance and complaint mechanisms. The additional measure for consideration is related to outsourcing of experts' assistance for targeted policy development work related to effective Program's implementation.

## 1 Enhancing Infrastructure Efficiency and Sustainability

To achieve sustainability, the infrastructure must be designed, constructed and operated in a way that it supports and enhances economic, social and environmental benefits of the national economic activity, and maximizes its outcomes. Infrastructure is important for sustainability as it enables long-term economic viability as well as coexistence and fulfillment of the economic, environmental and social objectives. Strong (real) sustainability entails equal representation of all three of its elements.

For Serbia, decades of under-maintenance and underinvestment, caused certain sectors of infrastructure to become outdated, inefficient and therefore, directly or indirectly, costly. These aging infrastructure systems, including sectors of transport and public buildings, have resulted in loss of economic productivity, reduced safety and often higher budgetary outlays. Recognizing this, and after successfully implementing several common investment programs in the sector of roads as well as other public infrastructure, the Government of Serbia, with the support from the World Bank (WB), has decided to address the issue by creating the Program for Enhancing Infrastructure Efficiency and Sustainability (hereinafter, the Program). The program is envisaged as a common platform for implementation and support for two relatively unrelated sectors' programs: (i) Roads Maintenance Program and (ii) Program for Reconstruction and Improvement of State-Owned Public Facilities.

There are two main reasons why infrastructure quality is relevant for Serbia; firstly, as the EU candidate state, Serbia is obligated to adopt measures to ensure free movement of goods and people and secondly, due to importance of better regional connectivity and ability to attract investment. The World Bank has already supported these initiatives by investing widely into infrastructure such as road construction, rehabilitation and management systems, and on energy sector reconstruction and upgrade. In order to continue to progress and fully achieve infrastructure sustainability, Government of Serbia is further pursuing improved efficiency in these two critical sectors. Through creation of this umbrella Program for the two sectors, the Government of Serbia both identified closure of critical infrastructure gaps and enhanced energy efficiency as strategic goals supporting the country's integration into the EU. In addition, the approved form of WB financial support (P4R) recognizes progress that GoS made in the field of environmental protection and sustainability, including approximation of EU Acquis in the field of environment. The sectoral split of this multi-sectoral operation is 60 percent Transport and 40 percent Energy.

### 1.1 Road Rehabilitation Program

The road network in Serbia represents a major asset for the country. It extends for about 38,600 kilometers of which 15,500 kilometers are national roads and about 23,100 kilometers are local roads. The quality of the roads network in Serbia is insufficient for the economic goals it has set for the future. The poor quality of roads manifests itself in high vehicle operating costs and inadequate road safety; and reduces Serbia's overall trade competitiveness. While limitations in available financial resources and stability of financing are major reasons for the network condition, institutional arrangements for road management also contribute to the unsatisfactory outcomes in the sector.

Improving the condition and reliability of the road network requires: (i) addressing the maintenance backlog which has resulted in massive needs for rehabilitation, (ii) modernizing maintenance management and ensuring sufficient funds for preserving road assets, (iii) strengthening the institutional arrangements for the road sector and (iv) increasing the resilience of the road network. Through implementation of this Program, the World Bank will support the Government of Serbia in all four areas. Environmentally significant aspects of the Program include maintenance management and road network resilience.

The road transport sector is governed by several laws, the most important being the Law on Ministries from 2014 (amended in 2015 and 2016) and the Law on Public Roads (2013). According to these acts the transport policy, including the infrastructure maintenance, is the responsibility of the Ministry of Construction, Transport and Infrastructure (MCTI) while construction, maintenance, operation and management of the 15,000 km of national roads (1<sup>st</sup> and 2<sup>nd</sup> class as defined in the Law on Public Roads) are competence and responsibility of the Public Enterprise “Roads of Serbia” (PERS).

Modernization of maintenance management is a clear priority for PERS. However, its work is often limited by the maintenance funding shortfall caused by accumulated maintenance backlog each year. This situation is further worsened by the pressure to budget caused by 2014 flooding damage emergency remediation works and costs. In the past, and despite several infrastructural projects being supported by IFIs, the PERS budget, in general, has been insufficient to meet the annual needs, the large maintenance backlog.

PERS’s contract model for road maintenance was developed in 1992 and is based on unit rates set by PERS.<sup>1</sup> With the exception of two pilot hybrid Performance Based Maintenance Contracts financed under the Bank’s Transport Rehabilitation Project in the regions of Macva and Kolubara (about 1,200 km), competitive bidding for maintenance contracts is not being used.

Following the successful implementation of the PBMC contracts in Macva and Kolubara (up to 40% financial savings), and in order to spread the improved maintenance practice and increase efficiency of the sector to the national level, the Government of Serbia requested further assistance of the EU and the World Bank in further mainstreaming Performance Based Maintenance Contracts (PBMC) in Serbia. The call resulted in the World Bank supported Road Rehabilitation and Safety Project (RRSP) linked disbursements for road rehabilitation to progress in the implementation of PBMC in line with MCTI plans.

## 1.2 Program for Reconstruction and Improvement of State-Owned Public Facilities

The need to develop the Program for Reconstruction and Improvement of State-Owned Public Facilities (Program for Reconstruction) has been the result of the fact that the majority of public facilities in the areas of education, healthcare and social protection are old, built between WWI and

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<sup>1</sup> A unit rate contract is a contract where the employer decides on a bill of quantities, sets the unit rates and directs the contractor on maintenance needs and actions.

immediate WWII post war period. The rehabilitation of these buildings, if any took place, was carried out couple decades ago, to the least, and mostly were emergency interventions. Additionally, there has been a lack of thorough assessments of the state of such facilities and as well as updated database of investments gave rise to the development of this RISOPF Program.

In the education network, the network of primary and secondary schools comprises around 5,500 buildings and that the total surface area of school premises, amounts to close to 5 million square meters. The average age of school buildings is approximately 50 years and most of them were built just after the World War II. Only 1-2% of the surface area of the total school premises has been built in the last ten years. There is a high number of educational institutions using inadequate premises below the minimum spatial and teaching standards in terms of the size of such buildings, the functionality of their premises and hygienic and technical requirements.

The situation is similar in the field of social protection where there are virtually no facilities which do not require either modest or sizeable investments to promote the efficiency with which social services are provided to clients as well as the access of clients to the rights guaranteed under relevant regulations. The Program estimates, some 50% of the stated needs pertain to the fundamental reconstruction of facilities where, apart from regular maintenance, no significant investments have been made in these facilities since their completion. The next 30% is related to remodeling and recovery and only 20% to needing additional/new equipment. Around 70% of social protection institutions founded by the state and providing housing services do not meet spatial requirements for obtaining a license.

The circumstances in the field of healthcare are approximately the same. The lack of premises, the average age of buildings, as well as insufficient investments in regular and investment maintenance have resulted in faster depreciation of such buildings and their equipment.

The country's energy sector is characterized by a high share of coal use (over 50 percent) in the total primary energy supply; lignite-fired thermal power plants account for over 70 percent of the electricity generation. Under normal weather conditions, domestic power generation covers demand. Power demand is highly seasonal (i.e. higher consumption in winter months when electricity demand for heating purposes is high) and characterized by a large share of consumption by the residential sector (about 55 percent) due to the inefficient use of electricity for heating purposes. Current information and statistical system in Serbia does not offer breakdown of heating energy consumption by the source.

Despite the fact that is making continuous progress, Serbia remains an energy and carbon intensive country which is still four times higher than the EU-28 countries (486.1 vs. 120.4 kgoe/€1,000). Further, the energy consumption per capita is 38.4 percent lower than the EU-28 countries (4.27 vs. 5.91 MWh). Thus, energy intensity would likely rise further as incomes increase. Serbia is also carbon intensive, with carbon intensity more than 2.5 times that of the EU-28 (0.46 kg CO<sub>2</sub>/US\$ 2010 PPP vs. 0.18). The building sector dominates energy consumption, representing about 45 percent of final energy use. The industrial and transport sectors together represent about 53 percent. The remaining 2% is made of agriculture and forestry.

To address the challenges related to its high energy and carbon intensity, the Government of Serbia has made energy efficiency a cornerstone of its energy strategy and strengthened it with the adoption

in 2013 of the Law on Efficient Use of Energy, which is the legal basis for energy efficiency measures under its National Energy Efficiency Action Plan (NEEAP).

The first NEEAP (covering 2010-2012) was able to achieve a midterm reduction of 102.3 ktoe (18.4 percent lower than the targeted 125.4 ktoe) and the second NEEAP (2013-2015) saw an accelerated implementation rate with 370 ktoe in savings, only 7 percent lower than the 2015 target. Much of the savings have been in the buildings sector, due to more efficient construction practices<sup>2</sup> and mandatory energy labelling of energy appliances since 2014. The low savings in the industrial and transport sector have been due in part to delays in regulation effectiveness (e.g., obligations for large industrial users to report energy use and savings plans), tax incentives (e.g., efficient vehicle tires), fleet modernization, lack of trained professional in public entities (at national and municipal levels) and low public awareness. Once the industrial obligations take effect in 2017 and new programs (e.g., energy management systems, mobility management) and regulations (e.g., combined heat and power standards) become operational, savings are expected to increase in order to help ensure Serbia is able to accelerate implementation progress to achieve the remaining 51 percent of its 2018 target.

*Table 1: Overview of planned and actual savings according to the NEEAPs (ktoe)*

| Sector    | 1 <sup>st</sup> and 2 <sup>nd</sup> NEEAPs |             | 2 <sup>nd</sup> and 3 <sup>rd</sup> NEEAPs |             | 2018 Target |
|-----------|--|-------------|--|-------------|-------------|
|           | 2012 Target                                | 2012 Actual | 2015 Target                                | 2015 Actual |             |
| Buildings | 23.5                                       | 19.5        | 138.7                                      | 226.9       | 274.9       |
| Industry  | 56.6                                       | 74.6        | 155.6                                      | 56.6        | 266.8       |
| Transport | 45.3                                       | 8.2         | 103.2                                      | 86.5        | 210.7       |
| Total     | 125.4                                      | 102.3       | 397.5                                      | 370.0       | 752.4       |

*Source: Third National Energy Efficiency Action Plan of the Republic of Serbia for the period 2016-2018, November 2016.*

Based on an earlier market assessment conducted by the World Bank in 2013, the total building stock in Serbia is estimated to be about 245 million m<sup>2</sup> of gross floor area (about 15,000 public buildings), of which about 12 percent represent public facilities.<sup>3</sup> The quality and completeness of information on public buildings is variable, depending on the subsector. It is estimated that education buildings account for about 41 percent of the total public building area (~1,968 buildings, 11 million m<sup>2</sup>). Buildings in the health sector represent some 14 percent of public buildings (~1,641, 4 million m<sup>2</sup>) and administrative and other public buildings<sup>4</sup> make up the remaining 44 percent (~12 million m<sup>2</sup>). There is no official breakdown of central and municipal government buildings; however, MCTI estimates there are about 230 central government buildings.

<sup>2</sup> More than 1,800,000 m<sup>2</sup> of new building floor area per year are constructed in the household, public and commercial sectors.

<sup>3</sup> Available statistical data on the existing building stock is incomplete, particularly for the public and commercial sectors. These figures are based on a World Bank study *Options for the Implementation of an Energy Efficiency Program in the Public Buildings Sector in Serbia* (November 2013), relying on data from SORS, central government and public utilities, and on ENSI 2012, *Energy Efficiency in Buildings in the Contracting Parties of the Energy Community*, Study for the Energy Community, Draft Final Report 1.02.2012.

<sup>4</sup> These include: central and municipal government administrative buildings, libraries, museums, courts, prisons, sports halls, etc.

## 1.3 Related programs

### 1.3.1 Transport Sector

World Bank investment lending projects, CXHP, and the RRSP, are complementing the Government's efforts to improve the quality of road infrastructure. While CXHP is building missing motorway links and support institutional modernization, RRSP, which is part of a large program of parallel and co-financing, comprising funds from the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), and the GoS.

A reform plan prepared under the IBRD financed Corridor X Highway project identified areas for transport sector institutional reform. Several of the proposed recommendations have already been implemented including the use of generally accepted asset management planning practices and modern road design standards. A few key ones remain. One of the critical actions for improving road sector management is a service level agreement between MCTI and PERS that defines the levels of service for the networks and the associated sources of funding for achieving these levels. The Bank is supporting the implementation of this agreement through the Development Policy Loan series for Public Expenditure and Public Utilities.

Following severe flooding in 2014, the World Bank is supporting GoS to mainstream climate resilience in the road sector by (a) Pilot-testing the road geo-hazard toolkit, which was developed with Bank support, the outcomes of which will provide structured vulnerability assessments across parts of the network financed by the CXHP and RRSP loans; and (b) Road network vulnerability analysis and investment planning with support of the Global Facility for Disaster Reduction and Recovery trust fund facility. In addition, the Bank is preparing the Trade and Transport Facilitation Project in support of the region's economic integration.

Other IFIs, donors and bilateral partners are rather active in the in road transport sector. Several donors are active in road transport infrastructure improvements, most notably EU, EBRD and EIB. Both EBRD and EIB are co-financing the aforementioned programs: RRSP and CXHP. EU is also providing TA support but also financing through the IPA window. In addition, bilateral financial support from, China and Azerbaijan are used for the construction of road infrastructure.

### 1.3.2 Program for Reconstruction and Improvement of State-Owned Public Facilities

The previous World Bank-financed Serbia Energy Efficiency Project (2004-13) included the renovation of 82 public buildings. The Project was originally under the management of the Serbian Energy Efficiency Agency, which was abolished in 2012, and replaced by Ministry of Mining and Energy's (MME's) Energy Efficiency Department who assumed the responsibility for the Project. While the project was largely considered a success, it was not able to achieve a significant scale (renovating less than 1 percent of the public building stock) and ultimately was not sustainable.

Several donors were active in the area of energy efficiency. However, KfW development bank is the only one with an ongoing investment program in the public buildings sector. Modeling the support according to aforementioned implemented World Bank project, KfW has provided, through the

Ministry of Education, about €15 million to renovate about 30 schools. KfW also has an extensive investment program to rehabilitate district heating networks in secondary Serbian cities.

The EBRD has an ongoing regional program (the Western Balkans Sustainable Energy Financing Facility II, - WeBSEFF II) which has provided some past credit lines to Serbian banks to support on-lending to private and municipal borrowers for energy efficiency and renewable energy investments. The proposed activities are also fully complementary to ongoing technical assistance (TA) by a cadre of donors, notably GiZ (public building typology), IFC (support to Belgrade on district heating and setting-up an energy efficiency fund), and UNDP (municipal energy efficient procurement, energy management systems).

In the implementation of the Program, the PIMO and the bodies in charge of the Program for Reconstruction implementation will continuously bring into line activity and funding plans so that the compatibility with other reconstruction programs (and/or projects) in the areas of education, healthcare and social protection is ensured. Using different sources of funding for the same purpose in the case of one and the same facility will be prohibited under the program.

#### 1.4 Program Objectives

The Program Development Objective for the Enhancing Infrastructure Efficiency and Sustainability is to enhance and modernize government infrastructure maintenance and investment programs; enabling efficient and transparent use of public resources.

In particular, for the transport sector, the objective is to support the government's Roads Rehabilitation Program. The Public Enterprise Roads of Serbia (PERS) budgets large portions of funds towards maintenance. Maintenance in this context is defined as routine, periodic, minor repairs, limited resurfacing, limited reconstruction of drainage and pavement, that would be performed in the existing Right of Way, hence expropriation of land is not anticipated.

The goal of the Government is to implement full adoption of *Performance Based Maintenance Contracting (PBC)* by 2019. This transition from traditional maintenance to PBC will bring better planning, contracting and fiscal discipline in the Public Enterprise Roads of Serbia. This would improve use of public resources and the state of repair of the National Road Network in Serbia.

For the energy sector, the objective is to support the government's *Program for Reconstruction and Improvement of State-Owned Public Facilities* by improving energy efficiency and safety in renovated public buildings, and strengthening the implementation capacity for the program.

Roads maintenance Program will support Government of Serbia to implement and modernize road maintenance practices, which could result in savings of over 20 percent compared to current practices. In addition, the improvement of the National Road Network under the RRSP and its maintenance under this project, complement the ongoing reform efforts under the Corridor X Highway Project that assess a user charge system that covers National Roads and could in turn be used to generate sufficient

revenues to attract private sector financing in the road sector through securitization or/and management of sections of National Road network. Public sector financing along with the Bank's financial support and involvement in these projects will incentivize and support more private sector involvement in the future.

## 1.5 Program Content/Activities

### 1.5.1 Road Rehabilitation Program

The GoS Road Rehabilitation Program that will be supported under the Enhancing Infrastructure Efficiency and Sustainability Program is administered by PERS, and is presently funded by a mix of toll revenues and budgetary allocations. In total, PERS is managing about 15,000 km of road network in Serbia. The amount of state support is captured as a budget line item in the national budget passed by the parliament. Road maintenance is essential for keeping the condition of the road as close as possible to the original construction design and purpose.

In the transport sector, the Program has two expected results: increasing road infrastructure quality and assisting in scaling up and incentivizing the establishment of Performance Based Maintenance Contracts as the preferred way of maintaining and preserving the roads of Serbia. Technical (Pilot project) work to mainstreaming Performance Based Maintenance Contract (PBMC) has been undertaken under Transport Rehabilitation Project (Macva and Kolubara cases). Furthermore, the use of disbursement-linked indicators was applied in Road Rehabilitation and Safety project (RRSP; the first stage of Road Rehabilitation Program) to encourage the expansion of PMBC use. In that sense, the EU provided financing for the preparation of the PBMC for 3000 km of road network.

**Table 2. Proposed Path towards Performance Based Maintenance Contracts in Serbia**

|                       |   |  |
|-----------------------|---|--|
| Year 1<br><b>2017</b> | Traditional Maintenance<br>+ Tendering for PBMC | Existing Maintenance contracts (24 contractors) will be used to maintain the system, and in parallel tendering the PBMC contract for 3000 km of national system.                         |
| Year 2<br><b>2018</b> | Transition Year<br>Hybrid (Existing + PBMC)     | In this Transition year, PERS will maintain 3,000 km using PBMC and the rest of about 12,000 km using the existing contracts. PERS will also prepare PBMC tender for the entire network. |
| Year 3<br><b>2019</b> | Full PBMC Performance                           | The entire 15,000 km of Serbian Road network will be maintained using the PBMC.  |

### **Implementation**

PERS is maintaining only the 1<sup>st</sup> and the 2<sup>nd</sup> class roads. The 3000 km road network included in the Program to use PBMC in 2017 and 2018 will not cover the motorways, as major sections of various motorways that are currently under construction, are expected to be completed at the end of 2018.

Based on the available information of IRI performance obtained in-house or through various programs such as SEE Transport Observatory and in line with the Strategy for Road Transport Sector Development 2025, PERS selects sections for maintenance and rehabilitation, including the PBMC,

and leads the Program implementation in the transport sector. Maintenance of the entire national road transport network is under the responsibility of the Sector for Maintenance within PERS. The maintenance sector has 86 permanent employees, out of which 66 are field-based while remaining employees are in the main office in Belgrade. The sector works through 9 departments in Belgrade and the regions of Uzice, Nis, and Novi Sad. In addition to permanent employees, each regional maintenance subdivision contracts one or more supervision engineers as per contracts from 1992. Some rehabilitation works are carried out through the Sector for Investment of PERS.

The maintenance works, supported by the Program, will encompass typical road rehabilitation and maintenance works including, but not limited to, site clearance, pavement milling (surface and full depth), cutting out and repairs of potholes, scarification and pulverization of existing asphalt and surface dressing, improving road base, laying of asphalt, blowing out and repair of cracks, construction of lined drains, culverts and turnouts, placing road signage and markings. The contractors for these works are selected in the public bidding using an unit rate contract - PERS decides on a bill of quantities, sets the unit rates and directs the contractor on maintenance needs and actions. In addition, PERS will administer PBMC contracts for maintenance of 3000 km of roads under the Program. Construction of new roads and other infrastructure such as bridges, road extensions, parking lots or road widening, including construction of asphalt base, construction of new or additional lines to the existing roads, or works in the protected areas will not be eligible for support under the Program. In addition, the program will exclude financing that will cause land take, such as extension or widening of the roads or any other reconstruction that might lead to land acquisition. The social assessment looks at the possibility soliciting feedback by the users and improvement of consultation process such as local self-government related to the maintenance works by the PERS and with this the program will further strengthen and improve the positive outcomes from new approach, Performance Based, contracting form the maintenance.

After the main design is finalized, PERS selects and sets Technical Committee to provide opinion and the final approval. While for the new construction, the project for the construction permit (main design) can include an Environmental Impact Assessment Study, (the need to perform an EIA is deemed by MAEP in the EIA screening phase) and technical committee includes an environmental expert. Under the current Law on Design and Construction, a construction permit is not required for road rehabilitation and maintenance works, but only the permit for commencement for construction works. The latter does not require an environmental study or involvement/approval of an environmental expert. However, the environmental regulation requirements are included in the main and implementation design.

Supervision and reporting is defined and organized for each project. The supervision varies from in-house to externally engaged. The reporting is provided for Maintenance Sector only. There is no separate or integrated environmental supervision for rehabilitation projects, apart from waste deposition information.

The Environmental Protection Department within the PERS has 4 employees. The department is carrying out various tasks including participation in national climate change strategies and action plans, lawmaking (e.g. noise protection act), strategic noise maps, regulation harmonization, project preparation and more.

### 1.5.1.1 *Environmental/social/cultural aspects and requirements of the program for the Transport Sector*

Environmental aspect is an activity carried out as a result of the Program implementation that interacts with or exercises impact on the environment. For the road sector part of the Program, ESSA identified the following aspects, respecting limited geographical scope which excludes nature protection areas and technical scope limited to rehabilitation and maintenance of roads:

- Site cleaning,
- Removal and control of vegetation,
- Asphalt laying,
- Pavement milling,
- Works on base improvements,
- Safety improvements (fencing, signage, road marking),
- Replacing or fixing manholes,
- Drainage works,
- Winter maintenance,
- Soil work (removal or application of soil during e.g. construction of bus stops or road widening to satisfy safety or other standards).

### 1.5.2 *Program for Reconstruction and Improvement of State-Owned Public Facilities*

In recognition of the pressing need to rehabilitate the public building stock, the Government approved the Program for Reconstruction and Improvement of State-Owned Public Facilities (hereinafter Program for Reconstruction) in April 2016, revised October 2016.<sup>5</sup> The government designated Public Investment Management Office (PIMO) to implement the government program for the rehabilitation of public social buildings.<sup>6</sup> PIMO has established a working group, made up of key line ministries, to confirm eligibility of the list of selected buildings and to confirm none are receiving support from parallel investment projects (such as those under implementation by MME and the Ministry of Education with KfW).

To date, 234 buildings have been officially selected by the government for renovation under the government program, based on municipal priorities, satisfaction of the criteria set by PIMO, and review by the working group. About 25 facilities are already under construction, 49 are in the works tendering phase and the rest are finalizing their designs. It is proposed that the Bank provides a PforR loan to support the government's full social public building rehabilitation program under PIMO for rehabilitation of another 1,500 buildings that have already been proposed.

Resources for the Program for Reconstruction are currently provided from the state budget. For further implementation, international development assistance (IFIs), financial and non-financial grants and loans, as well as the budget means of the Republic of Serbia in accordance with its

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<sup>5</sup> Government Decree 05 No 351-3817/2016 dated 8 April 2016 and Government Decree 05 No 351-6944/2016 dated 11 October 2016.

<sup>6</sup> Decree No 95/15 'Establishing Public Investment Management Office' provides the legal basis for PIMO; the office was created after the devastating floods in May 2014 to coordinate parts of the reconstruction effort.

capacities, and means of local self-government units' budgets, will be used given that the Republic is not the owner of all public facilities.

All public social buildings (including education, healthcare and social protection facilities) in need of reconstruction in order to meet predefined criteria (technical aspects) are eligible for the support under the Program for Reconstruction.<sup>7</sup> The program is limited to structural and energy efficiency investments and, as such, there are no economic activities, neither legal nor illegal, that will be adversely affected by the program investments or activities. Thus, there are no relevant social risks with the program.

According to PIMO estimates, over 80 percent of the works to be undertaken could be categorized as energy efficiency improvement measures and include:

- Improvements of the building envelope, e.g. energy efficiency improvements roof, windows, doors and wall insulation;
- Improvements related to the internal equipment such as lighting, works and equipment needed for switching from high-end polluting fossil fuels like coal/heating oil to pellets/wood chips, solar hot water heaters);
- Non-EE measures such as structural reinforcement, sanitary repairs, rewiring, painting, etc.

### **Implementation**

While PIMO is responsible for the overall implementation of the Program for Reconstruction, the actual implementation of project activities is decentralized and all tasks related to design, procurement and supervision are the responsibility of LSGUs. PIMO reviews and provides its 'no objection' at each stage and executes payment of renovation works contracts.

The implementation will be based on principles of efficiency, cost-effectiveness, transparency, sensitivity to vulnerable groups:

- The model strives to be transparent: A list of public facilities under reconstruction, information about public procurements, as well as total and individual amounts of financial resources used for each facility will be published on the PIMO's website.
- The principle of energy efficiency will be particularly taken into account when preparing projects for rehabilitation and improvement of public facilities dealt with in this Program. It is expected to result in reduction in GHG emissions achieved by cutting down primary or final energy consumption through implementing measures aimed at efficient energy use in energy-consuming sectors. The improvement of energy efficiency of such facilities directly leads to reduced spending of public funds.
- When preparing rehabilitation and improvement projects for subject public facilities, special care will be taken to ensure that all users, in particular persons with disabilities, children and

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<sup>7</sup> Within the meaning of the Law on Planning and Construction (Official Gazette of the RS, No. 72/2009, 81/2009, 64/2010), public facilities are understood to mean facilities designed for public use and such facilities may be public facilities owned by the state on the basis of special laws (line infrastructure facilities, facilities used by state, territorial autonomy and local self-government authorities, etc.) and other public facilities in all forms of ownership (hospitals, health centres, retirement homes, education facilities, indoor and outdoor sports and recreational facilities, cultural facilities, transport terminals, post offices and other facilities).

the elderly can have unobstructed access and use of facilities as is defined in the relevant technical regulations.

The application and implementation procedure is as follows:

1. PIMO issues a call for proposal to all municipalities (local self-governments, LSGs) requesting a list of priority buildings for participation in the government program is issued (lastly done in May 2016).
2. LSGUs are instructed to submit reconstruction project proposals and list rehabilitation works required. The buildings adequate for the Program are selected based on criteria set by PIMO including, but not limited to:
  - state of building,
  - economic justification,
  - degree of urgency of repairs,
  - number of facility users,
  - and project implementation readiness.

The criteria also seek to ensure fair distribution of resources throughout the country and give priority to underdeveloped municipalities.

3. PIMO requests the meeting of the Selection Working Group and distributes the list of buildings to the members.
4. The PIMO submits proposals to the Selection Working Group (with 9 seats) that is formed by the Government at the proposal of the PIMO. The committee consists of PIMO representatives, Standing Conference of Towns and Municipalities, representatives of Ministry of Labor, Ministry of Mining and Energy, Ministry of Finances, Ministry of Health, Ministry of Education, Science and Technology, Ministry of Construction, Transport and Infrastructure, and the State Office for European Integrations. The mission of the members varies, e.g. Ministry of Energy and Mining is only managing the risk of dual financing. The Working Group submits the list of project proposals to the Government for approval, through the PIMO.
5. PIMO informs the LSGUs of the approved projects.
6. LSGU submits project documentation to PIMO which assesses the maturity of the project and processes. As required under current regulations, all buildings to be renovated must have an EE elaboration/audit and technical design to meet basic building code parameters (e.g., fire safety, operational permits). They also need to achieve at least one energy performance class improvement (i.e., from Class F to Class E). The government program seeks to reach Class C for all buildings, except those for which it is not economic or there are other constraints (e.g., restrictions on façade work due to cultural heritage preservation), in which case they are committed to achieving at least two classes higher than the baseline. As a part of the building permit or the permit for commencement for works (issued by the Municipality), the environmental aspects of the projects are addressed.
7. The parties implementing the Program (PIMO and a particular LSGU) enter the data on the projects into SLAP information system (SLAP IS hereinafter) on the following website: [www.slap.skgo.org](http://www.slap.skgo.org). SLAP IS is the first and unique online data base of the municipal investment projects. Created in 2009, this system is open for the users who may apply for the Program support and download the project information. SLAP is managed by the Standing

Conference of Towns and Municipalities (SCTM) and its major goal is to provide an adequate and effective support to towns and municipalities in Serbia for planning and identification of infrastructure projects, as well as to support an application for financial aid required for the project preparation and implementation. SLAP IS is developed from Exchange 3 program funded by the European Union.

8. The applicants whose projects have been selected for implementation shall prepare project and bidding documents according to the templates developed by PIMO. After determining the justification of the project and tender documentation, the PIMO shall notify the applicant to start implementing the project.
9. The party implementing the Program, i.e. a LSGU, after having been informed by the PIMO that sufficient funds for the implementation of public procurement have been provided, initiate and implement a public procurement procedure and conclude a contract with the contractor or the provider of construction supervision services. Local self-government acts as an investor and are obliged to regularly inform the PIMO of all phases of the project of the rehabilitation and improvement of public facilities, in accordance with the contract that regulates the rights and obligations of the project implementation, signed between the PIMO and LSGU.
10. LSGU shall submit to the PIMO, for the purpose of payment, signed and stamped request for payment with documentation on the implementation of the contract (advance, interim and final situations, invoices, bank guarantees, etc.), along with the report of the expert supervision. The PIMO makes payment to a bank account of LSGU, which in accordance with the agreement on public procurement makes payment to the contractor.

The nature of works usually does not require a construction permit (to be decided by LSGU), hence no environmental recommendation can be made in this regard according to the Serbian legislation. This is due to the fact that designs for construction permit contains environmental recommendations.

PIMO has no environmental department.

#### *1.5.2.1 2.4.1 Environmental/social/cultural aspects and requirements of the program for the Energy Efficiency in Buildings*

In determining environmental and cultural aspects of the Program the technical, geographical and temporal scope are to be taken into account. The program is being implemented national-wide and does not exclude natural protected areas nor cultural heritage buildings. The implementation period is 3 years.

Major environmental aspects:

- Removal of the facade,
- Replacement of a roof,
- Thermal insulation works,
- Replacement of doors and windows,
- Overhauls, modernization or replacement of local heat sources,
- Installation of renewable energy sources,
- Replacement of CFL,

- Replacement of air-condition systems,
- Repair or replacement of electrical installations,
- Removal of radioactive lighting rods
- Installation of centralized electrical or heat system control,
- Gasification of buildings.

## 2 Program for Results

The World Bank developed the Program-for-Results (PforR) financing instrument with an objective to create support for demanding programs that help deliver sustainable results and build institutions. PforR is one of three financing instruments offered to countries members of the World Bank, also including Investment Project Financing (IPF) and Development Policy Financing (DPF). It is the youngest financing instrument, created only in 2012 and it is unique in the sense that its making was largely client instigated. The choice of P4R as an instrument depends on a client's needs, system ability and the development challenge to be addressed.

PforR's particular features include using a country's own institutions and processes, and linking disbursement of funds directly to the achievement of specific program results. This approach helps build capacity within the country, enhances effectiveness and efficiency and leads to achievement of tangible, sustainable program results.

The countries own institutions and systems not only are responsible for the implementation of the Programs which are then financed in accordance with the level of fulfillment of the predefined results, but also are performing the Program supporting and linked functions such as Environmental and Social Safeguards.

The PforR loan is proposed as a suitable instrument to support the GoS's Program for Reconstruction and Improvement of State-Owned Public Facilities and Road Rehabilitation Program for the reason that (i) these are both ongoing programs already being implemented using national standards and systems, (ii) there are tangible and measurable results which are fully aligned with the country's energy savings and GHG emissions reduction targets, obligations to international agreements and treaties and striving towards commercialization of maintenance practices; (iii) the Bank can add value to improve the overall efficiency and effectiveness of program implementation and (iv) national environmental and social system.

Serbia has a well-defined roads maintenance program administered by PERS. There have been many EU and IFI interventions to address the fact that about half the national road network is in poor condition. A large factor contributing to this, is the deficiency in the routine maintenance efforts of PERS, due to both lack of adequate funding as well as lack of programmatic thinking. While the need for assistance is clearly defined, the support of the World Bank is required in efforts the Government of Serbia is investing in order to complete the last mile towards institutionalizing the PBMC.

In the energy efficiency sector and maintenance of buildings, the country has already developed a comprehensive policy framework for energy efficiency, largely under its commitments to the Energy Community Treaty with the EU. This has included adopting a national energy efficiency action plan, establishing EE targets, transposition of key EU directives related to energy efficiency (Energy Labeling and Energy Performance in Buildings Directives) and enacting a series of related regulations and rulebooks. Given the tremendous needs for public building investments and limited scope offered by a traditional IPF, the PforR would have the best opportunity for scale, since this would be a national program. Furthermore, the PforR will provide the flexibility in strengthening the development, implementation and monitoring capacity of the numerous implementing agencies (165 municipalities

are eligible in the program) to carry out such relatively small investments (assessed at typically around €360,000 per building).

The Bank has substantial experience with implementing building retrofit programs in the ECA Region, including public buildings (e.g., Armenia, Belarus, Bosnia & Herzegovina, Bulgaria, FYR Macedonia, Kazakhstan, Montenegro, Poland), which can contribute to strengthening these two programs and help address bottlenecks that are likely to arise during implementation. Moreover, the Bank has experience in implementing successful P4R in transport such as the Nepal bridge program and the Uruguay roads program as well as with the use of DLIs in many transport projects including in Serbia and Albania in the region. Bank's participation in the program could also foster improved fiduciary controls and monitoring to timely identify and address issues as well as distill lessons learned to improve the design of the program in subsequent phases. Capacity building for smaller municipalities could also be envisioned in order to improve implementation capacity to comply with national standards and procedures, technical oversight and fiduciary and safeguard aspects.

### 3 Environmental and Social System Assessment

WB's overall goal to reduce poverty and improve living conditions requires careful and thorough consideration of environmental and social impacts of every supported program and project. Given the specific features of P4R operations (presented in the previous chapter) where the environmental and social safeguard policies and procedures created for investment financing cannot really be applied, WB has developed a policy and procedures for guiding the environmental due diligence specifically for P4R financing. World Bank policy OP/BP 9.00 Program for Results Financing sets core principles and key planning elements intended to ensure that Program for Results (P4R) operations are designed and implemented in a manner that maximizes potential environmental and social benefits while avoiding, minimizing or otherwise mitigating environmental and social harm.

World Bank operational policy for P4R, OP/BP 9.00, in terms of environmental and social management, employs risk management approach in which the process requirements are incorporated to the Program. The Bank, in the course of the P4R operation preparation, assess, in the Program context, Client's authority and practices as well as overarching principles and policies and organizational capacity to achieve environmental and social objectives, promote positive environmental and social effects of the Program and effectively manage the adverse effects.

In the Preparation phase of the P4R operations an environmental and social system assessment (ESSA) is carried out against core principles defined in the OP/BP 9.00. The assessment includes the risk assessment, the system assessment, but also resulting recommendations and formulation of measures to become an integral part of the Program Action Plan. The process is formulated and reported through the WB document Environmental and Social System Assessment Report (ESSA Report) which is consulted with stakeholders and sometimes with the broader public. During the Implementation phase, the agreed actions defined in the Program Action Plan are implemented, including capacity building, creation of supporting documents such as guidelines, or specific agreed measures. WB applies monitoring of the environmental and social part and can prescribe adaptation of management practices if the application of Program Action Plan is compromised.

Core Environmental Principles of WB OP/BP 9.00 tailored to guide the ESSA of Client's Program systems, including the external systems such as policies, strategies, regulation, standards, etc. and internal Client's operating systems are considering to what degree the program systems:

1. Promote environmental and social sustainability in the program design; avoid, minimize or mitigate adverse impacts, and promote informed decision-making relating to the Program's environmental and social impacts,
2. avoid, minimize or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program;
3. protect public and worker safety against the potential risk from construction and operations of facilities, exposure to toxic chemicals, hazardous wastes and other dangerous materials, and reconstruction for rehabilitation of infrastructure located in areas prone to natural hazards.

4. Manage land acquisition and loss of access to natural resources in a way that minimizes displacement and assists the affected people to restore or improve their livelihoods,
5. Give consideration to cultural appropriateness and gives attention to Indigenous Peoples.
6. Avoid exacerbating social conflicts especially in fragile states, post-conflict areas or areas subject to territorial disputes.

ESSA will only consider the principles that are applicable to the Program and systems that is being scrutinized.

The main objective of ESSA for this Program is to carry out an assessment of the environmental and social capacity of institutional, regulatory and organizational framework of the relevant stakeholders in Serbia. The assessment is done in order to determine the compliance level of aforementioned systems and frameworks with the World Bank policy OP/BP 9.00 and ability of the system to adhere to its environmental and social core principles applicable to this project including: (i) promotion of environmental and social sustainability in the program design and ability to avoid, minimize or mitigate adverse impacts relating to the Program's environmental and social impacts occurring in the course of reconstruction and rehabilitation works, (ii) ability to void, minimize or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the use of heavy machinery and transportation vehicles, operating working sites, consumption of natural resources such as gravel and stone, application of asphalt, and other typical civil works; (iii) provide adequate worker safety programs and equipment to prevent and minimize risk of injuries or accidents caused by construction, rehabilitation and maintenance operations on roads and buildings exposure to toxic chemicals, hazardous wastes and other dangerous materials, operations of large machinery and transportation vehicles, working in heights, risk of accidental situations, and more. The system assessed also needs to provide protection and measures for risk minimization for health and safety of local communities during Program implementation as well as operations of facilities, placing emphasis on traffic safety for the road sector and exposure to noise, vibration and hazardous materials for the sector of public buildings management; (iv) land acquisition management and loss of access to natural resources in a way that minimizes displacement and assists the affected people to restore or improve their livelihoods.

Prior to selection of the financing instrument the preliminary environmental and social screening was carried out for both road and EE in buildings activities of the Program. The preliminary screening presents the basis for this ESSA, but also for early identification of the potential key system gaps (that will be later on confirmed or rejected by ESSA conclusions) and making preliminary agreements amongst key stakeholders on the approach to environmental and social effects prevention, minimization or mitigation.

### **Methodology**

Using the preliminary screening conclusions and scope of project activities for road sector and public buildings management sector under the Program, ESSA process starts with deep screening of environmental and social aspects and identification of all project impacts, positive and negative. Impacts are ranked against their significance assessed according to acceptable methodology which should be empirically proven and widely accepted such are international environmental management systems or standards (e.g. ISO 14001 or EMAS) or Environmental Assessments carried out by IFIs for similar projects, e.g. international such as WB ESMF or EIA or national EIA assessment methodology, if such exist. Desk review of all Program documents including National Energy Efficiency Action Plan

or Road Rehabilitation Maintenance Program, have been the major ESSA asset in the early stage of ESSA.

In the course of assessment of the response of environmental and social systems to challenges of identified impacts, whether through national or local regulation framework, main stakeholder internal policies and procedures, supranational legislation, international treaties and other elements of the system, ESSA included a review of vast number of policies, program documents, procedures, strategies to examine the scope boundaries of the system and impact management coverage and effectiveness. Related programs of World Bank and other IFIs including investments in road rehabilitation such as Corridor X Highway program, Western Balkans Sustainable Energy Financing Facility II, KfW programs for public buildings, and more were incorporated to the analysis.

Capacity assessment is an important part of the assessment process as ESSA goes beyond the assessment of set regulation, institutional framework and formally defined roles, rights and obligations. For the transport sector the capacity assessment was based on meetings and interviews with the single implementing agency – PERS. The Program for Reconstruction and Improvement of State-Owned Public Facilities, on the other hand, has two implementing levels – (i) PIMO, who is responsible for overall program implementation and controls selection of projects, preparation and supervises implementation and (ii) municipalities in charge of engaging contractors, works implementation, and a particular project result. Therefore, in addition to PIMO interviews and procedures examination, nine municipalities were a part of an environmental capacity survey, namely: Aleksandrovac, Cicevac, Jagodina, Krusevac, Novi Sad, Pancevo, Pecinci, Sabac, and Svilajnac. It is to be noted that the technical assessment was carried out on sample of eleven municipalities, but the environmental assessment has not been undertaken in two of them. However, for the scope of the environmental screening, the existing sample of nine municipalities have been assessed as sufficient to draw opinions and conclusions in this document.

Institutional analysis was carried out as the supportive activity to system and capacity assessment. It included identification of institutions' structure, roles and responsibilities, placement and integration of the environmental elements (e.g. department) to the overall structure. Intra and interinstitutional overlapping and coordination between national, regional and local sectoral levels. Such complex analysis entailed broad information gathering approach that required interviews with stakeholders' representatives, competent authorities of various sectors (e.g. in charge of environmental and nature protection, energy and mining, administrative governance, local self-governance associations).

Central processes of ESSA consist of key stakeholders' capacity assessment and system framework (institutional and legislative) assessment. In this, ESSA compares identified Program impacts and the prevention/mitigation requirements and options with systems capability and readiness to adequately identify the issue and act in efficient and effective manner. In addition to existing framework formally in place, ESSA assesses the implementation as well as implementation effect and available human, temporal and financial resources of the system elements. Infrastructure Sustainability and Efficiency Enhancement Program focus was selected during the screening period and was made on capacity of system for efficient waste management, workers and community safety, application of comprehensive EE measures and implementation and results monitoring.

Inputs to the P4R action plan is the main result of ESSA and also key safeguards contribution to Program implementation strengthening and success. The input consists of (i) identification of areas for improvement based on identification of gaps between P4R core environmental and social principles and the existing system, as well as (ii) required and recommended actions and organizational, technical or institutional measures agreed to be taken in order to overcome identified

legislation, capacity or system shortcomings. The areas of improvement and action plan contribution include recommendations for achieving conformity to WB policies and procedures, but also compliance with the national and supranational legislation, best practices, and sustainability principles.

Although the ESSA Report is the World Bank document, in order to strengthen the Program risk management capacity, the P4R review and approval process requires the consultation with the key stakeholders identified prior or at the Appraisal. ESSA consultations for road transport and public buildings management program aspects include: for environmental sector - PERS, PIMO, Standing Conference of Towns and Municipalities, representatives of Ministry of Labor, Ministry of Mining and Energy, Ministry of Finances, Ministry of Health, Ministry of Education, Science and Technology, Ministry of Construction, Transport and Infrastructure, and the State Office for European Integrations.

The Social Assessment seeks to verify the consistency of the existing systems with the proposed P4R operation, to establish potential social benefits, risks and impacts and propose actions that will maximize benefits and positive impacts, and avoid, minimize, or mitigate risks and negative impacts. Elements of this national and multi-sectoral Program in scope are already under way and key actors have substantial experience in implementation. The Program is carried out by governmental actors at national and local level.

Three key dimensions are considered in the Social Assessment: (1) systems as defined in the legal and regulatory framework of the Republic of Serbia; (2) institutional capacity of the Program institutions to effectively apply the social management systems associated with the Program's social effects; and (3) stakeholder relations conducive to program success and/or representing potential areas of concern that require specific actions in order to ensure their neutral or positive contribution to Program outcomes.

The following limitations are built in P4R program design:

Transport. During the identification phase, it has been determined that the program for the transport section will finance regular and periodic maintenance and there will be no need neither for land take nor displacement. Activities such as reconstruction or construction of widening or extension of length of roads are excluded by the programs<sup>8</sup>. In addition, there is no evidence of squatters living or using the vicinity of roads under the competency of the PERS nor practice of illegal small vendors selling products. Temporary land take for storage of the heavy machinery is none issue because the contractors use public land in most of the cases or rent pieces of land for storages whereby the selection is done by contractors by negotiation with owners of land<sup>9</sup>.

Energy efficiency. The program will avoid financing in case because of the retrofitting activities there are some users of space, performing economic activities, that will need to be resettled. If these cases exist, although there has been no evidence, the program will exclude from the financing because of the financing implications of having to move the users<sup>10</sup>.

With regards to energy efficiency and transport, the social assessment part of the ESSA looks at: (i) consultation practices with the local governments or individual users related to the sections being maintained and (ii) whether there is effective compliance and (iii) or road user satisfaction

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<sup>8</sup> PROGRAM-FOR-RESULTS INFORMATION DOCUMENT (PID) CONCEPT STAGE, Report No: PIDC0116940, Enhancing Infrastructure Efficiency and Sustainability

<sup>9</sup> If contractor have option to rent land for storages because of the benefits of the proximity they negotiate with multiple owners willing to rent the land, as they have no right to call on expropriation.

<sup>10</sup> Ibid.

measurement and feedback activities by the PERS. For the energy section for the retrofitting program the ESSA assessed PIMO's capacity to keep track of beneficiaries and apply social surveys to measure the client satisfaction. In order to establish evidence as basis for analytic work, existing program materials were reviewed, a semi structured questionnaire for interviews with local government representatives, PERS and PIMO was drafted, and relevant national strategies and laws were analyzed. Social issues, potential impacts (positive and negative) and potential gaps in the existing plans for both transport (road maintenance program) and energy (energy efficiency retrofitting program for public buildings) were identified and addressed. The Social Assessment questionnaire was administered in face to face interviews with local government representatives, along with Technical, Environmental, Procurement and Financial questionnaires. A sample of 10 municipalities out of 109 applicants with 234 buildings were visited and interviewed by the social expert. The general purpose was to obtain local authorities' input on the application and selection process, access to information from and interaction with PIMO, selection of public facilities for reconstruction experience with preparing documents, issuing and processing tenders, contracting companies and, where applicable, conducting actual retrofitting works. The municipalities also provided feedback on consultation with and information dissemination to citizens and civil society organizations, alternative arrangements for services provision during the works and ways to track social gains from planned and actual investments in energy efficiency. The following municipalities were selected as a representative mix of large, medium-sized and small, geographically spread across the country, and in different stages of the building rehabilitation process: Aleksandrovac, Čičevac, Kruševac, Novi Sad, Pančevo, Pećinci, Sečanj, Subotica, Svilajnac and Šabac.

**Table 3 Summary distribution of municipality**

| Size of Municipality | Number of Municipalities | Number of buildings | % (# of bldgs) | Approved Investment (EUR) | % (investment) |
|----------------------|--------------------------|---------------------|----------------|---------------------------|----------------|
| S                    | 63                       | 112                 | 47,9%          | 44.169.279                | 43,3%          |
| M                    | 32                       | 70                  | 29,9%          | 20.203.675                | 19,8%          |
| L                    | 14                       | 52                  | 22,2%          | 37.555.967                | 36,8%          |
| <b>SUM</b>           | <b>109</b>               | <b>234</b>          | <b>100%</b>    | <b>101.928.920</b>        | <b>100%</b>    |

**Table 4 Overview of demographic and project data for the 10 municipalities**

*in the interview sample<sup>11</sup>*

| Municipality  | Population (2011 Census) | Ethnic composition (Percent) |       | No. of buildings approved |
|---------------|--------------------------|------------------------------|-------|---------------------------|
| Aleksandrovac | 26,522                   | 96,83%                       | Serb  | 3                         |
|               |                          | 3,17                         | other |                           |
| Čičevac       | 9,476                    | 95,70%                       | Serb  | 1                         |

<sup>11</sup> Source for demographic data 2011 Census and <http://webrzs.stat.gov.rs/WebSite/userFiles/file/Aktuelnosti/Nacionalna%20pripadnost-Ethnicity.pdf>

|                  |         |        |             |   |
|------------------|---------|--------|-------------|---|
|                  |         | 1,80%  | Roma        |   |
|                  |         | 2,50%  | other       |   |
| <b>Kruševac</b>  | 128,752 | 95%    | Serb        | 3 |
|                  |         | 1,93%  | Roma        |   |
|                  |         | 3,10%  | Other       |   |
| <b>Novi Sad</b>  | 341,625 | 78,77% | Serb        | 5 |
|                  |         | 3,88%  | Hungarian   |   |
|                  |         | 1,93%  | Slovak      |   |
|                  |         | 1,56%  | Croat       |   |
|                  |         | 1,06%  | Roma        |   |
|                  |         | 0,63%  | Rusyns      |   |
|                  |         | 12,70% | other       |   |
| <b>Pančevo</b>   | 123,414 | 79,00% | Serb        | 6 |
|                  |         | 3,69%  | Macedonian  |   |
|                  |         | 2,77%  | Hungarian   |   |
|                  |         | 2,57%  | Romanian    |   |
|                  |         | 1,72%  | Roma        |   |
|                  |         | 1,14%  | Slovak      |   |
|                  |         | 0,71%  | Croat       |   |
| <b>Pećinci</b>   | 19,720  | 91%    | Serb        | 1 |
|                  |         | 5%     | Roma        |   |
|                  |         | 4%     | other       |   |
| <b>Sečanj</b>    | 13,267  | 69,31% | Serb        | 3 |
|                  |         | 12,75% | Hungarian   |   |
|                  |         | 0,85%  | Croat       |   |
|                  |         | 0,66%  | Bulgarian   |   |
|                  |         | 6,78%  | other       |   |
| <b>Subotica</b>  | 141,554 | 35,65% | Hungarian   | 4 |
|                  |         | 27,02% | Serb        |   |
|                  |         | 10,00% | Croat       |   |
|                  |         | 9,57%  | Bunevak     |   |
|                  |         | 2,26%  | Yugoslav    |   |
|                  |         | 2,09%  | Roma        |   |
|                  |         | 0,95%  | Montenegrin |   |
| <b>Svilajnac</b> | 23,551  | 93,62% | Serb        | 2 |

|              |         |        |         |    |
|--------------|---------|--------|---------|----|
|              |         | 1,38%  | Roma    |    |
|              |         | 1,19%  | Vallahs |    |
|              |         | 3,81%  | other   |    |
| <b>Šabac</b> | 118,347 | 95,47% | Serb    | 4  |
|              |         | 1,64%  | Roma    |    |
| <b>Total</b> | 946,228 |        |         | 32 |

The field interviews also touched upon the potential for scale up and improvement in the program implementation and/or additional steps required. The field visits were conducted in the period from June 5 till June 16, 2017. The environmental and social assessment questionnaires were processed simultaneously in meetings with multiple representatives of target local administrations, including a mix of political, administrative, financial and technical functions in the local government. During the assessment, the issues arising from the labor influx were discussed with the counterpart agencies and the other stakeholders such as local self-governments and contractors. Because of the nature of the works – road maintenance whereby in different regions regional firms are providing the services and retrofitting of public buildings – the labor comes from the locality or the micro region. There is no need for establishment of labor camps.

In addition to policy requirements, the World Bank carried out broader consultations that included interested public. The ESSA Report was disclosed at PIMO and PERS web site, and hard copies were made available to the interested public for 1 week, with the call for comments and details of public consultation meeting. During the disclosure period no comments were received outside the public consultations meeting. The comments received are reflected in the finalized ESSA Report.

## 4 Stakeholders

### 4.1 Environmental Stakeholders Mapping

#### **Ministry of Agriculture and Environmental Protection<sup>12</sup>**

The Ministry of Agriculture and Environmental Protection performs public administration and policy development tasks in the environment and other areas. Concerning environmental protection, the competences of MAEP relevant to the current Program are the following:

- general environmental protection; protection of ecosystems and improvement of the environment;
- environmental inspections
- national parks
- air protection;
- water pollution protection with regard to surface and groundwater;
- protection of the ozone layer;
- issues related to the climate change;
- identification of environmental requirements in spatial planning and construction;
- mitigation of noise and vibrations;
- protection against ionizing and non-ionizing radiation;
- management of chemicals and biocidal products;
- waste management, except radioactive waste;
- approving transboundary movement of wastes, as well as other activities specified by law.

MAEP combines the competences for agriculture with specific aspects of environmental protection especially water and waste management. MAEP is organized in two branches – agriculture and environmental protection. The branch of environmental protection is organized in three sectors:

- The Sector of Environmental Protection (responsible for strategies in the field of nature protection, biodiversity, sustainable use of resources, water quality as well as international cooperation in these fields)
- The Sector of Planning and Management in the Environment (developing, coordinating and implementing objectives of environmental policy related to cleaner production and sustainable development (e.g. EMAS), establishing environmental impact assessment, approving safety reports and emergency plans of SEVESO-installations, monitoring/defining BAT, issuing IPPC permits, responsible for waste management, management of chemicals and pesticides)
- The Inspection Sector for Environmental Protection (performing activities related prevention and control of environmental pollution (e.g. soil and water protection), control of chemical products and pesticides, radiation protection, control of waste treatment installations, general environmental inspections, providing expertise for drafting regulations. The department is divided into seven distinctive fields and the inspectors are located on the whole territory of Serbia)

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<sup>12</sup> At the time of completion of this Assessment, the Government of Serbia was restructured and a new Ministry for Environmental Protection was established. It is assumed that this new Ministry will take over all responsibilities in the domain of administering, processes and managing the quality of environment in the Republic of Serbia.

Public administration authorities within MAEP include, among others, the Republic Directorate for Water (or Water Directorate), the Forest Administration and Serbian Environmental Protection Agency (SEPA). The Water Directorate is responsible for public administration and technical tasks related to water management policy. The capacity of the Water Directorate, which is the most important public authority in the field of water management is inadequate (39 employees in 2012, 18 of which are water management inspectors) for carrying out all administrative tasks defined by the Law on Ministries and the Law on Water.

SEPA, established in 2004, is an organization with the status of a legal body within MAEP. SEPA performs public administration tasks related to the current Program, as follows:

- Development, harmonization and management of the national environmental information system (especially regarding conditions of environmental media);
- Collection, processing and unification of environmental data, reporting on environmental conditions and environmental policy implementation;
- Development of procedures for processing and assessment of environmental data.

More concretely, MAEP is responsible for the following, in the domain of waste management:

- Coordinate and perform waste management activities relevant to the Republic of Serbia, and monitor their performance;
- Approve regional waste management plans, with the exception of plans on the territory of the autonomous province;
- Issue permits, approvals, certificates and other acts prescribed by the Law (collection, storage, transportation, treatment and disposal of hazardous (and to a certain extent non-hazardous) wastes)
- Keep a record of permits, approvals, certificates and other acts issued by other competent authorities;
- Determine the authorized organizations in accordance with the Law;
- Issue notifications for shipment of waste;
- Monitor and control the implementation of measures for waste handling and management;
- Undertake measures and activities, in accordance with international treaties and agreements.

### **Competencies of Sectoral Ministries Relevant to the Current Program**

The Ministry of Health is responsible for safety of food and consumer goods, ensuring supply to the population of good quality drinking water, and sanitary inspection. It is also responsible for the implementation of health and safety pertaining to environmental protection, sanitary inspection, water supply for public consumption, and monitoring and oversight of health and safety conditions of various facilities and sites.

The Ministry of Mining and Energy is responsible, among other matters, for exploitation of mineral and geological resources, energy policy, the rational use of energy and energy efficiency, RES, environment and climate change policies in the energy sector, natural resources policy and groundwater reserves. This Ministry includes the Budgetary Fund for Energy Efficiency (about 1.2 MEUR per annum) oversees energy policy and programs, fuel quality, energy efficiency, issuance of permits for extraction of mineral resources, management of extractive industrial waste and renewable

energy resources. Its competencies also include the preparation of technical documentation and monitoring in the domains of motor vehicle emissions and noise from vehicles and machinery.

The Ministry of Construction, Transport, and Infrastructure is responsible for responsible, among other matters, for spatial planning, municipal infrastructure and public utilities. It oversees urban and spatial planning, construction permitting and communal infrastructure, which may be related to preparation of EIAs, if required. Competencies of this Ministry also include internal and international transport and technical standards for vehicles and outdoor equipment.

The Ministry of Public Administration and Local Self- Government, created in April 2014, is responsible, among other matters, for guidance and support to local self- government units.

The Ministry of Labor, Employment, Veterans and Social Affairs has the responsibility for occupational health and safety. The Ministry includes two administrative bodies active in the subject field, in particular the Occupational Safety and Health Directorate that, among other things, prepares legislation and the other, the Labor Inspectorate, which is the competent body for supervision over its regulatory enforcement.

The Ministry of Interior is in charge of emergency situations and oversees the police and fire brigades.

### **Institutes for nature conservation**

The Institute for Nature Conservation of Serbia performs professional activities on nature protection and research. Among other tasks, it prepares studies to propose the protection of natural resources, monitors the state of nature and proposes protective measures, determines protection conditions and provides data on protected areas for the development of spatial and other plans. The Institute also provides professional supervision and assistance for the management and development of protected areas. The Provincial Institute for Nature Conservation of the Autonomous Province of Vojvodina is tasked with performing activities on nature protection and the protection of natural goods located entirely on the territory of Vojvodina. Since 2010, the Provincial Institute for Nature Conservation is not part of the Institute for Nature Conservation of Serbia.

### **Local self-governments**

The competences of local self-government in Serbia are regulated by the Law on Local Self-Government (OG 129/07), Law on Local Self-Government Financing (OG 62/06, 47/11, 93/12), Law Determining Certain Competencies of the Autonomous Province of Vojvodina (OG 6/02, 101/07, 51/09) and Law on the Capital City (OG 129/07). Altogether, there are 174 local self-government units in Serbia, including 150 municipalities (territorial units, usually above 10,000 inhabitants), 23 towns (economic and administrative centers, usually above 100,000 inhabitants) and the city of Belgrade.

The competences of local self-government units in Serbia are divided into primary and delegated. The primary competences include those on communal activities, such as organization of waste collection, waste disposal and provision of water supply and sanitation. Delegated competences are those that generally belong to the national level but have been entrusted by the Republic to the Autonomous Province and to local self-government units. For delegated competences, rights and obligations of the Autonomous Province and the local self-government units are prescribed by law. The national level of governance has to provide resources for the implementation of delegated competences to the Autonomous Province and local self-government units.

Competencies of LSGUs in Serbia relevant to the current program are:

- establishing environmental requirements as part of urban development consents and building permits,
- reviewing and approving EIA studies,
- issuing municipal waste management permits,
- issuing permits for stationary air pollution sources,
- setting and keeping the register of environmental polluters,
- inspecting compliance with and enforcing the implementation of laws and regulations on environmental protection, air protection, environmental noise, nature conservation, waste management and wastewater management.

In the Autonomous Province of Vojvodina, with competencies similar to those of municipalities and cities, environment-related competencies are assigned to the Provincial Secretariat for Urban Planning, Construction and Environmental Protection (PSUPCEP) and these include:

- Performing EIA procedures and issuing integrated permits for projects/installations for which the building permit is granted by the competent provincial authority;
- Granting waste management permits;
- Inspection control in all aspects of environmental protection, with the notable exception of industrial accidents, ionizing radiation and transboundary movement of goods.

## 4.2 Transport sector specific stakeholders

In Serbia, there are no specific environment-focused transport-specific stakeholders.

## 4.3 Public Buildings Management sector specific stakeholders

In Serbia, there are some specific environment-focused EE stakeholders, that predominantly belong to the Civil Sector. It is worth mentioning RES Foundation operating from Belgrade, as one of the larger CSOs active in the environmental field of EE.

#### 4.3.1.1 Capacity

##### **Ministry of Agriculture and Environmental Protection**

The Ministry has about 1,600 staff, of which about 300 are appointed to work on environmental issues and about 100 in SEPA. Among other departments in MAEP, the Department for Environmental Inspection (DEI) is of pivotal importance for the current Program, as it deals with environmental and ionizing radiation protection inspections and provides administrative responses to non-compliance. DEI has six structural units covering key areas of environmental supervision: industrial pollution (20 staff<sup>13</sup>); soil, ground and surface waters (16); chemical accidents, chemicals and biocidal products (19); ionizing and non-ionizing radiation (5); waste management (13); and protection and use of natural resources (8). Environmental inspectors at the central level have exclusive competences over the enforcement of legal requirements related to the prevention of and protection from chemical accidents and the supervision over operations of the Serbian Radiation Protection and Nuclear Safety Agency.

Although cuts in the number of staff occurred, the central environmental enforcement authority managed to maintain and even develop its capacity. DEI employs app. 100 civil servants, with the majority of inspectors, and a minor number of staff providing legal and administrative support. In the past few years, DEI equipment has been improved. Training needs have been systematically determined after the adoption of new legislation, and training provided, most often through EU-funded projects. DEI receives sufficient funds allocated from the national budget for operational expenses. The budget is planned for the following year with a projection for the following two, providing certain financial stability.

The Water Directorate is the competent authority for issuing water permits. MAEP established emission limit values for wastewater as well as environmental quality standards for surface waters, groundwater and sediments. Responsibilities for the enforcement of the Law on Waters are divided among three inspectorates: water, sanitary and environment. The water inspectorate (20 people), which is part of the Water Directorate, checks compliance and enforces requirements related to the water use regime and quality of surface waters and groundwater, as well as to any activities that could affect water quality. The environmental inspectorate supervises the quality of effluents, the use of self-monitoring and application of measures to protect water quality. The sanitary inspectorate checks all aspects related to drinking water quality. Responsibilities between water and environmental inspectorates are not entirely delineated and there are overlaps in the area of water quality, but, in practice, taking into account that sufficient overall level of their internal capacities, they find ways to overcome them and cooperation on the ground is satisfactory.

In its overall design, the system of inspection largely follows Recommendation 2001/331/EC providing for minimum criteria for environmental inspections in the Member States. A unified planning method, reporting and record-keeping on inspections were introduced at all levels. Guidelines and instructions for inspections are available. There are regular (planned) inspections and ad hoc site visits, which are related to complaints, requests from other authorities or incidents/accidents. The inspector is not obliged to notify the regulated entity that an on-site visit will take place, unless such a notification is necessary for the purpose of performing the visit. The mechanisms to verify compliance include on-site inspection surveillance and review of documentation. Generally, inspectors spend 50 per cent of their time on site, the rest being dedicated to other forms of compliance checks. Inspectors should

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<sup>13</sup> Approximate numbers in this section.

follow standardized operating procedures that help them to take consistent and transparent decisions.

Inspectors provide good territorial coverage of the country. However, the existence of many small offices carries the risk of making the organization inefficient. Under such organization, inspection controls may have the tendency to focus more on formal requirements than on substantial issues related to risk factors, and to try to inspect all businesses or to select inspection targets based on inspectors' subjective views or sheer convenience (e.g. proximity to the inspectorate's office).

Environmental inspectors have undergone active training over the last few years, notably at the central and provincial levels. The staff turnover is limited. The qualifications and the mix of specialists carrying out inspection are reported to be adequate. The organization of DEI allows for a certain specialization of inspectors and a broad range of skills, so that most aspects of environmental impact are appropriately covered. As all civil servants, inspectors have to pass the so-called "State examination" one year after employment.

Results of each site visit are properly recorded. Inspection reports contain the findings of the site visit and proposed improvement measures. Such reports are shared with the company, and the company should provide feedback to inspectors on the implementation of improvement measures. Inspectors also report on other activities. Such information is compiled in annual reports, with very little analysis. A national report on inspection activities and their impact is not available, given that local authorities are not obliged to report to central authorities. Nonetheless, half the local self-governments submitted reports on their inspection work to the DEI in 2010.

The Chemicals Agency as a regulatory organization for the management of chemicals was abolished in 2012. Its functions were transferred to MAEP, with staff reduced from 42 to 21 employees by the act of MAEP. This limited capacity responsible for the implementation of ambitious tasks, initially envisaged for the Chemicals Agency, is the major obstacle to full-scale implementation of the relevant Law on Chemicals.

### **Sectoral ministries**

The Ministry of Health has competences related to public drinking water supply, which includes enforcement of sanitary regulations relevant to the environment (e.g. the protection zones around drinking water sources). Supervision over the safety of drinking water and observance of sanitary requirements is conducted through sanitary inspectors. Other responsibilities relate to radioactive medical waste, chemicals and biocidal products and good laboratory practice. The Ministry of Construction, Transport and Infrastructure has responsibilities related to the emission of air polluting substances and noise from vehicles, airplanes and inland water transport, such as the setting (with the consent of the Ministry of Energy, Development and Environmental Protection) of pollutants emission and noise limits, methods of emissions monitoring and measures for emissions reduction. The General Police Directorate often acts in support of inspectorates, particularly in forestry and spatial planning.

EU's Serbia Progress Report for 2016 Serbia assessed that capacity of the Ministry of Mining and energy needs to be considerably strengthened, especially its department for energy efficiency and in the building inspectorate. The energy efficiency fund that has been set up as a Ministry budget line has reserved around EUR 1.2 million for 2016 energy efficiency programs and projects which is not nearly enough to meet demands and support plans.

The Radiation Protection and Nuclear Safety Agency is insufficiently staffed to perform its duties. In December 2015, the number of permanent staff posts was reduced from 35 to 24. Inspection functions have not yet been transferred to the Agency. The Agency's budget is insufficient to ensure its proper functioning and operational independence.

Capacities of all the above institutions to deal with environmental-related issues is assessed as sufficient in the context of potential risk-generating situations arising from the current Program. However, due to inefficient inter-agency communication and cooperation, the practical application of relevant policies and practices, the overall environmental impact monitoring is assessed as insufficient.

### **Institutes for nature conservation**

Specialized tasks of nature and natural resources protection are performed by the Institute for Nature Conservation of Serbia, including providing environmental protection requirements for activities and monitoring in protected areas. In Vojvodina, these tasks are assigned to the Provincial Institute for Nature Conservation. It is assessed that the capacities for implementation of all relevant tasks in these institutes are adequate.

### **Local self-governments units (LSGUs)**

Those tasks are mostly implemented by the local secretariats for environmental protection, in municipalities where these exist. Data from the Standing Conference of Towns and Municipalities<sup>14</sup> mention 178 environmental inspectors working at the local self-government level, including 27 inspectors in Belgrade as of March 2014<sup>15</sup>.

Capacity problems at the municipal level are significant, notably for EIA. Short-time training delivered to representatives of local self-governments cannot compensate for the lack of staff and financing. In smaller municipalities, there is a lack of qualified people to consider more complex projects. Besides the issue of technical capacity, most of them have serious problems with financing relevant procedures.

The current compliance assurance competences of LSGUs are delegated by the State, which retains the ultimate responsibility for their implementation. MAEP should supervise performance as concerns the entrusted competences and in theory can recall them from subnational authorities in the event of failure. In practice, MAEP does not have all the tools for such supervision. For example, there is no legal obligation for provincial authorities and LSGUs to regularly report on their activities (e.g. EIA, permitting and inspection). Lack of information is hampering the supervision activity and – more largely – the evaluation of institutional performance and effectiveness of policy instruments. The Law on Local Self-Government links funding of LSGUs to undertaking entrusted tasks. Given that transfers from the central budget are made for all sectors at once, withdrawing funding for a specific task is impossible. At the same time, prior to adopting the budget for environmental protection, LSGUs'

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<sup>14</sup> The Standing Conference of Towns and Municipalities of Serbia is an independent national association of local authorities created in 1953 to promote cooperation, exchange of experience and joint actions of common interest.

<sup>15</sup> The Sector for Environmental Inspections at PSUPCEP has a staff of 17 inspectors spread across seven regional offices.

secretariats for environmental protection are required to obtain approval by MAEP. Cooperation and information exchange among the levels of environmental authorities is assessed as poor.

## 4.4 Implementing Agencies

### 4.4.1 Department for Environmental Protection, PERS

DEP operates as a part of the Sector for Strategy, Designing and Development of PERS. Engineers, specialists in this field, define policies and strategy for development of environment management on roads on the midterm basis. They deal with development of methods and operational techniques for raising environmental conciseness on the level of policy, programs and projects, as well as on the operational level. DEP works on preparation of instructions and guidelines, as to define procedures providing necessary level of works quality, studies on impact assessment and other documents.

Based on the environmental indicators for roads, it regularly informs relevant authorities on current conditions, as well as on concrete actions to be taken by PERS as to improve environmental protection on roads through all phases of road design preparation. During inspections, it provides qualitative communication and informs inspection bodies of the Republic on measures taken by the PERS in accordance with the legal obligations.

Activities of the Department, as set forth in the internal documents of PERS:

- Supervision over designing and implementation of measures of environmental protection during design preparation, construction, reconstruction and rehabilitation of roads.
- It follows realization of programs, plans and designs in road sector and realizes completion of procedures of assessment of project impacts on environment in accordance with valid regulation stated for this area. It completes the impact assessment procedure in accordance with the Law on Environmental Impact Assessment.
- Completion of the procedure of environmental impact assessment for the particular design is performed in accordance with the legal framework stipulated for that area.
- Strategic environmental impact assessment
- Environmental impact assessment
- It submits request for receipt of decisions of the Ministry of Environment and Spatial Planning in reference to need to have impacts of the projects in the field of rehabilitation, reinforcement and road improvement assessed.
- It submits request for receipt of decisions of the Ministry of Environment and Spatial Planning in reference to need to have assessed impacts of the project of periodical maintenance in ecologically sensitive surroundings, i.e. of the projects from the List II of Rulebook on the list of projects for which environmental impact assessment may be requested. It provides conditions from the Environmental Protection Institute of the Republic of Serbia and Cultural Heritage Preservation Institute.
- It submits requests to the Ministry of Environment and Spatial Planning questioning a necessity to have environmental impact assessed.
- It looks after procedures of public announcement in different phases of impact assessment procedure.
- It submits requests for receipt of decision from relevant ministry on scope and contents of studies on environmental impact assessment.
- It submits request for decision on determination of scope and contents of studies on environmental impact assessment and later it submits them for approval and receives approvals from relevant ministry.

- It participates in the procedure of public discussion and public insight in reference to the above-mentioned studies.
- It participates in preparation of part of Terms of Reference in relation to preparation of general, preliminary and main designs. It controls designers during preparation of studies/adjustment with the Terms of Reference and decision on determination of scope and contents of study on environmental impact assessment, brought by the relevant ministry. Special attention is paid to the proposal of technical measures as well as to implementation of the same in the phase of project realization later on.
- It performs monitoring during construction, reconstruction and rehabilitation.

During the assessment of the capacities of DEP the following was found:

- PERS DEP was established in 2006 and functions as a unit of the Sector for strategy, design and development. DEP was instrumental in developing the internal PERS Policy on environmental protection that does not contain any specific procedures concerning mitigating environmental risks or managing environmental protection during road rehabilitation works.
- DEP is involved in project design only through the participation of their representatives in relevant working groups. DEP is responsible to coordinate the implementation of relevant Serbian EIA legislation for all PERS road rehabilitation projects. They drafted one Study on EIA for a road rehabilitation project that was implemented in a protected area of Vlasina in Southern Serbia. Apart from the Study on EIA, as required by the Serbian legislation, DEP does not draft any environmental or other management plans. The same stands for HS aspects of all PERS projects. In certain instances, other departments but DEP, manage all steps required by the Serbian EIA legislation (Unit for project documentation or Unit for investments). In such cases, there is no formal communication between DEP and other units of PERS.
- DEP does not perform any monitoring after the project design phase and does not receive any information on environmental aspects of road rehabilitation projects, reports on technical supervision or reports of relevant environmental inspectors. Waste streams are not directly monitored by DEP, as the Serbian legislation does not require this and rests the responsibility on contractors and national environmental inspectorate. Technical supervision of road rehabilitation works is performed either by internally appointed or externally contracted engineers, while DEP does not receive any of their reports. Therefore, DEP is not in the position to monitor any of the environmental requirements.
- DEP and PERS in general do not have any formalized channels of communication with the local community, and apart from what is prescribed in the national legislation, there are no explicit grievance mechanisms in place.
- Currently, DEP employs four people: one civil engineer, one spatial planner, one geographer specialized in environmental issues and one environmental protection engineer. PERS Staffing plan for DEP foresees one additional post that is not filled at the time of completion of this Assessment. The estimated capacity to deal with the all formally attributed requirements were to be implemented is assessed as medium.

#### 4.4.2 PIMO – Public Investment Management Office

The Public Investment Management Office is a new body of the Government of the Republic of Serbia tasked with managing the projects of reconstruction and aid allocation following natural and other hazards, but primarily the projects of reconstruction of thousands of pre-school, school, health care and social protection establishments.

The Public Investment Management Office has been established by the Decree of the Government of the Republic of Serbia, published in the Official Gazette of the Republic of Serbia, No. 95/15. The Decree stipulates that the Office shall perform expert, administrative and operational activities to serve the needs of the Government, related to coordination of the implementation of projects of reconstruction and improvement of public facilities within the competence of the Republic of Serbia, Autonomous Province or local self-government units in terms of collecting the data on current and scheduled projects and the needs for public facility reconstruction, needs and feasibility assessment of the proposed projects, priority identification, coordination of public procurement procedures, meeting of contractual obligations and payments, and also other activities stipulated by the Law or the Government Decision.

In its activities, the Office shall use the experience gained in post-flood reconstruction and it shall perform its duties in an efficient and responsible way, observing the highest standards of transparency. Furthermore, the work shall be carried out with active participation of all local communities, both in the process of decision-making and in the process of implementation.

Additionally, the Law on Reconstruction following Natural and Other Hazards, stipulates that the Public Investment Management Office shall take over all rights and obligations from the Office for Reconstruction and Flood Relief, on the day the Law becomes effective.

During the assessment of the capacities of PIMO the following was found:

- Procedures for granting financial support to client municipalities are developed, detailed and well-functioning. PIMO has executed several rounds of grants to municipalities in Serbia before.
- PIMO and their client municipalities follow the legal provisions of the Law on Planning and Construction of Serbia that envisages the following steps for any private or public works:
  - Producing the Initial Project design
  - Acquiring the location conditions
  - Producing the Design for building permit
  - Producing the Detailed design
  - Notifying authorities of relevant works
  - Technical inspection of the finalized construction
  - Producing the “As built” design in cases when there are differences in the design for construction permit and the constructed structure
  - Acquiring the Utilization permit
- PIMO does not have any environmental procedures *per se*, apart from the fact that they follow all relevant legislation of the Republic of Serbia. Implementation of this legislation (laws, by laws and standards) are enforced by the relevant bodies (national and local environmental and other inspectorates).
- PIMO does not have a dedicated person to deal with environmental aspects of their projects, but has a group of resident construction, mechanical and electrical engineers that support client municipalities in the application procedure. PIMO has a dedicated person to deal with HS issues, but only the internal ones. The final HS-related responsibility lies with the contractors.
- Technical supervision is performed by individual certified consultant or certified companies contracted by the investor (client municipality) and certifies that all works (including the environment-sensitive actions) were done in accordance with the relevant legislation. PIMO performs both desk and field checks of the supervision reports as one of the pre-requirements for releasing payments to client municipalities. technical supervision is not centralized, client municipalities select the best consultants/companies individually.

- Environmental concerns are taken into account during the planning phase for each individual project, as the initial design states the Bill of quantities for each action to be carried out, that entails expenses for removal and safe disposal of waste and other provisions.
- PIMO has never had a project located in the protected natural area, thus requiring an EIA. There were very few cases where a consent from the National Institute for Protection of Cultural Monuments had to be sought, as the buildings that were restored were listed under special protection categories.
- PIMO has available capacities to track additional parameters concerning environmental aspects of their projects, but they will not be able to dedicate significant additional resources for a more complex reporting system.
- PIMO has a functioning system for approval and tracking of the projects they finance and are open to the idea of adding potentially an environmental management check-list or document of a similar format to their application package. They are aware that the implementation of this check-list would be compulsory and would have to be monitored (probably by the client municipalities, where PIMO would collect, systematize and store the relevant information).
- PIMO has never recorded any complaints concerning environmental media (water/soil/air/noise pollution, effects on local biodiversity) or HS issues. PIMO does not have an appeal or grievance management system.

|  | PERS DEP   | PIMO   |
|--|--|--|
| <b>General requirements based on good practice and principles of environmental safeguards</b>      |  |  |
| Environmental safeguards implemented in their (Serbian budget-funded) activities.                  | Relevant staff members generally aware of the principles of sound environmental risk management and environmental conservation. Environmental safeguards mostly implemented at the maximum level of Serbian national standards. Some responsibilities delegated to other units in PERS or to contractors and/or local governments. | No environmental safeguards in place. Sound environmental risk management fully delegated to contractors and local governments. No environmental management system in place.                   |
| Actions concerning implementation of environmental safeguards well documented.                     | Actions poorly documented.   | All actions documented through reports from their clients, but environmental aspects not documented.   |
| <b>Requirements based on Serbian national regulation</b>   |  |  |
| Obtaining environmental permits  | All elements of the system in place. System functioning.   | Delegated to their client municipalities.  |
| Monitoring of implementation of recommendations from environmental permits                         | Some elements of the system in place. Not performing monitoring for works that do not require EIA. For works that require EIA and implemented by other PERS units no information received.   | Mainly delegated to their client municipalities, while reports on supervision of works check conformity with environment-related recommendations contained in permits (mainly waste disposal). |
| Supervision during project implementation  | Some elements of the system in place. System not functioning well due to the lack of a common database on all projects implemented in PERS and lack of formalized information flow between different units.  | Done by companies for technical supervision contracted by client municipalities and PIMO resident engineers. Environmental aspects not monitored to a sufficient extent.                       |
| Reporting on supervision and monitoring and information dissemination                              | Reporting procedures in place but not used. Information dissemination within PERS and with public almost non-existent.   | Done by companies for technical supervision contracted by client municipalities.   |
| Internal environmental policies in place   | Yes.   | No internal environmental policies.  |
| Internal HS policies in place  | Yes.   | HS policies in place. In practice, delegated to contractors and client municipalities.   |
| Internal capacity to fulfill environmental requirements in accordance with Serbian legislation     | Capacity estimated to be of low to medium scale, concerning the potential work load if all formally attributed requirements were to be implemented.  | Limited capacity to monitor or consolidate information on environmental parameters in implemented projects.  |
| Internal capacity to fulfill energy efficiency requirements in accordance with Serbian legislation | Capacity estimated to be of medium scale.  | Limited capacity to monitor or consolidate information on energy efficiency parameters in implemented projects.  |
| Internal capacity to fulfill HS requirements in accordance with Serbian legislation                | Capacity in place.   | Capacity in place.   |

Table 5 Comparative overview of institutional assessment of PERS and PIM

## 4.5 Social Stakeholders Mapping

### 4.5.1 Transport sector specific stakeholders

The lead partner and main coordinator of the PforR implementation for Transport sector is Public Enterprise Roads of Serbia (PERS).

Other stakeholders for the transport sector include:

1. Ministry of Construction, Transport and Infrastructure;
2. Municipal administrations (local self-governments, LSGs);
3. Private contractors

#### 4.5.1.1 Public Enterprise Roads of Serbia (PERS)

**PERS** is responsible for regular, continuous and adequate maintenance and preservation, exploitation, construction, and reconstruction of roads; organization and control of toll collection; and development and management of state roads category I and II<sup>16</sup>. Sources of funding for road construction and reconstruction, maintenance and preservation include fees collected against use of state roads – toll, financial loans, budget of the Republic of Serbia and other sources as stipulate in the Law of Public Roads.

PERS aims to prevent deterioration of roads, preserve and enhance the road network value through investments in construction, rehabilitation, reconstruction and by conducting studies, designing and implementing projects in their area of operation. PERS investments are aligned with the strategic orientation of the Republic of Serbia towards a road transport sector that is functionally integrated with the European road network. PERS contributes to traffic safety in cooperation with other national and local actors, including Ministry of Interior and Ministry of Construction, Transport and Infrastructure and to environment protection. Modernization of maintenance management is a priority for PERS that will be implemented through P4R as a gradual shift over 3 years from territorial division of work among a closed set of private actors who were first contracted in 1992 and whose contracts are extended annually to a system for competitive bidding and performance based contract management (PBMC).

PERS prides itself with management of the road network --“one of the biggest capital values in the Republic of Serbia” consisting of 16,179.892 km of roads in categories I and II of an estimated value amounting to 4.5 billion Euro. **PERS management quality standards are aligned with ISO 9001:2008 (quality management system for work) and OHSAS 18001:2008** (occupational health and safety management system). The company is introducing upgrades to the information system, on the job training and professional development opportunities for it’s’ staff. The company is organized in 7 sectors: Strategy Design and Development; Investments; Maintenance of state roads of the I and II category; Traffic Control Information Systems; Toll Collection; Legal, Staff and Common Affairs; Economic, Financial and Commercial Affairs.

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<sup>16</sup> Law on Public Roads, Official Gazette of the Republic of Serbia, No... 101/2005, 123/2007, 101/2011, 93/2012 and 104/2013

For the P4R implementation, **main responsibilities lie within the Maintenance sector**. This sector employs 86 full time staff members. Of this number, 66 are field-based and 20 work at the headquarters in Belgrade. Maintenance sector is a cluster of 9 departments in Belgrade and the regions of Užice, Niš, and Novi Sad. In addition to permanent staff, each regional maintenance subdivision contracts one or more supervision engineers as per contracts from 1992

PERS receives policy guidance and monitoring support from the Ministry of Construction, Transport and Infrastructure.

#### *4.5.1.2 Ministry of Construction, Transport and Infrastructure (MCTI).*

MCTI responsibilities cover transport policies and systems for railway, road, water and air transport. The ministry takes the lead in project implementation regarding construction of transport infrastructure; Internal and international transport and intermodal transport. It is further responsible for safety of technical and technological system of traffic; obligatory and property relations; inspection control; traffic development strategy, development plans and plans related to the organization of the traffic system and transport organization; Issuance of a usage permit for a traffic facility and infrastructure; approval of vehicles, equipment and parts of the vehicle; Organizing financial and technical controls; International affairs in the field of traffic; Creation of conditions for access and realization of projects from the scope of the ministry financed from the funds of the EU pre-accession funds, donations and other forms of development assistance; Measures for encouraging research and development in the field of traffic, as well as other tasks determined by law. The Ministry of Transport oversees implementation of the Law and work of public enterprises (holders of public authorizations) in transport sector, including PERS. In 2014, the Serbian government established the Coordination Body for Road Safety with Deputy Prime Minister and Minister of Construction, Transport and Infrastructure as it's' President<sup>17</sup>. The main task of the Coordination Body is to initiate and monitor safety measures and road safety-related activities, to coordinate activities contributing to reduction of the number of accidents and their consequences, and to improve traffic safety; to propose National Strategy for Road Safety and the National Plan for Traffic Safety.

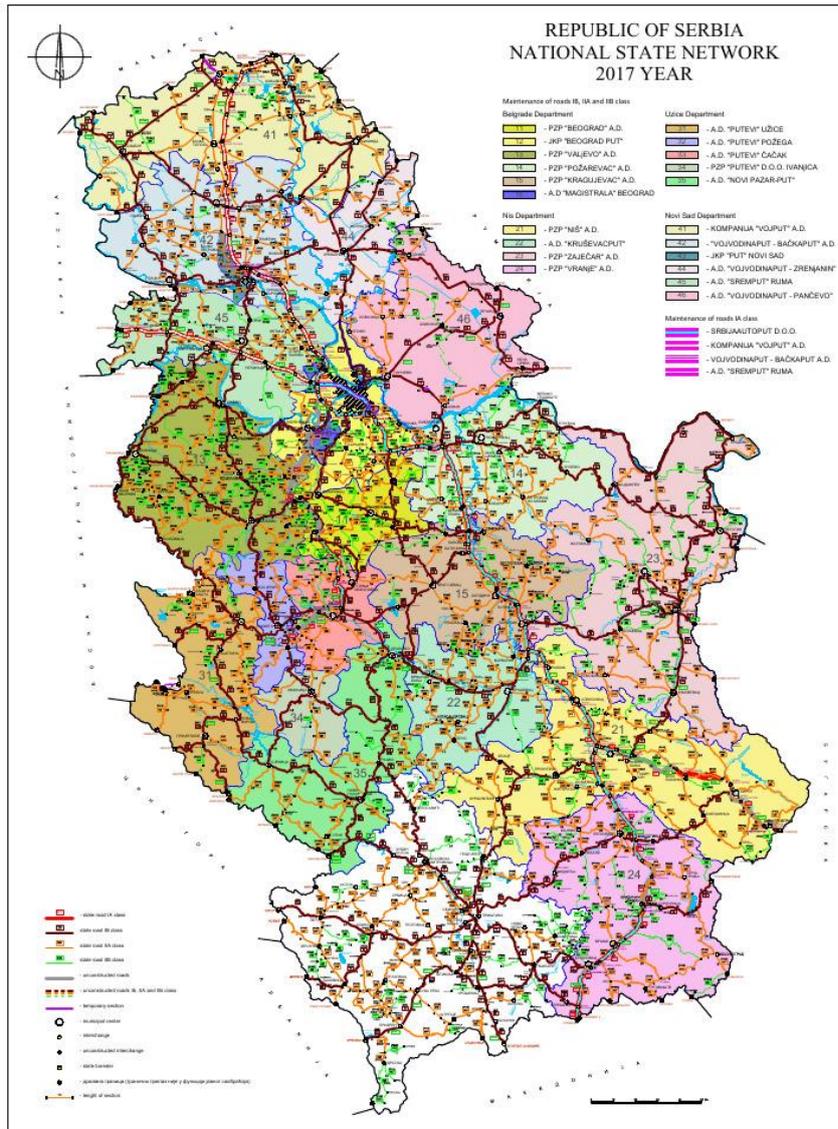
#### *4.5.1.3 Private contractors*

There are 25 private companies that have signed an agreement with PERS in 1992. According to the agreement, each company is responsible for maintenance of a specific section of the road network, divided into 5 departments: Belgrade, Novi Sad, Niš, Užice and IA class roads.

*Graph 1 presents the distribution of work at the baseline. Plans are in place for a gradual shift to PBCM.*

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<sup>17</sup> <http://www.mgsi.gov.rs/en/coordination-body-road-traffic-safety>



Introduction of performance based contract management may have an adverse financial impact on these companies and their staff, as well as introduction of deductions and penalties for non-compliance. On the positive side, this new contracting modality will guarantee contractor's workload; provide potential for increased margins and opportunities for business growth. Furthermore, it will be conducive to an increased transparency and creation of competitive tenders and markets. Also, gains on the side of the public investment of up to 30% have been documented in other countries<sup>18</sup>. The pilot implemented by the World Bank in Serbia from 2008 to 2011 documented savings up to 40% in winter times, and ~24 % on average. The shift to PBMC requires changes in the way private contractors are doing business.

<sup>18</sup> [http://www-esd.worldbank.org/abc\\_resource\\_guide/Docs-latest%20edition/TrainingMaterials/Module010Introduction0and0overview.pdf](http://www-esd.worldbank.org/abc_resource_guide/Docs-latest%20edition/TrainingMaterials/Module010Introduction0and0overview.pdf)

#### 4.5.2 Public Buildings Management sector specific stakeholders

Public Investment Management Office (PIMO) is the key stakeholder, lead partner and main coordinator of the P4R implementation for EE sector.

Other stakeholders include:

1. Participating cities and municipalities (local self-governments, LSGs)
2. Ministry of Labor, Employment, Veteran and Social Policy
3. Benefiting institutions: Preschools, primary schools, secondary school and technical schools; Health centers; Residential institutions for the elderly, adults and persons with mental disabilities; and other public institutions.
4. Construction companies
5. Public service users in target communities

##### 4.5.2.1 Public Investment Management Office (PIMO)

PIMO was established by the Decree of the Government of the Republic of Serbia<sup>19</sup> after severe floods in 2015 that affected 119 municipalities. It “performs professional, administrative and operational tasks for the Government, related to coordination of the implementation of reconstruction projects and improvement of public facilities within the competence of the Republic of Serbia, Autonomous Province or local self-government units”. PIMO collects data on current and scheduled projects and needs for public facility reconstruction, conducts feasibility assessment of the proposed projects, priority identification, coordination of public procurement procedures, meeting of contractual obligations and payments, and also other activities stipulated by the Law or the Government Decision<sup>20</sup>.

From a novel and temporary mechanism facilitating and coordinating post disaster reconstruction, PIMO has evolved into a central authority on public investment but still without all of the necessary tools. Based on their performance in delivering rapid and effective response, their mandate was expanded to cover reconstruction of public facilities. PIMO’s internal estimates of potential for scale up are in the range of 1,500 preschool, primary and secondary school, health care and social protection establishments throughout Serbia. PIMO sets the selection criteria, conducts assessment of reconstruction and improvement of public facilities and collects information on ongoing renovations and planned reconstructions. It facilitates application of streamlined public procurement procedures, and it oversees fulfillment of contractual obligations, and effectuates payments to contractors.

PIMO has prior experience in managing and disbursing EU and multiple international donor funds. PIMO issues reports on state and donor assistance distribution<sup>21</sup>. PIMO has prior experience in retrofitting of public buildings and energy efficiency program implementation. The counterpart has a

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<sup>19</sup> Official Gazette of the Republic of Serbia, No. 95/15

<sup>20</sup> <http://www.obnova.gov.rs/english/responsibilities>

<sup>21</sup> For example <http://www.obnova.gov.rs/uploads/useruploads/Documents/Kancelarija-za-pomoc-poplavljenih-podrucja-infograf-11-05-2017-eng-02.pdf>

program with pre-selected of 234 facilities. The PIMO does not have a track record of measuring of the beneficiaries neither carries social surveys for the services they provide through provision of finance for retrofitting of the buildings.

Energy efficiency retrofitting activities of the functioning public buildings whereby public services are provided will not cause impacts such as land take or displacement of the housing. There is also no evidence that there have been private users of the space, legal or illegal, performing economic activities in the facilities retrofitted or to be retrofitted<sup>22</sup>. Thus, the program is unlikely to cause any unexpected livelihood impacts.

#### *4.5.2.2 Participating Municipalities (local self-governments, LSG)*

The Law on local self-government<sup>23</sup> defines municipality as the basic territorial unit of self-government, capable of exercising rights and responsibilities in accordance with its' jurisdiction. A municipality has at least 10,000 inhabitants. Exceptionally, it can be set up with fewer than 10,000 inhabitants. Local governments have asset management responsibilities over public preschool, primary and secondary school facilities on their territory. They are responsible for minor repairs and maintenance whereas the Ministry of education assumes responsibilities for significant repairs and infrastructure investments in primary and secondary schools<sup>24</sup> as well as teacher salaries. The state, however, is the sole owner of all public (primary and secondary) education institutions. In addition to education facilities, LSGs are interested in retrofitting of cultural centers, health centers and clinics, administrative buildings and facilities housing the locally funded social services - that are all maintained from the local purse.

In the realm of social protection, residential institutions are fully under the wing of Ministry of Labor, Employment, Veteran and Social Policy. This has implications on the dynamic of selection and reconstruction of social protection premises under the P4R as LSGs have no say in any phase of the project.

Calls for applications issued by PIMO under the reconstruction of public facilities program are open to all local self-governments in Serbia. All municipalities receive simultaneously the electronic information regarding the objective of the call, eligibility criteria, prioritized public facility types for reconstruction and limits in terms of number of facilities to be considered for reconstruction per municipality, as well as the necessary information and documents supporting the application. The 234 projects in phase one have been submitted by 109 municipalities. City of Belgrade's 10 municipalities are also included in the Program. There is a balanced geographic spread of program benefits in response to a very high demand for this type of support to local budgets.

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<sup>22</sup> Based on the discussion with PIMO officials and the feedback from the sample of the local self-governments

<sup>23</sup> Law on local self-government, Official Gazette RS, No... 129/2007, 83/2014 and 101/2016, article 18 specifies that municipalities established before termination of validation of the Law on territorial organization of the Republic of Serbia (Official Gazette RS, No.. 47/91, 79/92, 82/92 corrections 47/94 and 49/99, can have fewer than 10,000 inhabitants. Also, exceptionally, when there are particular economic, geographic or historic reasons, a new municipality can be established with less than 10,000 citizens.

<sup>24</sup> Law on fundamentals of education and upbringing system (Zakon o osnovama sistema obrazovanja i vaspitanja) Official Gazette RS, No. 72/2009, 52/2011, 55/2013, 35/2015 – authentic interpretation, 68/2015 i 62/2016 – CC decision)

According to the Law on Self-Government<sup>25</sup>, LSG is responsible for quality and efficiency in exercising its' responsibilities and tasks entrusted by national or provincial government. Out of 39 specific duties of a municipality<sup>26</sup>, the following are directly or indirectly relevant to the P4R objectives:

Box 1. Excerpt from the Law on Self Government – LSG mandate<sup>27</sup>

- adopts development programs;
- adopts urban development plans;
- adopts budget and balance sheet;
- manages and ensures delivery and development of communal activities (purification and distribution of water, purification of atmospheric water and disposal of waste water, production and supply of hot water and aerated water, city and suburban transport, sanitation and maintenance in cities and settlements, maintenance of landfills, set up, maintenance and use of markets, parks, green and recreations and other public spaces, public parking, public lighting, maintenance of cemeteries and burial, etc.), as well as organizational, material and other conditions for fulfillment of above duties;
- takes care of environmental protection, adopts programs regarding use and protection of natural resources and environmental protection programs, including local action and sanitation plans, in line with strategic documents and community interests and specific features and introduces a special fee for environmental protection and advancement;
- regulates and secures performance of duties related to construction, rehabilitation and reconstruction, maintenance, protection, use, development and management of local and uncategorized roads, and streets in settlements;
- establishes institutions and organizations in the realm of primary education, culture, primary health care, physical culture, sports, child protection and tourism, monitors and ensures their operation;
- establishes institutions in the realm of social protection, monitors and secures their operation, issues permits for operation of social protection institutions established by other legal or private persons, determines that criteria for social services provision are met, sets norms and standards for operation of institutions that it has established, adopts regulation on rights in social protection and performs duties of guardian imposed by the state;
- organizes protection against natural and other disasters and fire protection and creates conditions for mitigation of their effects;
- manages municipal assets and capital, uses, safeguards and enhances state owned resources;
- sets up organs, organizations and services as required by the municipality and regulates their organization and operation;
- organizes legal aid service for citizens;
- takes care of implementation, protection and advancement of human rights and individual and collective rights of members of national minority and ethnic groups;
- takes care of public information regarding locally relevant issues and ensures conditions for public information in the Serbian language and languages of national used in the, establishes TV and radio stations to ensure access to information in minority languages in official use in the municipality, as well as access to public information in minority languages not in official use when this is an achieved level of minority rights;
- establishes inspection service and conducts inspection control with regards to implementation of regulations and other general acts in the realm of municipal work;
- performs other duties of direct interest for citizens, in line with the Constitution, Law and the Statutes of the municipality.

Despite direct and clear responsibilities in the realm of maintenance of public buildings set up or owned by the municipality, field realities demonstrate that maintenance levels have generally lagged significantly behind needs. Now LSGs face the challenge of too many poorly maintained buildings at the same time and it is difficult to come up with priorities at the local level. Field interviews confirm that all LSG representatives interviewed welcome PIMO's coordination and criteria an adequate way forward in establishing a new and more positive baseline for their community.

Article 13 of the Law on Self-Government specifies that local self-government bodies may cooperate with nongovernmental organizations, humanitarian and other organizations, in the interest of LSG and

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<sup>25</sup> Official Gazette RS, No.129/2007, 83/2014 and 101/2016, article 6

<sup>26</sup> Ibid., article 20

<sup>27</sup> Ibid.

local communities. Currently, LSGs interviewed generally see no such interest in the field of energy efficiency.

Although LSG representatives praise the potential for energy savings that will effectively free up investment and/or service funding in the budget, few of them are able to quantify potential savings at this point. Šabac, for example, is a positive exception to the rule in this regards as it has started to use thermographic screening as a tool for citizen awareness rising on energy efficiency.

#### 4.5.2.2.1 Schools: preschools, primary schools, secondary schools and technical schools

Schools in Serbia co-managed by the Ministry of Education (sets policies and curriculum, invests in major repairs and infrastructure, funds teacher salaries) and local self-governments (maintain school buildings and engage in minor repairs, contribute salaries for public pre-school teachers and organize transport for pupils at all levels). In the P4R, local governments apply to PIMO for school retrofitting.

Schools are clearly prioritized by PIMO and consequently by LSGs. Field interviews confirm that most schools are in poor condition, with significant gaps and lags in physical maintenance and multiple generations of standards behind the current energy efficiency target benchmarks. There are mild tensions between PIMO's soft criterion of "sensible and meaningful" investment and local self-governments' shared concern for rural schools as a pillar of rural community. Ministry of education is pushing for rationalization and optimization of the school network and LSGs are resisting this move because they feel inadequate in meeting the demographic challenges characterized by an ageing population, urban migrations and depopulation of rural areas.

Following efforts are done to minimize the interruption of the school attendance because of the renovation works. For the retrofitting works in schools the works are scheduled during the summer holidays:

- for the works that cannot be completed during the holidays, school in coordination with Local Self-Government and PIMO agree on phased schedule of works; for the schools with two shifts occupancy, during the school attendance, only outside works are done, such as façade works and roofing. The inner works are planned for the winter holidays.
- for the schools with one shift occupancy the works are done in one part of the school whereby the other part is used as two shifts (or one shift dependence on the number of students. One or other strategy is used depending of the occupancy of the facility

Out of 234 approved projects for energy efficiency and retrofitting, 70 are primary schools. Another 37 are secondary and technical education facilities, thus representing a 45% share of the total number of buildings considered for reconstruction.

#### 4.5.2.3 Ministry of Labor, Employment, Veteran and Social Policy (MLEVSP)

**MLEVSP** - and not LSG - applies directly to PIMO for retrofitting of nursing homes and other public buildings included in the social protection network. In line with the Social Protection Law, MLEVSP is responsible for making sure that the principle of least restrictive environment<sup>28</sup> is applied and that social protection services are provided in line with the standards set in the Law: up to 100 beneficiaries

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<sup>28</sup> Law on Social Protection, Official Gazette RS, No 24/2011, article 27

in residential institutions for children and adults, and up to 50 beneficiaries in residential institutions for elderly men and women<sup>29</sup>. However, it is difficult to make that happen without close cooperation with LSG if the nature of works requires to temporarily moving beneficiaries to another location. In reality, this has not happened to date in the sample interviewed but target facility count for municipality differs between LSGs and PIMO, as LSGs fail to account for social protection institutions on their territory as they have no responsibility for that portion of the works.

MLEVSP performs public administration duties in the realm of labor relations, and labor-related rights in all forms of work with the exception of state bodies, autonomous province, local self-government, public agencies and public services. In addition, the Ministry deals with health and safety at work; labor, health and safety inspection; unionization; strike; temporary work abroad and related rights; labor related databases; cooperation with international organizations in the realm of labor and employment; international conventions in the realm of labor and employment, health and safety at work; antidiscrimination policy; social protection system; family protection system; marriage; gender equality; demographic policy; family planning; access to rights and integration of refugees and internally displaced persons, and returnees based on the Readmission agreement, Roma population and other socially vulnerable groups; pension and disability insurance system; social protection and veteran protection; participation in preparation, signing and implementation of international contracts regarding social protection; veteran and disability protection, and protection of civilian disabled victims of war and family members of persons in the military service; nurturing traditions of liberation wars fought by Serbia; protection of monuments to liberation wars fought by Serbia; military graveyards in the country and abroad; support to veteran organizations and organizations of persons with disabilities, and other duties as defined in the Law<sup>30</sup>.

During the renovation works for the institutions providing social services such as residential institutions for children and adults, as well as residential institutions for elderly men and women same strategy of phased works, as in school renovation, is applied to minimize the disruption.<sup>31</sup>

#### 4.5.2.4 Health Centers

Health centers in Serbia are established by cities/municipalities. Staff cost is covered by Republic Fund for Health Insurance (RFHI), in line with annual contracts signed by RFHI with LSGs. Government of Serbia, Ministry of Health issues Regulation on capitation that serves as a basis for calculation of coefficients used to calculate health sector salaries. Maintenance of health centers is part of LSG portfolio. There are 151 health centers in Serbia<sup>32</sup> and many more related and complementary health care institutions<sup>33</sup>. Most are in need of retrofitting works that cannot be adequately services from current LSG budgets<sup>34</sup>.

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<sup>29</sup> Ibid. article 54

<sup>30</sup> Law on ministries, Official Gazette RS, No. and 44/14, article 16

<sup>31</sup> In these cases, there is no possibility to move the beneficiaries in different institutions as they are of dormitory character. In the ambulatory services the users are redirected in the closest village or town.

<sup>32</sup> <http://www.zdravstvo.rs/adresar/index.php?srch=&kategorija=37&grad=>

<sup>33</sup> <http://www.rfzo.rs/index.php/linkovi/zdravstvene-ustanove>

<sup>34</sup> In 2016, local governments were requested by the national government to pay back 100 million dinars for debts made by health centers that have spent money intended for medicines on salaries and other expenses from local budget allocations for health care ranging from 0,6 % to 0,8%. Source: <http://www.blic.rs/vesti/drustvo/teske-muke-opstine-moraju-da-vrate-100-miliona-duga-bahato-procerdanog-a-ne-znaju/2x2hptl>

When health centers (ambulatory facilities) are renovated than the users are redirected to the neighboring town/village for the service

#### 4.5.2.5 Public service users in target communities

With 234 public buildings in 109 municipalities, this is a fairly large scale intervention that is likely to affect almost every citizen in the country in some ways. There are 1,381,304 estimated direct beneficiaries of the approved public buildings. Beyond the direct beneficiaries, the program presents a unique opportunity for public awareness rising on energy efficiency.

**Table 6 Breakdown of public facilities rehabilitation program phase I total number per category, percent of the total, share in the budget and number of end users**

| Category  | Number selected | Percent of total number of buildings for reconstruction | Percent of total budget | Total number of end users |
|---|-----------------|---|-------------------------|---------------------------|
| Primary schools   | 88              | 37.61%  | 37.31%                  | 44598                     |
| Secondary and technical schools   | 19              | 8.12%   | 9.35%                   | 14444                     |
| Health centers  | 68              | 29.06%  | 24.68%                  | 1289183                   |
| Residential institutions for the elderly, adults and persons with mental disabilities | 45              | 19.23%  | 21.72%                  | 9358                      |
| Residential institutions for children   | 13              | 5.56%   | 6.86%                   | 9221                      |
| Other   | 1               | 0.43%   | 0.08%                   | 15000                     |
| <b>Total</b>  | <b>234</b>      | <b>100%</b>   | <b>100%</b>             | <b>1381804</b>            |

## 4.6 Environmental Key stakeholder's capacity

For the environmental stakeholder capacity assessment please refer to section 4.3.1.1.

## 4.7 Social Key stakeholder's capacity

### 4.7.1 Key stakeholder's capacity in the Transport Sector

PERS is familiar with social safeguards and has substantial experience in managing projects and working with IFI including the World Bank. Since the P4R program will finance **only regular and periodic maintenance activities, no displacement or expropriation will occur** as a result of the maintenance works. Activities such as reconstruction or construction of widening or extension of length of roads are excluded by the program. The line is drawn by the Law on public roads, article 58<sup>35</sup> that lists specific actions that are considered as regular maintenance that require no technical documentation. Periodic and urgent maintenance works are defined in articles 59 and 60, respectively. There is no evidence of neither squatters nor illegal vendors on the borders of the road Right of Way, state category of roads - competence of the PERS, thus there is no likelihood of project

<sup>35</sup> Official Gazette of the Republic of Serbia, No.101/05 , 123/07 , 101/11 , 93/12 , 104/13

impacts covered by Operation Policy 4.12. For the temporary need of the land, for storage of machinery, usually available nearby public land is used or sometimes because of proximity the land is rented by the nearby owners.

Worker safety is a concern as evidenced in PERS' comprehensive Handbook for Workers that addresses safety of works as well as public safety concerns in chapters 5 and 10 respectively.<sup>36</sup> PERS has a Department for Labor and Staff Affairs that is tasked with implementation of legislation related to work and labor relations, employment and health, pension and disability insurance. This department takes charge of staff development planning.

**Regular Information dissemination to and communication with** broad publics occurs through the following five channels<sup>37</sup>:

- **Toll Free Line:** 0800-111-004 operating 24/7 in PERS Information Center for information on road works and traffic regime modifications, closures and traffic normalizations, rock falls and landslides, bans for certain vehicle categories, situation on the bridges, in the tunnels and other road structures, as well as about all current activities during the Winter Service term. The Information Center also provides updates on current situation on every toll station, in all four sections of the motorways in the Republic of Serbia.
- **Service information on PERS web site** <http://www.putevi-srbije.rs/index.php/>
- **Maintenance sector information and assistance**
- **Electronic Toll Collection and related information**, including android mobile application <http://www.putevi-srbije.rs/index.php/en/road-toll/61-enp/3629-korisni%C4%8Dki-centar-sektora-za-naplata-putarine-en>
- **PERS PR service** for general and specific information dissemination to diverse public groups

PERS' information dissemination systems are shifting towards online information dissemination that is likely to exclude a portion of the population in Serbia without access to internet. However, information on ongoing works is disseminated widely through local and national media outlets thus mitigating the risk of exclusion in access to information.

PERS has experience in **conducting public consultations in line with WB Operational Policies (OP 4.01)**<sup>38</sup> for heavy maintenance and reconstruction works. **There are no standard procedures in place for prior consultation with either local governments, business owners whose businesses may be affected by maintenance works, or individual users.** PERS has **regular consultations with expert community and academia, as well as with other public sector actors.** In cases of expropriation, PERS works closely with local governments that are, in turn, interacting with affected citizens. Citizens' involvement in PERS' work is on the receiving end rather than at a planning stage.

**The Department for Technical Operations**<sup>39</sup> designs programs related to maintenance of the state roads of I and II category and it monitors their implementation. It cooperates with inspection, local self-government and Ministry of Internal Affairs - MIA's representatives. The Department receives, processes and analyses data from other Departments within the Sector. It reports in response to internal needs and at request from the Government and public authorities, **and it receives, analyzes, processes and archives all requirements related to road maintenance and preservation and**

<sup>36</sup> [http://putevi-srbije.rs/images/pdf/publikacije/prirucnik\\_za\\_radnike.pdf](http://putevi-srbije.rs/images/pdf/publikacije/prirucnik_za_radnike.pdf)

<sup>37</sup> Source: Interview with Zoran Pešović, Executive Director, Sector for Traffic Control Information Systems.

<sup>38</sup> [http://www.putevi-srbije.rs/images/pdf/investicije/20170608\\_MZV-GRA\\_II\\_OGLAS%20br.2\\_EMP\\_ENG\\_FINAL.pdf](http://www.putevi-srbije.rs/images/pdf/investicije/20170608_MZV-GRA_II_OGLAS%20br.2_EMP_ENG_FINAL.pdf) and [http://www.putevi-srbije.rs/images/pdf/investicije/20170515\\_ALJ-SJ\\_OGLAS\\_br2\\_EMP\\_ENG\\_FINAL.pdf](http://www.putevi-srbije.rs/images/pdf/investicije/20170515_ALJ-SJ_OGLAS_br2_EMP_ENG_FINAL.pdf)

<sup>39</sup> <http://www.putevi-srbije.rs/index.php/en/department-for-technical-operations>

**addressed by the citizens, associations, ministries and local self-governments.** The Department also replies to all received requests.

**Citizens' complaints** regarding maintenance works are addressed online or by phone. Complaints mainly concern delays in traffic caused by maintenance work<sup>40</sup>. The regular maintenance works season, nevertheless, overlaps with road user peaks in the summer time. PERS is bound by the law to design and implement a **project of temporary road regulation** to ensure that traffic, albeit slower, is circulating.<sup>41</sup>

The company's information system offers a tremendous potential for collection of data against social indicators. PERS tracks multiple variables regarding road safety, concentration of vehicles by type at a given hour of the day/day of the week, average speed in particular sections of the road<sup>42</sup>, etc. that **could be used for informed discussions on socio-economic gains by road reconstruction and maintenance.** This information could potentially be useful for LSGs in multiple ways.

#### 4.7.2 Key stakeholder's capacity in the Public Buildings Management Sector

PIMO is **perceived by participating local self-governments as a pillar of the operation that contributes to capacity building of local actors, especially with regards to filling in and submitting online applications and consolidation of comprehensive application packages.** Furthermore, **responsiveness of PIMO staff and their quick turn-around time** have been praised consistently during the field visits. Yet, PIMO appears to be an **understaffed and overworked team with a fragile procedural set up** but one that gets the job done for the time being. There are 8 Coordinators who coordinate approximately 32 to 35 construction sites each at different stages of implementation. In addition, PIMO engages 14 engineers. In total, there are 43 staff members<sup>43</sup>. At this point in time, only a small portion of the projects have started with retrofitting works and the paperwork is still being finalized by municipalities. It can be assumed that once the actual retrofitting works are in full swing, if delays and unresolved situations start accumulating, this may result in increasing the administrative workload for and pressure on PIMO coordinators. In addition, at that point, applications for the second call will also be processed. Therefore, PIMO clearly needs additional staff members. Because of the hiring freeze, additional staff will typically come on temporary duty contracts that may limit readiness to invest in staff training.

PIMO staff interviewed appears highly committed and positive about their capacity to cover the allotted municipalities. In the past, after the floods, they have covered up to 80 sites and current workload is seen as a relief in comparison. **Most staff members are social science graduates and some have strong social survey experience.** Still, no social indicators are systematically tracked by PIMO or participating municipalities.

Indicators that are currently tracked by PIMO pertain to technical aspects of retrofitting, including:

- Issues on construction sites
- Projected and actual dynamic of construction works
- Additional works up to 5% as permitted by the Law

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<sup>40</sup> Source: Interview with Zoran Stojisavljević, Director, PERS Maintenance Sector

<sup>41</sup> Source: Interview with Zoran Stojisavljević, Director, PERS Maintenance Sector

<sup>42</sup> Source: Interview with Zoran Pešović, Executive Director, PERS Sector for Traffic Control Information Systems

<sup>43</sup> Interview with Nikola Tamburkovski, PIMO

- Energy efficiency passports issued

Every week, PIMO receives photos and reports from approved projects. Their approach is hands on and they want to be informed about any issue that may emerge on site. Frequent field visits are an integral part of the approach.

Local actors claim to trust PIMO and to appreciate cyclical nature of their operation with accessible funding for priority public facilities that are established in advance and clear steps in accessing funding for eligible facilities. This approach cultivates demand and raises interest of both the participating and new LSGs to take part and play by the rules.

In addition, **PIMO has a role in stimulating demand for energy efficiency by collecting, analyzing and disseminating information that appeals to different publics.**

However, **unless monitoring of social impact is centrally coordinated, social gains will go unnoticed** and the only numbers offered by local self-governments will pertain to buildings.

Finally, **PIMO operation is Microsoft Excel-based.** There is not software or database to make tracking of indicators easier and more useable in communication with various audiences in government, e.g. the Inter-Ministerial Commission and working group that approves projects, participating local self-governments who can learn about the broader context of changes that they are part of or media outlets.

In conclusion, PIMO has a very strong role in coordinating a streamlined approach to investment in energy efficiency in cooperation with local governments and national level actors. Despite the procedural flows, the PIMO team is succeeding at gaining trust of and respect from local actors and their comments and remarks are perceived as sensible and collaborative by professionals in the public administration.

#### 4.7.3 Local Self-Governments (LSGs)

In the initial call launched by PIMO, 109 local governments submitted their proposals. For the second call, 130 local governments took part. All of the participating governments visited during the assessment claim that they will continue to participate, based on the experience with the first call. Local government in Subotica, for example, formed a working group to conduct screening of buildings and required documents for high schools. They are now repeating this exercise in classification for all primary schools. This systematic effort was triggered by a call issued for reconstruction of education institutions by the Ministry of Education in 2012, and it was reinvigorated by PIMO's calls. Once their screening is fully compiled, the LSG will establish criteria for selection of priority schools for reconstruction and they will continue to work on filling in the gaps so that they can be ready when opportunities arise. Other municipalities opted for public buildings on the basis of status of supporting documentation – buildings with land and property issues sorted out<sup>44</sup> and having technical documentation and project design in place or as close to complete as possible in order got priority and to ensure that there are no delays in implementation start. This was an easy decision for them, as almost all public schools, health centers and social institutions are in need of retrofitting. Most municipalities have applied without a fully complete file and some submitted their applications after the official deadline and they are still working on the final steps<sup>45</sup>.

Extent and degree of consultation with citizens in municipalities interviewed for the assessment vary. The largest concentration of answers pertains to **formal annual consultation with lowest level of self-organization**

<sup>44</sup> There is an ongoing restitution process in place and land ownership as well as ownership of buildings can an issue. Therefore, PIMO strives to focus LSG attention on the public facilities that are most viable as well as being highest priority for retrofitting. A positive side effect of this approach is that LSGs are working hard on preparing technical and legal documentation for other projects in the hope of a continuation of support by PIMO.

<sup>45</sup> PIMO information that was confirmed by LSGs

**in community ('mesna zajednica').** Council of local communities is consulted on needed infrastructure repairs, mainly regarding local roads and access to water and sanitation.

It is worth noting that **consultation with 'mesna zajednica' almost regularly excludes the views of women.** According to Standing Conference on Towns and Municipalities survey of 40 LSGs, there are only 244 women (7.8%) out of 3,091 members of local community councils. Out of a total of 812 councils, only 49 have women in leading positions<sup>46</sup>.

Other LSG officials prefer **direct and informal consultation with individual citizens.** They maintain an 'open door' policy for citizens on certain days of the month, or have a cell phone number that is published on the web site of the municipality so that 'each citizen can get in touch, such as the mayor of Jagodina. The mayor in Svilajnac receives citizens every last Friday in a month.

**No LSG could recall any example of collaboration or consultation with civil society organizations or professional associations with regards to infrastructure works.** Only Šabac engaged local environmental organizations in promoting energy efficiency objectives of the LSG. **No citizen surveys are in place in any of the municipalities visited with regards to satisfaction with local services.**

**No user friendly grievance procedure is in place in municipalities participating in ESSA interviews** with regards to retrofitting or energy efficiency program. **Citizens can provide submissions in writing** to different LSG departments or services **on any aspect of the local administration work,** in accordance with the Law on administrative procedure<sup>47</sup>. The Law stipulates that citizens' complaints or queries need to be addressed within 48 hours<sup>48</sup>. In order to reinforce commitment to responsiveness to their citizens, some LSGs have adopted System 48.

Deadlines for issues not determined by the law are left up to public institutions. In most cases, they are not defined. Also, there is no clear procedural path in dealing with those, nor is there a guaranteed timeframe for feedback. The local government representatives interviewed claim to spare no time in dealing with submissions and to addressing them 'as soon as possible' either directly or by forwarding them to appropriate departments

As a rule, local government representatives view lack of funding for infrastructure works and maintenance of public buildings as the main issue. **They do not see a need for consultation, nor do they see any interest on the part of their citizens in being consulted in this regard.** In the views of LSG representatives, citizens prefer to 'put it in writing' if they really have something to say.

**City of Pančevo** has introduced participatory budgeting 2 years ago<sup>49</sup>. If PIMO calls continue, LSG is thinking about informing citizens of this opportunity so that they too could have a say. Pančevo has System 48 in place. The local government guarantees a response to each request within 48 hours and tracks status of the claim and deadline for completion<sup>50</sup>.

In the small rural municipality of Sečanj, citizens are informed about relevant issues, including planned infrastructure development and reconstruction work through media in Zrenjanin, as the local radio no longer exists. Alternatively, news is posted on information boards in local communities and on the municipal web site<sup>51</sup>. There are no NGOs interested in infrastructure repairs. There is a Complaints

<sup>46</sup> <http://www.skgo.org/reports/1860/Rezultati-SKGO-ankete-povodom-polo%C5%BEaja-seoskih-%C5%BEena-i-u%C4%8De%C5%A1%C4%87a-u-odlu%C4%8Divanju>

<sup>47</sup> Official Gazette of the Republic of Serbia No 33/97 and 31/2001 and No. 30/2010

<sup>48</sup> Pertains to a specific set of issues defined in articles 1 through 5 of the Law.

<sup>49</sup> <http://www.pancevo.rs/lokalna-samouprava/participativno-budzetiranje/attachment/participativno-budzetiranje-2/>

<sup>50</sup> [http://www.pancevo.rs/sistem48/default.cfm?odabir=lista\\_zhtevea](http://www.pancevo.rs/sistem48/default.cfm?odabir=lista_zhtevea)

<sup>51</sup> <http://www.secanj.rs/index.php/sr/>

and Grievance Committee of the municipal assembly but there is no interest by citizens in their operation.

**City of Šabac** excels in organized and strategic efforts by the local government to achieve energy efficiency. As of this year, LSG has established a Budget Fund for energy efficiency and they have set aside 10 million dinars in line with the Assembly decision. They have introduced participatory budgeting 2 years ago. Citizens submit their project ideas and proposed community investments. LSG has solicited assistance in promoting energy efficiency from two citizens' associations working in the field of environmental protection.

Condition of public buildings managed by local authorities in Serbia demonstrates that effective and adequate maintenance has consistently represented a significant challenge for local institutional and financial set up. The bottom line is that, according to PIMO, at least 1,500 out of an estimated 3,500 public buildings are in need of repairs and reconstruction, including overdue investments in energy efficiency that can trigger long term savings in the budget and free up scarce resources for investments that will boost development and improve delivery of and access to public services.

Therefore, LSGs need assistance and support in establishing and maintaining a functional maintenance system, including social indicators and service user surveys. The program could be used to improve (or establish depending of LSGs) the maintenance system and include user surveys first for the need of the program which can continue after the end of the program, to be permanent

#### 4.8 Inter-agency coordination arrangements

Concerning horizontal coordination, according to the Law on State Administration (OG 79/05, 101/07, 95/10), governmental administration bodies have a duty to cooperate and exchange information in all matters of mutual interest, as well as to establish joint bodies and project groups for the purpose of performing tasks that demand the participation of several bodies. The situation in this regard recent years has not progressed much.

In practice, apart from creating interministerial working groups for the drafting of new laws and regulations, Serbia has a limited number of examples of good practice with the mechanisms for horizontal and multi-stakeholder coordination on environmental issues. Efficient horizontal coordination functions mostly through personal contacts among civil servants.

The 2009 Law on Chemicals requires the establishment of a multi-stakeholder joint body for integrated chemicals management to ensure a strategic approach to and draft policy documents on chemicals management; however, no such body exists. The 2010 Law on Waters provides for the establishment of a national water conference as a multi-stakeholder body to monitor the implementation of strategic documents and take part in water management planning. A Decision on the establishment of a national conference on water was adopted in 2011; however, no members were appointed. The 2010 National Environmental Protection Programme suggests the establishment of an environmental protection council to strengthen horizontal coordination of environmental policy and address cross-sectoral issues; however, no such council has been established. The 2005 Energy Sector Development Strategy until 2015 recommended the establishment of an interministerial energy council as an

advisory body to monitor implementation of the Strategy; however, no energy council was established. The 2011 Biodiversity Strategy for the period 2011– 2018 provides for the establishment of an interministerial biodiversity council and a national council for genetic resources; however, no such bodies exist. The need for a coordination body on environment and health issues was discussed during 2009; however, such a coordination body does not yet exist.

Concerning vertical coordination, the Law on Local Self-Government provides for a number of mechanisms with the aim to enable this process, practical implementation of such coordination is far from adequate. In practice, vertical coordination functions mostly through personal contacts between governmental officials rather than through well-established mechanisms and has remained at this low level of development in the recent years. The Standing Conference of Towns and Municipalities helps local self-government units in implementing selected competences on environment; however, such assistance is largely dependent on the availability of funds.

In the process of transfer of environmental protection responsibilities from national to local level, local self-government units received new competences but had no opportunities to increase staff resources, especially in small municipalities. In many cases, there were not enough professionals on environment at the local level, and responsibilities on environmental protection were added to the portfolio of staff responsible for agriculture, utilities or urban planning. Another issue is connected with supervision by national authorities over the exercise of delegated competences by local self-government units. For example, national authorities do not have the data on the number of EIA approvals at the local level since the Autonomous Province and local self-government units are not obliged to send such information to MAEP.

## 5 Legislative Framework, Policies, Strategies and Standards

### 5.1 Environmental

#### 5.1.1 National Legislation Relevant to the Program

The Law on Environmental Protection (“Official Gazette of RS” No. 135/04, 36/09, 43/2011, 14/2016) (LEP), following the one from initially adopted in 2004, was adopted in 2014. The LEP is currently the main legislation relating to environment protection in Serbia. The main objectives of LEP are sustainable management, preservation of the natural balance, integrity, diversity and quality of natural resources and conditions for survival of all living beings, and prevention, control, reduction and remediation of all forms of pollution to environment. The main thematic objectives of the LEP are:

- Management of natural resources (Utilization and protection of public natural goods, utilization of space, public green areas, protection of natural values (soil, water, air, forests, biosphere and biodiversity, flora and fauna, trade in protected species), waste management, noise and vibration protection and radiation protection);
- Measures and conditions for environmental protection (prevention, planning and construction, spatial planning, SEA, EIA, IPPC, accident risk assessment, values for emissions, environmental management system, eco-labelling, hazardous waste management and safety procedures);
- Environmental monitoring;
- Information on disclosure of information and public participation.

The Law on EIA (Official Gazette of the Republic of Serbia No.135/2004, 36/2009) provides categorization of industries and projects and identifies types of environmental assessment required against respective categories of industries or projects. The Law covers, among others:

- Declaration of environmentally critical areas;
- Classification of industries and projects into 2 categories (Annex 1 and Annex 2 of LOEIA);
- Procedures for issuing the Final Environmental Approval (FEA); and
- Determination of environmental standards.

LOEIA also contains the procedures for obtaining FEA from the Department of EIA for different types of road rehabilitation and energy efficiency projects. To implement the Law on Environmental Impact Assessment, a government decree determines the list of projects for which an impact assessment is mandatory or may be required in accordance with the relevant EU directives 97/11/EC and 337/85/EEC. Public participation is also envisaged in all environmental impact assessment stages. All subsidiary regulations were adopted in 2005.

The Law on Waste Management (“Official Gazette of RS” No. 36/09, 88/2010, 14/2016) is harmonized with all relevant EU directives, has been adopted in 2009 and amended in 2010 and 2016 to contain relevant provisions on specific types of waste. This Law regulates types and classification of waste, waste management planning, responsibilities and obligations in waste management, specific waste streams management, transboundary movement of waste, waste management funding and monitoring.

The National Waste Management Strategy was adopted in 2003 and revised in 2010. Five draft national plans for specific waste streams (health-care waste; waste oil; waste containing asbestos; waste from batteries and accumulators; electrical and electronic equipment waste) have been prepared. The Law gives responsibilities to local self-government units in the area of non-hazardous waste management, including issuing permits for collection, transport, storage, treatment and disposal. It also requires local self-government units to develop local waste management plans and projects for rehabilitation of unregulated landfills. In accordance with this Law the competences for permitting of waste management activities are divided as follows:

- MAEP is responsible for issuing permits for collection, transport, storage, treatment and disposal of hazardous wastes as well as for inert and non-hazardous wastes if the economic operator has operational sites on the territory of more than one municipality.
- The Autonomous Province is responsible for issuing permits for collection, transport, storage, treatment and disposal of hazardous waste (HW) on its territory and of inert and non-hazardous waste when the economic operator has sites on the territory of more than one municipality on its territory.
- LSGUs are responsible for permitting collection, transport, storage treatment and disposal of inert and non-hazardous waste on their respective territories (provided the operator has no sites on the territory of another LSGU). MAEP keeps records of all permitted operators and makes this information available to the public.
- The Republic Inspectorate as part of MAEP is responsible for controlling activities connected to hazardous waste management and for monitoring the waste management strategy, while the local Inspectorates of the LSGUs are responsible for the control of activities related to non-hazardous wastes.

The Law on Protection against Environmental Noise (“Official Gazette of RS” No. 36/09, 88/10) transposed EU Directive 2002/49/EC. The Law has the following main goals: establishment, maintenance and improvement of the system of noise protection on Serbian territory; and determination and realization of measures in the field of noise protection that avoid, prevent or decrease the harmful effects of noise on human health and the environment. This Law envisages measures for the assessment and improvement of the situation concerning environmental noise. The 2010 amendments postponed deadlines for the preparation of strategic noise maps for the first round (major agglomerations, roads, railroads and airports) and for the second round (other agglomerations, roads, railroads and airports of stipulated size) from the end of 2017 to the end of 2020. The adoption of action plans for protection against environmental noise for roads is further postponed to one year after the adoption of strategic noise maps. In addition, protection from environmental noise is also regulated by, among other instruments, the Regulation on noise indicators, limit values, methods for evaluation of noise indicators, disturbance and adverse effects of environmental noise (OG 75/10), Rulebook on the content and methods of developing strategic noise maps and their display in public (OG 80/10) and Rulebook on the methodology for the development of action plans (OG 72/10).

The Law on Waters (“Official Gazette of RS” No. 30/10, 93/12), which incorporates the EU Water Framework Directive, covers water regimes, water management areas, responsibilities for water management (including sub-law water management legislation), water management activities, limitation of owners’ and beneficiaries’ rights, water cooperatives, financing of water management activities, and administrative inspection to enforce the Law. The legislation provides for various water management sub-laws on water resource conditions, water resource compliance and water resource permits.

Law on Planning and Construction (“Official Gazette of RS” No. 72/09, 81/09, 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014, 145/2014) regulates the conditions and manner of spatial planning, development, and the use of construction land and building of facilities; monitoring the implementation of the provisions of this Act and inspection; other important issues that are relevant for spatial planning, development, and use of construction land and for building of facilities. The Law on planning and construction includes the field of energy efficiency in the building of facilities. Improvement of energy efficiency is done through the reduction of all types of energy consumption, savings of energy, and providing sustainable construction by applying technical measures, standards, and requirements for planning, designing, construction, and the use of buildings and space.

The Law on Air Protection (“Official Gazette of RS”, 36/09, 10/2013) defines measures for the protection and improvement of air quality. It regulates air quality monitoring, responsibilities and financing in the field of air quality protection. The Law requires the development of a six-year air protection strategy and action plan as key national policy documents. The Law requires the adoption of air quality plans for zones and agglomerations where the air is excessively polluted. Relevant bylaws regulate specific requirements such as the establishment of zones and agglomerations on the territory of Serbia, establishment of a national network of air quality monitoring, data quality assurance and emission of air pollutants.

The Law on Chemicals (OG 36/09, 88/10, 92/11, 93/12) regulates integrated chemicals management; classification, packaging and labelling of chemicals; the placing on the market and use of chemicals; import and export of certain hazardous chemicals; systematic monitoring of chemicals; data availability; supervision; and other issues of importance for chemicals management. In accordance with the Law, MAEP maintains the Integrated Chemicals Registry.

The Law on Ionizing Radiation Protection and Nuclear Safety (OG 36/09, 93/12) prohibits the import of radioactive waste and spent nuclear fuels of foreign origin, as well as installation of radioactive lightning rods and installation of ionizing smoke detectors. The Law requires the adoption by the Government of the Radiation Safety and Security Programme, Radioactive Waste Management Programme, and Nuclear Safety and Security Programme. The latter was adopted in 2014 (OG 39/14).

The Law on Protection from Environmental Noise (OG 36/09, 88/10) envisages measures for the assessment and improvement of the situation concerning environmental noise. The 2010 amendments postpone deadlines for the preparation of strategic noise maps for the first round (major agglomerations, roads, railroads and airports) from mid-2012 to mid-2015, and for the second round (other agglomerations, roads, railroads and airports of stipulated size) from the end of 2017 to the end of 2020. The Rulebook on classification of motor vehicles and trailers, and their traffic technical specifications (OG 40/12, 102/12, 19/13, 41/13) regulates noise emissions in road transport and Regulations on permitted noise level in the environment (“Official Gazette of RS” No. 72/10) regulate relevant noise and vibration levels.

Law on Occupational Health and Safety ("Official Gazette of the RS", No. 101/2005) regulates the occupational safety and health system in Serbia. By harmonizing this law with the ratified International Labor Organization conventions and EU Framework Directive 89/391/EEC, as well as special directives derived from the Framework Directive, all guidelines originating from them have been accepted in a form adjusted to national conditions.

### 5.1.2 Strategies

The National Sustainable Development Strategy (OG 57/08) has the aim to balance three pillars, three key dimensions – economic growth, environment protection and social balance creating one coherent entity supported by corresponding institutional framework. This Strategy significantly contributes to elimination of gaps between policy making processes, harmonization of possible conflict objectives in the policies, as well as to identification of their mutual advantages. This means integration and harmonization of goals and measures of all sectorial policies, harmonization of national regulations with the EU legislation and their full implementation.

The Strategy of Energy Development in Serbia by 2015 (OG 44/05) and Regulation on the establishment of a Programme for implementation of the Strategy of Energy Development of the Republic of Serbia (OG 17/07, 73/07 and 99/09) define energy development priorities. As a part of third – specific priority, which includes the Programmes for selective use of new renewable energy sources and Programmes of new more energy efficient and environmentally friendly technologies, use of waste for energy recovery is particularly considered.

The National renewable action plan of (NRAP) (OG 53/13) is a document which encourages the investment in renewable energy sources (RES), and which sets the goals for the use of renewable energy sources until 2020 and the method of their implementation. NRAP has emerged from the international obligation which Serbia assumed in 2006.

The Regional Development Strategy of Serbia for period (OG 21/07) treats regional development in Serbia, for the first time in a comprehensive and consistent manner – all created problems and disparities – and suggests a series of measures for their mitigation and solution. Enactment of the Law on Regional Development is one of the first steps in Strategy implementation.

Strategy of Cleaner Production Introduction (OG 17/09) is the elaboration of strategic documents, especially of the National Sustainable Development Strategy and National Environmental Protection Programme. The Strategy segments the concept of sustainable development through stimulation of application of cleaner production.

The Decision on the Establishment of the National Environmental Protection Programme (OG 12/10) defines strategic objectives of the environmental protection policy, as well specific objectives for protection of environmental media (air, water, soil) and influence of certain sectors on environment (industry, energy, agriculture, mining, traffic, etc.) It also identifies priority objectives within media and sectors and suggests their reforms in order to achieve all changes necessary for objectives implementation.

The Strategy on Safety and Health at Work in Serbia for period 2012-2017 (OG 100/2013) determines vision and mission, specific objectives in implementation, economic and social framework, legal and institutional framework, and activities and measures for realization of individual objectives.

The Development Strategy of Railroad, Road, Air and Intermodal Transport in Serbia for period 2008-2015, key recommendations concerning road rehabilitation are "In the context of setting priorities for improvement of the existing public roads and the construction of the new ones, modern and rational approaches for increasing roads capacities should be systematically used, bearing in mind the available

resources, the needs and the network as a whole, which implies the possibility of phased construction”.

The General Master Plan for Transport (2009-2027) is a comprehensive plan for future investments in transport infrastructure, providing an overall picture of transport infrastructure in Serbia and rolling out infrastructure projects necessary for implementation in the period 2009 – 2027.

The Strategy for Fire Protection for the period 2012-2017 (OG 21/2012) aims to improve fire protection and prevention in Serbia, mainly through preventive actions, as well as actively implementing safety measures and spreading public awareness.

### 5.1.3 Supranational

N/A

### 5.1.4 Standards and Best Practices

#### **Ambient quality standards**

The Regulation on monitoring conditions and air quality requirements (OG 11/10, 75/10, 63/13), Rulebook on the content of air quality plans (OG 21/10), Regulation on determination of zones and agglomerations (OG 58/11, 98/12), Regulation on determination of the list of air quality categories in zones and agglomerations (OG 17/14), Rulebook on the content of short-term action plans (OG 65/10) and Regulation on the air quality control programme in the national network (OG 58/11) establish air quality standards, air quality zones and agglomerations, a national air quality monitoring network and a data quality control programme.

The Regulation on limit values for pollutants in surface and groundwaters and sediments and deadlines for their achievement (OG 50/12) sets environment quality standards (EQS) for surface waters. The Regulation sets the ban on emission of pollutants according to List I and a timetable for establishing of the groundwater threshold values for pollutants according to List II of Directive 80/68/EEC pertaining to environmental quality standards for groundwater and ELV for pollutants in groundwater. The Regulation on limit values for priority and priority hazardous surface water pollutants and deadlines for their achievement (OG 35/11) introduced EQS for 33 priority substances including 17 priority hazardous substances. The 2014 Regulation on limit values for priority and priority hazardous surface water pollutants and deadlines for their achievement (OG 24/14) enlarged the list of EQS to 60 priority and priority hazardous substances. It divides the substances into two groups: the first group of 35 substances is already being monitored, while the second group (25 substances) would be gradually introduced for monitoring and the latest by the end of 2018.

The Regulation on the programme of systematic monitoring of soil quality, indicators for assessing the risk of soil degradation and the methodology for the development of remediation programmes (OG 88/10) contains limit values of several pollutants serving for the assessment of chemical contamination of soils.

#### **Emission standards**

The Regulation on limit values for emissions of air pollutants (OG 71/10, 6/11-corr.) defined specific environmental norms for relevant sectors.

The Regulation on the list of industrial installations and activities for controlling emission of volatile organic compounds, emission values of volatile organic compounds during the certain consumption

of solvents and total allowed emissions, and emission reduction scheme (OG 100/11) and the Rulebook on technical measures and requirements relating to allowed emission factors for volatile organic compounds resulting from the storage and transportation of petrol (OG 1/12, 25/12, 48/12) further set emission standards for air pollutants in accordance with the Law on Air Protection.

The Regulation on emission limit values for pollutants in water and deadlines for their achievement (OG 67/11, 48/12) introduced quality requirements for effluent discharges, as maximum allowable concentrations of harmful substances in wastewater that may be discharged into the sewer and the receiving water bodies. It concerns municipal wastewater and industrial effluents, including from installations using several hazardous substances. The amendments brought to the Regulation in May 2012 postponed deadlines for reaching ELVs for communal and industrial wastewater.

### **Product standards**

The quality of petrol and liquid fuels is regulated by the 2012 Rulebook on technical and other requirements for liquid fuels of petroleum origin (OG 123/12). Placing leaded gasoline on the market was banned, and the use of petrol containing maximum 13 mg/l of lead was allowed up to 31 July 2013. Amendments brought to the Rulebook in 2013 further toughened the requirement allowing the placing on the market of only petrol which corresponds to the European Standard EN 228 (maximum 5 mg/l of lead). The Rulebook also regulates the sulphur content of certain liquid fuels: the use of heavy fuel (4 per cent of sulphur) was banned as of 1 January 2014.

The Law on Waste Management bans the trade in batteries and accumulators that contain more than 0.0005 per cent by weight of mercury and 0.002 per cent of cadmium, with some exceptions. The Rulebook on manner and procedures for the management of waste batteries and accumulators (OG 86/10) contains provisions regarding the collection or recycling system for mercury- containing batteries.

The Law on Chemicals envisages the bans and restrictions on the production, placing on the market (which comprises import) and use of certain chemicals, as well as articles containing such chemicals in such concentrations that they represent unacceptable risk to human health and the environment. These bans and restrictions are prescribed by the Rulebook on bans and restrictions on the production, use and placing on the market of chemicals (OG 90/13).

### **International voluntary schemes**

Voluntary initiatives, such as adoption of certified environmental management systems, continued to develop steadily but remained at a comparatively modest level. There are no enterprises certified according to the EU Environmental Management and Audit Scheme. Both national and international systems of product labelling are present in Serbia. The Ecolabel of Serbia had been assigned only to a limited number of products and companies.

ISO 9001 Standard remains the most widely used standard in Serbia, while only a limited number of companies possess the ISO 14001 Standard.

## 5.2 Social

### 5.2.1 National

The main influencing pieces of legislation in this segment are Gender Equality Law and Budget System Law.

1. **Gender Equality Law**<sup>52</sup>, article 40 on statistical evidence requires that statistical data collected, registered and analyzed at the level of the Republic of Serbia, autonomous province and local self-government, as well as in institutions and organizations performing public functions, in public enterprises and limited liability companies must be disaggregated by sex. This Law and the National Strategy on Gender Equality further affirm commitment to special measures (affirmative action) as a tool in closing gender gap. Affirmative action is introduced by Constitution of the Republic of Serbia which specifies obligation of public institutions to advancing gender equality, including special measures designed to close gender gaps.
2. **Budget System Law**<sup>53</sup> lists the objectives to be achieved by the budget system in article 4. Among other objectives, the law stipulates the following:
  - 4) Efficient allocation of budget resources with the objective advancing gender equality.” Under the law, gender responsive budgeting (GRB) entails gender mainstreaming of the budget process, including gender analysis of the budget and restructuring of income and expenditures in order to advance gender equality.” GRB introduction is gradual and full introduction is due by the year 2020.

Main related laws regulating key stakeholder mandates include:

1. Law on local self-government<sup>54</sup>
2. Law on Public Roads<sup>55</sup>
3. Decree on the establishment of the Office for Public Investment Management<sup>56</sup>
4. Law on Administrative Procedure<sup>57</sup>

The following laws and strategies ought to be considered during the implementation:

3. Law on Social Protection<sup>58</sup>
4. Law on Health care<sup>59</sup>
5. Law on the protection of persons with intellectual disabilities<sup>60</sup>
6. Strategy on prevention and protection from discrimination<sup>61</sup>
7. National strategy on gender equality (2016 to 2020) and Action Plan for the period 2016 to 2018<sup>62</sup>.

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<sup>52</sup> Official Gazette of the Republic of Serbia, No. 104/2009

<sup>53</sup> Budget System Law, Official Gazette RS, No. 54/2009, 73/2010, 101/2010, 101/2011, 93/2012, 62/2013, 63/2013 - corr., 108/2013, 142/2014, 68/2015 – other law 103/2015 i 99/2016, article 2, art. 58v

<sup>54</sup> Official Gazette of the Republic of Serbia, No. 129/2007, 83/2014 - and 101/2016

<sup>55</sup> Official Gazette of the Republic of Serbia, No. 101/2005, 123/2007, 101/2011, 93/2012 and 104/2013

<sup>56</sup> <http://www.obnova.gov.rs/english/laws-and-decrees>

<sup>57</sup> Official Gazette of the Republic of Serbia, No 33/97 i 31/2001 and No. 30/2010)

<sup>58</sup> Official Gazette of the Republic of Serbia, No. 24/2011

<sup>59</sup> Official Gazette of the Republic of Serbia, 107/2005, 72/2009 - 88/2010, 99/2010, 57/2011, 119/2012, 45/2013 – other law, 93/2014, 96/2015 i 106/2015)

<sup>60</sup> <http://www.parlament.gov.rs/upload/archive/files/lat/pdf/zakoni/2013/1284-13Lat.pdf>

<sup>61</sup> Official Gazette of the Republic of Serbia, No. 55/05, 71/05 –correction, 101/07, 65/08, 16/11, 68/12 and 72/12

<sup>62</sup> Official Gazette of the Republic of Serbia No.55/05, 71/05 – corr. 101/07, 65/08, 16/11, 68/12 – YC, 72/12, 7/14 – YC и 44/14

## 8. Law on Expropriation<sup>63</sup>

Although the activities financed with the program will not have any land impact nor the activities will cause any livelihood impact to either legal or illegal nature, the Law on Expropriation is also relevant law for PERS, not for the particular program financed with the P4R, on general operation of the PERS. It is unlikely that for the activities financed from the program the law as well as the World Bank operation policy on involuntary operation policy will be applied. Apart from no need for the land acquiring there is no evidence that there will be impact on squatters or illegal small vendor and thus any impact on livelihood.

### 5.2.2 Supranational

The P4R scope relates to Commission Staff Working Document, Serbia 2016 Report Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions 2016 Communication on EU Enlargement Policy {COM(2016) 715 final} Europe progress report<sup>64</sup>

In Chapter 14 on Transport policy, the following recommendations have been made:

“Serbia is moderately prepared/has a good level of preparation in transport policy. Good progress was made on aligning with the acquis on road, rail and inland waterways, notably on social legislation for commercial road transport, opening of the rail market, mercantile shipping and transport accident investigation. Serbia addressed last years' recommendations in rail transport. In the coming period, Serbia should in particular:

→ further improve road safety<sup>65</sup> by taking measures to reduce fatalities and adopt legislation on Intelligent Transport Systems;

→ continue its focus on reforming the railways.

In Chapter 15: Energy, this monitoring document stipulates:

“Serbia needed to adopt its third energy efficiency action plan by June 2016; however, adoption is still pending. **The headline target is to save 9 % in final energy consumption in 2018.** The current law on efficient use of energy and legislation on the energy performance of buildings is **partly in line with the energy efficiency and energy performance of buildings Directives.** Serbia continued to implement the energy efficiency acquis. **Capacity needs to be considerably strengthened,** in particular in the Ministry of Mining’s department for energy efficiency **and in the building inspectorate.** An energy efficiency fund has been set up as a Ministry budget line; its current endowment of around EUR 1.2 million for 2016 is seriously insufficient to meet demands.”<sup>66</sup>

### 5.2.3 Standards and Best Practices

N/A

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<sup>63</sup> Official Gazette of the RS 53/95, Official Gazette of the FRY 16/01 – Federal Constitutional Court decision, Official Gazette of the RS 20/09, 55/13 – Constitutional Court decision and 106/16 – authentic interpretation

<sup>64</sup> [https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/key\\_documents/2016/20161109\\_report\\_serbia.pdf](https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/key_documents/2016/20161109_report_serbia.pdf)

<sup>65</sup> Emphasis added

<sup>66</sup> Ibid., p. 47

## 6 Environmental Impacts and Risks

### 6.1 Positive Impacts

#### 6.1.1 Road Rehabilitation Program

##### 6.1.1.1 *Improving Safety of Roads (decreasing No. of accidents and casualties)*

The statistical data on road safety from the Republic of Serbia Statistical Yearbook 2016 shows comparably higher numbers in amounts of accidents, accidents with casualties as well as road fatalities in comparison to the EU average. In the period 2010 – 2014 the EU 2015 average was 51,6 fatalities per a million inhabitants<sup>67</sup> while in Serbia it was 84 fatalities per a million (which slightly increased in 2016).

The causes of road accidents and road fatalities can be numerous; in addition to the human factor the quality of the road infrastructure is recognized as one of the key factors<sup>68</sup>. The quality includes both investment and maintenance. Traffic accidents can occur as the direct result of the road anomalies e.g. road damage (e.g. pothole, depressions, inadequate road design, rutting, low pavement friction), road width, manhole construction, etc. or indirectly, impacting the behavior of the driver such as poor road signage, marking or inadequate lighting.

Uncontrolled growth of vegetation can impede visibility of signs and signals on the roads and general visibility for drivers. The tall vegetation can cause branches to fall on the road lanes or overhead power lines causing infrastructure depreciation as well as increase risk of traffic accidents

Improving road maintenance and therefore transport infrastructure, is expected to remove anomalies contributing to higher risks of accidents occurrence and fatality rates regardless the possibly increased traffic intensity.<sup>69</sup>

##### 6.1.1.2 *Reducing water and soil contamination*

Increased water and soil contamination is possible in a large number of situations directly or indirectly caused by the inadequate road maintenance. Unsafe roads are prone to cause larger number of road accidents which often result in leakage of oils, petrol and other toxic liquids at the site accident. In addition, the leakage can continue at multiple sites where the wreckage is transported and temporarily or permanently stored. Reduced number of accidents will scale down this source of pollute on.

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<sup>67</sup> Eurostat

<sup>68</sup> The study EU Road Surfaces: Economic and Safety Impact of the Lack of Regular Road Maintenance of EC Directorate-General

<sup>69</sup> The study EU Road Surfaces: Economic and Safety Impact of the Lack of Regular Road Maintenance of EC Directorate-General

Increase in soil and water quality will also directly result from optimized winter maintenance e.g. use of salts and agents, minimized use of herbicides, improved drainage and storm water collection system as well as more efficient and effective emergency response management.

#### 6.1.1.3 *Biodiversity Preservation*

Properly maintained signals and warning signs contribute to driver's alert and reduction of road kill and accidents.

Well planned maintenance of right of way zones, that reflects environmental and nature protection concerns, can help in nature and biodiversity preservation in natural and other areas. Road maintenance involves heavy machinery and transport which can be deteriorating for nature and protected species by producing damage to the habitats or disturbance in the breeding season. However, even soft measures such as deicing or vegetation control can produce degradation of ecosystems.

Additionally, by applying appropriate vegetation control practices (e.g. avoiding use of herbicides) and restricting vegetation control to only where is absolutely necessary for the road safety, quality of habitats is preserved. In certain circumstances, regular maintenance can contribute to biodiversity – in many areas of the wider region, due to the migration and changes in economic and agricultural practices, the meadows and grasslands are being overgrown by shrubs and forest in making which often results in biodiversity depletion. Curbing the forest spread by maintaining the lower vegetation in the right of way road zones in many cases helps biodiversity preservation.

Many animals use roads as travelling corridors (e.g. large game) and in many cases roads transect their habitats and territories, animals feed and forage in vicinity of roads as well as possibly breed and keep young. Well planned road maintenance can avoid the periods in the year when the animals should not be disturbed and in that way keep the disturbance of the wildlife to the minimum as well as help maintenance of the biodiversity richness. Involvement of the nature protection expert is not necessary for roads part of the Program since works in the nature protected areas is not eligible for financing.

#### 6.1.1.4 *Positive Economic Impact*

The World Health Organization (WHO) reports that almost 50% of global road fatalities are people 15 to 44 years of age. Besides the obvious contribution this age group makes to the national economic productivity, road traffic injuries and fatalities produce great economic losses to the families and communities: often the family become less economically active due to everyday assistance that is needed for disabled in the car accidents, or family members are giving up schooling due to lack of funds or time. The assessments go to the as high as 3% estimated loss of gross domestic product for most of the countries<sup>70</sup>. Correlated reduction of risk from accidents due to increased maintenance contributes to reduction of economic losses on community, but also reflected to national costs.

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<sup>70</sup> World Health Organization.

## 6.1.2 Program for Reconstruction and Improvement of State-owned Public Facilities

### 6.1.2.1 *Reduction of Fossil Fuel Consumption and Greenhouse Gasses Emission*

The implementation of energy efficiency measures in state owned facilities (including schools, hospitals and governmental buildings) under the Program will contribute to a higher level of energy efficiency in buildings, limit loss of thermal heating, hence reduce energy consumption and use of fossil fuels. This, in turn, will reduce both directly and indirectly greenhouse gases, in particular CO<sub>2</sub>, and will have a positive effect on efforts towards curbing the climate change. However, quantification of its impact i.e. decline as a result of the rehabilitation of buildings under the Program is not possible due to current lack of information on municipalities involved, number of building, their size and actual scope of work per each structure.

### 6.1.2.2 *Improving Air Quality*

Fuels used for production of heating for the buildings renovated and improved are predominantly the fossil ones as well as firewood. Combustion of these fuels produces emissions to air including CO<sub>2</sub>, CO, NO<sub>x</sub>, SO<sub>x</sub> and particles. In the winter time burning fossil fuels and wood contributes to heavy smog and can produce respiratory problems and pulmonary diseases. Reduced use of fossil fuels due to reduced need for heating energy as the direct result of energy efficiency improvements will contribute to reduction of particles and hazardous gasses in the ambient air, but also air emissions from the manipulation of fossil fuels (coal dust) and crude oil processing (production of heating oil).

The expected benefits will multiply towards reduction of dependency on fossil fuels, which Republic of Serbia imports due to lack of its own reserves and decreasing amounts of generated hazardous wastes such as ashes.

### 6.1.2.3 *Respecting International Agreements*

In line with the obligations of the Energy Community to comply with the Directive 2012/27/EU on energy efficiency, the Government of Serbia adopted the 3<sup>rd</sup> NEEAP (2016-2018) with the target to reduce final energy consumption by 9 percent by 2018 (based on their 2008 baseline consumption levels). Serbia is also a signatory to the Paris Agreement and submitted their Nationally Determined Contribution (NDC), whereby the country declared a target of greenhouse gas (GHG) emission reduction by 9.8 percent by 2030 compared to 1990 emission levels.

### 6.1.2.4 *Community Health and Safety (asbestos removal, RA lighting rods)*

In the course of energy efficiency improvements, there will be other numerous positive effects to other environmental aspects and community health and safety. Two most obvious examples are asbestos removal from building roofs, heating systems (gaskets, asbestos textiles, and other), facades and walls as well as removal of radioactive lighting rods. In both cases, in addition to positive impacts to community health, the works include health hazards for workers during dismantling, manipulation of the materials/parts, packing transport and disposal/further processing which must be addressed by the system (and will be elaborated in the separate chapter of this document).

Rehabilitation of the buildings will contribute to a positive visual impact on the urban environment.

## 6.2 Negative Impacts

### 6.2.1 Assessment methodology

Identification of the Programs' environmental aspects and assessment of assigned environmental risks make the starting point of the environmental system assessment. While the program activities define the environmental aspects, the risk assigning can be, in general, carried out using many impact features; in the case of national assessment the used scaling characteristics of impacts must be well known, commonly accepted, in line with the national legislation, best practices and environmental policies of the World Bank.

The methodology used in the assessment of impact risks for the aspects of both programs is similar to those typically used in ISO 14001 standard implementation, however, slightly expanded. ISO 14001 is used worldwide and is well known in Serbia where 56 companies are currently certified against requirements of this norm, according to Serbian Chamber of Commerce<sup>71</sup>. Based on that, environmental risk assessments for impacts of the supported programs are assessed against characteristics of the impact: (i) impact severity, (ii) duration of exposure to impact, (iii) reversibility of impact, (iv) likelihood of occurrence and (v) size of impacted area.

The environmental risk assessment was carried out in five (5) steps:

- Review of proposed programs (Road Rehabilitation Program and Infrastructure Program for Reconstruction and Improvement of State-owned Public Facilities) and activities implemented under the programs in which course the environmental aspects are identified. Aspects are further analyzed in relations to the inputs and outputs of the processes. Technical, temporal and geographical scope of the program was taken into account in this process.
- Based on the available data and information obtained in the first phase, potential impacts to the environment and human health and safety, both positive and negative, were identified. Specific impacts of the environment on the program was also taken into account.
- In the next phase the characteristics of the impacts were closely looked at from the perspective of impact severity, duration, reversibility of its effects, likelihood of occurrence and size of the impacted area. The characteristics are rated as significant, moderate or insignificant.
- Based on the assessed characteristics the environmental impacts the risk assigned to the particular impact is graded as high risk, moderate and low risk.

High environmental risks - are those that have minimally 2 out of 5 significant impact characteristics

Moderate environmental risks - present those that have at least 1 significant and/or minimally 2 out of 5 marked moderately significant characteristic.

Low environmental risks – encompass impacts are those have maximum 2 moderate and no significant impact characteristics.

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<sup>71</sup> Chamber of Commerce and Industry of Serbia, Register of Certified Companies, last check June 2017  
[<http://www.kombeg.org.rs/Komora/centri/CentarZaRazvojTehnologijeIEkologiju.aspx?veza=3697>]

The following environmental impacts have been identified, which are typical for EE and construction activities and they appear to cover most key resources and activities potentially affected by the Program:

1. Air quality;
2. Water;
3. Soils;
4. Landscape;
5. Mineral Resources and Raw Materials;
6. Wastes (including toxic and hazardous ones);
7. Hazardous substances;
8. Harmful Physical Factors, such as noise and vibrations and
9. Health and Safety of citizens and workers, incl. accidents.

## 6.2.2 Environmental Risk Assessment

The implementation of the activities under the current Program is related mainly to the performance of construction and installation works, which constitute the main source of emissions in the environment and can cause effects on a number of components and environmental factors, including air quality, water, landscape, mineral resources, soil and human health, incl. the health of citizens and workers.

The overall assessment of likely environmental risks, including description and assessment of capacities of the system to efficiently respond to such risks in the Republic of Serbia, is presented below. Mitigation measures to improve the system response and further mitigate potential environmental risks, are presented in Chapter 11 of this Report.

### 6.2.2.1 Air Quality

#### Road Rehabilitation

Risks to air quality degradation potentially come from outdated and malfunctioning transport vehicles (e.g. missing parts such as exhaust control, filters, covers, etc.) and machinery used during the works with localized emissions of exhaust gasses (CO<sub>2</sub>, CO, NO<sub>x</sub>, SO<sub>x</sub>, particulates, and more). Dusting from earth works and transportation is another source of pollution typical for this type of works. The dust can come from non-asphalted manipulation area (e.g. access roads, dust roads after removed asphalt layer or alternative routes) or from inadequate (not covered) transport of materials such as sand, gravel, stone aggregate or mineral or other waste materials.

The impact of works to the air quality is low in amount, limited in time, however of moderate like hood of occurrence. The area of impact (climate change impact is assessed in a separate chapter) is also limited and the impact will cease with the competition of works. The characteristics indicate low environmental risk for ambient air quality stemming from the activities to be implemented within this Program.

#### Reconstruction and Improvement of State-owned Public Facilities

Program activities include typical rehabilitation civil works like removing plaster and other construction materials, removing windows and doors, removal of roof tiles, etc. that can produce emission, mainly dust including particulate matter (PM) and volatile organic compounds (VOCs).

Dust, especially particulate matter smaller than 10 microns (PM10), appears to be the main air pollutant in urban areas. In this case, it can be emitted as a result of rehabilitation activities and supporting works (e.g. transport of materials) if the works are not carried out in line with the best work practices and legal requirements and good engineering practice. Dust emissions can also be generated by using malfunctioning construction equipment. The volatile organic compounds (VOCs) are generated as a result of using various solvents, paints, varnishes, adhesives, transport and some types of machinery used in the construction. Pollution of the ambient air can be caused as a result of improper use or keep of the aforementioned agents (e.g. uncontrolled spraying, inadequate storage, spills, etc.) or use of non-registered products exceeding limits or wrongly labeled.

Climate change and ozone depletion significant emission to air are possible during or after removal of old air conditioning units or if the new ones are filled in with the CFC or similar ozone depleting and GHG substances.

Although the severity of impact of VOC emissions is high, the amounts used for activities under the program are small. These agents are used for a limited amount of time and in a very limited area. Also, the effects to the environment are reversible in the very short time. However, the emission of dust particles will, although with low severity for a short period of time, potentially take up wider areas. Moreover, in some cases, the simultaneous implementation of measures under the Program in more than one state owned building located in close proximity to one another can lead to a risk of accumulation of the envisaged negative impacts on the ambient air quality. However, even combined, keeping in mind low severity and short period of emission, the risk of adverse impact can be assessed as low.

#### System-based risk management

Under the Air Protection Act (OG 36/2009, 10/2013) the air protection, during the Program implementation, is accomplished by:

- Establishing, maintaining and enhancing unifying system of air quality management in the Republic of Serbia,
- Protecting and improving air quality through defining and implementing environmental protection and health measures,
- Avoiding, preventing and reducing pollution that negatively impacts ozone layer and climate changes,
- Monitoring, acquiring and assessing adequate data on air quality based on measuring and standardized methods,
- Ensuring availability of air quality information,
- Granting international agreements,
- International cooperation in air quality protection and availability of these information.

Monitoring air quality system constitutes of state and local networks of monitoring stations. Level of air pollution in Serbia is monitored by measuring concentrations of SO<sub>2</sub>, NO<sub>x</sub>, N, suspended particles, (PM<sub>10</sub>, PM<sub>2.5</sub>), led, benzene, CO, arsenic, cadmium, nickel, PAHs, benzo-pyrenes and soot as defined in the Article 7 of Ordinance on Conditions for Monitoring and Air Quality Requirements (OG 11/2010).

#### 6.2.2.2 *Noise and Vibrations*

##### Road Rehabilitation

The risk from noise pollution can occur in the case of use of malfunctioning, damaged or outdated machinery carrying out rehabilitation works and transportation vehicles. It can affect human health, workers' and that of the community as well as disturbance to animals. The impact severity will depend on the location of works, if these are carried out in the urbanized areas, outside of cities or sensitive areas and range from low to moderate, however, the impacts are expected to be short-term, encompass limited area, and the effects will be nulled shortly after the maintenance works completion. The impacts are like to occur, but are easy to prevent and manage.

The expected environmental risk is low.

##### Reconstruction and Improvement of State-owned Public Facilities

Under the program implementation the relative increase of noise levels is inevitable due to use of machinery and transportation vehicles. However, the noise emission can increase to unacceptable levels in a case of using malfunctioning, outdated or inadequate equipment (missing noise emission reduction parts, covers, envelope, etc.) equipment to carry out construction and installation works generating excessive noise. In rare cases, the simultaneous implementation of measures under the Program buildings located in close proximity to one another can lead to a risk of accumulation of the envisaged negative impacts on the noise environment.

The severity of such influences, although disturbing, is actually low to moderate, reversible and temporary, localized at the limited area of the building therefore the significance of the risk can be assessed as low. In addition, the mitigation measures available to reduce this impact is abundant varying from prevention of emission at source such as choice of equipment, noise control machinery parts, regular maintenance and planning (especially in the case of transport) to noise screens.

##### System-based risk management

The Rulebook on Safety of Machines (OG 13/2010), in the Appendix 1, specifies noise and vibration requirements for machinery used under the Program:

- Section 1.5.8 Noise – the machinery must be designed and constructed in the way that the emissions of noise carried by air are reduced to the minimum given the technical progress, availability of noise reduction devices, especially reduction at source. Noise levels of a particular machine can be compared to the recorded noise levels of similar machinery.

- Section 1.5.9 Vibrations - the machinery must be designed and constructed in the way that the risks of vibrations emissions are reduced to the minimum given the technical progress, availability of vibrations reduction devices, especially reduction at source. Vibration levels of a particular machine can be compared to those of similar machinery.

Noise Protection Act (OG 36/09, 88/2010), presents in the Article 6, an obligation of environmental Protection Agency to make and updates strategic noise maps under the authority of Republic of Serbia, and updates the noise monitoring database. Strategic noise maps present the measured and assessed noise levels. Based on the strategic maps, the Ministry of Environmental Protection produces, and Government approves, the Noise Abatement Plans (Article 5). The Environmental Department of PERS is assisting the Ministry in making the strategic noise maps. The Article 15 of the Noise Act is does not permit emissions of noise above the limit values established in the Ordinance on Indicators of Noise, Limit Values, Assessment Methods, Disturbance and Adverse Effects of Noise in the Environment (75/2010).

#### *6.2.2.3 Non-hazardous Waste (construction, solid, liquid, miscellaneous)*

##### **Road Rehabilitation**

In the course of the Program implementation it is expected that the activities will result in generation of large amount of non-hazardous construction waste, commercial waste and recyclables. In general, non-hazardous construction waste consists of various materials, including concrete, bricks, gypsum, wood, glass, metals, plastic, debris and excavated soil. As the result of the Roads Maintenance Program implementation, the construction waste generated comprises of pavement (asphalt layers, gravel, geomembrane, etc.) removed during the road surface rehabilitation, excavated soil, aggregate stone and gravel, residual construction materials, replaced guardrails, wind barriers and posting/signalization, waste found at the site (e.g. non-contaminated car parts such as windshields, tires, plastics) as well as municipal waste and more. The works will also produce quantities of biological waste (removed vegetation).

Potential for recycling of non-hazardous waste from road maintenance is high, however, depends on the demand, available infrastructure and system services. If not contaminated with tar, asphalt can be recycled (already applied on the local level) and used again in construction of roads as well as other scrap materials resulting from works. Mineral waste and vegetation are suitable for reuse or recovery.

The environmental risks deriving from generated non-hazardous waste are by large related to its improper management and accumulation/disposal of recyclables. Improper storage of non-hazardous waste on site can contribute to negative impact to ambient air quality (dusting), water and soil quality (turbidity or surface and groundwater), increase number of pest and insects (e.g. mosquitos), etc. Non-hazardous waste should be collected separately by type and the special focus should be made on recyclables (glass, metal) and materials that can be reused or recovered (mineral waste, bio-waste, etc.). Lack of adequate licensed landfills, high prices of transport and disposal and lack of recycling plants/infrastructure (for large volumes of construction waste) can result of illegal dumping or uncontrolled incineration of waste. Mixing hazardous and non-hazardous waste can result in disposal of the latter on sites that are not equipped to impede penetration of toxic substances to the environment.

The waste generated during works has high potential for reuse or recycle. The current practice shows that reuse is in practice at the local level – removed asphalt waste is being used in the construction and repair of local roads. However, there is little or no control in this process. Given the low severity of impact, but the amounts of non-hazardous wastes that will be generated within the maintenance program and geographical coverage is substantial over the long period of time, indicate moderate risk for environment.

### Reconstruction and Improvement of State-owned Facilities

The implementation of measures envisaged for financing under the Program and related construction and installation works are a source of various types and amounts of wastes. During the course of rehabilitation and EE improvement works mainly construction wastes will be generated. Their proper identification and management is a key to limiting the risk of negative indirect impact on a number of environmental components, such as air, soil, surface and groundwater and landscape.

Municipal waste consists of non-hazardous household waste and similar waste from commercial, industrial and institutional activities, including paper, metals, bio-waste, plastics, glass, etc. Most of the municipal waste are recyclables and should be collected separately at site. For the key recyclables and special types of waste such as paper, glass, PET, electronics, Serbia has available collection, storage and recycling units developed.

Construction waste in Serbia is mostly disposed with municipal waste on sanitary landfills.

Another group of generated wastes is packaging waste which is commercial waste that can be recycled, reused or landfilled to municipal non-hazardous waste landfills.

The risks as a result of the generation of household and construction wastes can be brought down mainly to:

1. Improper temporary storage of the generated hazardous and non-hazardous wastes at the working site, which can lead to indirect contamination of the ambient air, surface and groundwater; soil and visual impact on the landscape in the area of the investment proposal; in case of hazardous waste it can also have health implications;
2. Mixing generated hazardous waste with non-hazardous one, resulting in their disposal as non-hazardous waste or other improper manner
3. Unregulated disposal of generated wastes (dumping or non-sanitary improvised landfills), which may indirectly cause contamination of soil, surface and groundwater and a visual impact on the landscape. This might happen with non-responsible contractor trying to get rid of the waste quickly or trying to avoid payments and fees for disposal and treatment of waste;
4. Mixing non-hazardous with household or industrial wastes and in some cases also hazardous waste and disposing of these wastes in specialized existing municipal landfills (classified as landfills for inert waste).

The expected amounts of generated waste are considerable for the Program, due to the large number of units to be restored. Although most of the generated waste will be non-hazardous inert waste with

low severity impact, however, the impacts it exercises is the long term one. The available waste management infrastructure in Serbia and the up to date practices, indicate that inappropriate waste disposal is unlikely. In case of occurrence of the risks, the impacts on the components of the environment, such as soil, air, surface and groundwater and landscapes will be direct and adverse. The impacts will be short - to long-term. Therefore, the risk can be defined as moderate to substantial.

The use of materials also carry a waste generation risk in relation to quality of materials used in rehabilitation. According to data from the German Federal Union of Companies Managing Real Estates (GDW), a number of already renovated buildings give defects as soon as 20 years after their renovation. Therefore, expectations are that the insulation of the building may need to be replaced sooner than expected. As a result of this, a considerable amount of waste will be generated from insulating materials, most of which are made mainly of refined chemical foam or Styrofoam. Since these materials currently cannot be recycled efficiently, they may cause problems associated with the need of storage for defective insulation material, until find a satisfactory solution for their subsequent treatment is found.

#### *6.2.2.4 Hazardous Materials and Wastes*

##### *Road Rehabilitation*

Hazardous waste can be generated from several activities carried out within the program ranging from road sweeping (dust, residual sand, sawdust, gravel), right of way, ditch and drain cleaning, removal of old pavement, and application of new asphalt layers (including potholes reparation), bridge repair. In the case the asphalt or bitumen is tar contaminated (waste code 17 03), it must be treated as hazardous waste. The road sweep very likely to contains motor oil, condensed volatilized metals, petrol, antifreeze agents, lubricants, substances contaminated with polycyclic aromatic hydrocarbons, total petroleum hydrocarbons, etc.

Other sources of hazardous wastes that can occur during the program are waste cleanups at site that can include finding discarded batteries, contaminated discarded car parts, hazardous liquid containers, mercury containing parts, and more. In the case of fuel leakage, the remediation activities would also result in a large amount of contaminated soil and absorbents.

In the course of earth and construction works on maintenance of roads, bridges, culverts, and other road infrastructure inevitably a certain amount of oil or fuel contaminated equipment, clothes, cloths, soil, water, absorbents, residual paint, anti-corrosive agents will be generated.

Hazardous waste is usually associated with high environmental risks. The greatest risk lies in its improper management including inadequate temporary storage at site that can result in leakage and contamination of soil and ground and surface water, mixing of different types of hazardous wastes that are potentially reactive, burning of waste producing air pollution and health hazards, mixing hazardous and non-hazardous wastes and improper/unauthorized transport and processing or disposal. Regardless of the fact that the amounts of hazardous waste expected as the result of Program activities are not large, even provided there will be no major accidents, the potential environmental risk is assessed as high. There are licensed companies for collection and transport of hazardous wastes in Serbia, however, no infrastructure for final disposal or recovery is in place.

Currently all hazardous waste is temporarily stored and exported, while certain irregularities in hazardous waste handling and management have been recorded at almost regular intervals.

### Reconstruction and Improvements of State-owned Facilities

During the Program implementation, most of the waste generated will be non-hazardous construction and municipal waste, however, there will be hazardous waste generation as a result of works and its amounts and types will mainly depend on the construction materials and equipment found on the site. Large amounts of hazardous wastes will be generated in the buildings with autonomous heating systems ran on fossil fuels, especially heating oils, and hard and soft bound asbestos materials on roofs, walls, heating systems (insulation and gaskets), floors and other construction elements (even as flower pots).

Other hazardous materials foreseen to be used within the Program include, but are not limited to, varnishes, oils, paints, fuels, CFL, anticorrosive agents.

Hazardous waste substances, which are expected to be generated as a result of the realization of the Program, are mainly: oiled clothes and towels; filters; oil-contaminated parts of old boilers; insulation materials and, last but not least, construction materials, protective clothes and equipment and cloths contaminated with hazardous substances (PCB, different types of oils and paints, etc.), absorbents, lead paint, debris or those containing asbestos.

About 3500 radioactive lighting rods were at some point installed on the roofs in Serbia. In 2009 this types of rods were banned through the Law on Protection from Radioactivity and Nuclear Safety (36/2009 and 93/2012). While Additionally, a number of radioactive lightning rods are still present on the roofs of the buildings<sup>72</sup>. While most of them have been removed, there are still some present on the roofs including roofs of public buildings. This type of rods presents a source of highly-active ionizing radiation and their management presents a health risk for workers, but also generation of hazardous waste.

Regardless of the fact that the amounts of hazardous waste expected as the result of Program activities are relatively small at any single location, even provided there will be no major accidents, the environmental risk is assessed as high. There are licensed companies for collection and transport of hazardous wastes in Serbia, however, no infrastructure for final disposal or recovery is in place. Currently all hazardous waste is temporarily stored and exported, while certain irregularities in handling with hazardous wastes have been recorded.

### System-based risk management

Serbia has no facilities for treatment or disposal of hazardous wastes and the entire quantities of generated hazardous wastes (apart from special wastes – e.g. oils) are exported. Therefore, the accent

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<sup>72</sup> Vinca Institute for Nuclear Science, checked June 30, 2017; [<https://www.vin.bg.ac.rs/100/index.php/servisi/2-uncategorised/31-radijacioni-inzenjering-i-radioaktivni-gromobrani>]

is put on the legislation defining roles, obligations, responsibility and tracking of hazardous wastes transport. Additional information on this subject is to be found in chapter 8.

Radioactive waste in Serbia is stored in a licensed radioactive waste storage in Vinca run by the public entity 'Nuclear Facilities in Serbia' which is the only institution on the national territory authorized under the Law on Protection from Ionizing Radiation and Nuclear Safety (OG 63/2009, 93/2012) to perform work towards securing nuclear safety and protection of environment and health from radiation, including management of radioactive waste, implementation of prevention measures against radioactive pollution, decontamination of the environment, running records on radioactive wastes. While Serbia is a signatory of key conventions and agreements on radioactivity and nuclear safety, its legislation is only partially in line with the EU Acquis the EU Progress Report finds that further alignment is needed, amongst other things, on radioactive waste management and radiation protection.

#### *6.2.2.5 Impacts to Biodiversity and Sensitive Habitats*

##### Road Rehabilitation

Biodiversity depletion describes the loss of plant and animal species. Road maintenance activities can negatively impact biodiversity through excessive removal of vegetation (mechanically, or by use of herbicides) in the right of way areas, especially in the protected and sensitive areas. In addition to direct damage, the impact can multiply through effects of impeded vegetation succession, creating favorable conditions for invasive species, destruction of habitats, fire risks, disturbance of fauna, landscaping with non-autochthonous vegetation and use of invasive plant species. Disturbance of the fauna can come from poaching, unauthorized excessive use of space, logging, collecting plants, collecting fuelwood and forest foods (berries, mushrooms, etc.). Forest fire is possible as a result of burning waste, cooking or/and heating. Increased noise emissions during works will inevitably cause disturbance of animals, however, it will be limited to the area that is already a source of noise emission in the operation phase and it will be limited to a short period of time and reversible in the character of the effect.

None road sections maintained under the program will be located in the nature protected or sensitive areas. Therefore, no adverse impact or damage to sensitive or natural habitats are expected to take place.

The works carried out under the program are only rehabilitation works and no new road construction or supporting infrastructure will take place. The supported maintenance program will probably include some right of way maintenance, however, none in the sensitive or nature protected areas. The potential impact will be short term, lasting only during the maintenance/repair work, the impact site will be extremely limited, severity of impact will be low (no activities in the sensitive areas) and reversible even in the short to medium term.

The environmental risk to biodiversity from the Program is assessed as low.

##### Reconstruction and Improvement of State-owned Public Facilities

It is expected that most of the buildings entering the program are located in urbanized areas. However, some can be located in the areas with some level of protection. Construction of access routes can cause damage to vegetation and habitats. Fires are possible from burning of waste or cooking as well as pouching, collection of herbs, photo-pollution, littering and disturbance of wildlife from noise.

Photo-pollution or light pollution can come from exaggerated and misdirected artificial lighting used during the night maintenance works or in the case of installation of road signalization and lights at particular road sections. Photo-pollution is interfering with the natural exchange of day and night and it is particularly detrimental for species that feed during night. Birds are also affected by the excessive night lights as they can lose orienteering and collide with tall constructions. The most obvious victims of light pollutions are insects; however, the effect can take place further in the food chain. The scope of activities under the program does not indicate that the direct and severe damage to biodiversity and natural habitats will be made. However, there is potential negative impact in disturbance or even accidental killing of protected species such as bats, birds, snakes and other animals that might inhabit old buildings. These impacts are easy to prevent, but envisage development of procedures and diligence of workers and supervising engineers.

Given that most of the buildings are located in the urbanized areas where the presence of protected and endangered species is extremely low (even for birds and bats), with the effects that would be only short term, reversible, of low severity and spatially limited the environmental risk is low.

#### System-based risk management

Although the EIA is not required for rehabilitation of buildings (nor the roads), the usual practice in Serbia is that EIA is required for the works in the protected areas. EIA is prepared in accordance with requirements and procedures of Environmental Impact Assessment Act (OG 135/2004, 36/2009). EIA process is well elaborated under the Serbian legislation, and there is a number of acts further, and in detail, define EIA procedures and process: Rulebook on EIA Public Consultation (OG 69/2005), Rulebook on Work of EIA Technical Committee (OG 69/2005), Rulebook on Request on Need for EIA Content and EIA Content Request (OG 69/2005), Rulebook on EIA Content (OG 69/2005), Rulebook on EIA and EIA Decisions Register (OG 69/2005), and Ordinance on the List of Projects Mandatory to the EIA and Optional to the EIA (OG 114/08).

Nature Protection Act (OG 36/2009, 88/2010) Article 7 prescribes that the public or private person responsible for a project taking place carries out construction and other works, activities and interventions in the nature must act in line with nature protection measures defined in the plans, baselines and programs in the way that avoids or minimizes endangering and causing damage to nature.

Nature protection work and protection of natural resources on the territory of the republic of Serbia is performing Office for Nature Protection. In Autonomous Regions that work is done by regional Nature Protection office.

There is no specific regulation addressing the issue of light pollution or technical requirements for lights in place.

*Road Rehabilitation*

Maintenance operations include use of transport vehicles and heavy machinery. In the case of outdated machinery and vehicles, irregular maintenance and improper use, the petrol, oils and other toxic liquids can leak out. In some cases, the fuel is kept at the working site where also refill and machinery or vehicle maintenance is performed which can also cause spillage and leakage to the ground and if not remediated immediately can further penetrate to soil and surface and groundwater depending on geology.

Regular maintenance of right of way can include use of chemicals (herbicides). Unskilled handling of chemicals and unskilled use and application of herbicides by non-trained personnel can result in excessive use of chemicals and contamination of soil, surface and groundwater. The maintenance can include landscaping of lay-bys, gas stations, and other road infrastructure which entails use of synthetic fertilizers.

Improper drainage, storm water collection and lack of treatment on the roads and manipulation surfaces and parking lots can enable entrance of oil and grease and heavy metals polluted water to soil and surface and ground water. During the winter salt, sawdust, gravel and other agents are used for pavement deicing. Excessive use and use of contaminated materials can degrade soil and water quality manifesting as soil salinization, heavy metal pollution, water contamination, etc.

Inadequate temporary storage, transport and/or disposal of waste, hazardous waste in particular, is another potential source of water and soil contamination at the working site.

Localized contamination of soil and water is also possible if bitumen is not applied appropriately: in the winter period defrosting agents can be used directly on the ground, contaminated water or gravel can be used as well as the bitumen can spread out in unfavorable weather conditions.

Water quality and abundance issues can originate in generation of sanitary wastewaters for workers at the site and unauthorized extraction. Particularly sensitive are defined water (supply) protected areas and nature protected areas, including the Ramsar sites.

The Program is implemented nation-wide on 3000 km of roads; however, the working sites are scattered and the amounts of petrol, oil and other chemicals present at each of the sites are very limited. No large amounts of fuel will be stored at the site. The works will be carried out in phases, geographically dispersed sections and during a very limited amount of time. While maintenance works can include use of toxic herbicides, even if used during the Program, the amount would be very small. The effects of impact to soil and water is reversible in the medium-term.

The risk to water and soil pollution can be assessed as low.

*Reconstruction and Improvement of State-owned Public Facilities* - Serbian regulation allows use of ash from thermal power plants, which is usually classified as hazardous waste material as construction material, which is potentially dangerous for quality of soil and water and not only locally.

There are risks of contamination of soil, surface water and groundwater resulting from construction and installation works. These possible impacts originate mostly from waste disposal on illegal dumping sites. Proper waste management according to the national regulations and best practices will prevent and will not allow any effects on soils and waters, including surface water and groundwater, in the areas where construction and installation works are performed and where waste is disposed. These risks are assessed in the subchapter examining the risks as a result of generation of household and construction wastes (including hazardous and toxic wastes).

Impact on soils, surface water and groundwater can occur by accidental spills due to the malfunctioning construction machinery or transportation vehicles, fueling or repairing/maintaining at inadequate places (permeable surfaces, no storm water collection, no oil and grease separators), inadequate storage of hazardous liquids and wastes (e.g. no leakage-proof containers, no bunded storages) or negligent work conduct.

The severity of potential impacts is great, regardless of the fact that only small amounts of hazardous materials (solvents, paints, anti-corrosives, fuel, oils, etc.) are expected to be used or produced (as wastes) under the program. On the other hand, the impact is accumulated through large number of buildings in the Program and the fact that the hazardous waste management and disposal is costly. Serbia does not have hazardous waste landfill or other type of treatment and all hazardous waste is exported. The level of this risk is high. It can be concluded that the impacts caused by the risk will be medium-term and temporary, only for the construction period and will be localized only within the boundaries of the sites subject to rehabilitation works. The works are conducted on urban asphalted surfaces minimizing impact on soil and water.

#### System-based risk management

The pollution of soil and water under the Program can come from indirect pollution from inadequately disposed waste or directly from accidental or deliberate spilling of hazardous liquids such as residual paints, varnishes, cleaning contaminated tools and containers or lack of proper sanitary facilities. While overview of the impact and risk management of improper handling of hazardous and non-hazardous wastes was provided in a separate (waste) chapter, given the Program activities characteristics, it is expected that the number of such incidents and the amount of spilled hazardous liquids will be minimal.

State of art and technical soundness of vehicles and machinery is addressed in the following Serbian regulation:

- Law on Road Safety (OG 41/2009, 53/2010, 101/2011, 32/2013, 9/2016 - decision US, 55/2014, 96/2015) requires regular technical examination of vehicles and trailers under Article 254. The examination can be regular, control or based on needs. Technical examination establishes if the vehicle is technically sound, compliant to all technical regulation and safe for traffic.
- Rulebook on Technical Examination of Vehicles (OG).
- Rulebook on Examination of Vehicles (OG 8/2012, 13/2013, 31/2013, 114/2013, 40/2014, 140/2014, 18/2015, 82/2015, 88/2016 i 108/2016) that relates to motor vehicles and trailers

imported, refitted, lacking certification of homologation, with discrepancies established at technical examination.

- Rulebook on Safety of Machines (OG 13/2010) - in the Appendix 1, section 1.5.13 Emissions of dangerous materials and substance the Rulebook stipulates that the machinery must be designed and constructed in the way that if the release of hazardous materials and substances is not avoidable, it can be retained, filtrated or process in equally efficient way, In the case the working process is not closed one, during the normal operations, retaining or removal devices must be placed and assembled in the way that yields the biggest effect.

Use of industrial ash from thermal power plants and other thermo-energy installations and as construction material (in the road construction) is regulated by the Ordinance on Technical and Other Requirements for Ash as Construction Material for Use in Rehabilitation, Reconstruction, Recovery and Maintenance of Public Infrastructure Facilities (56/2015). The use is allowed under condition that provisions of standard SRPS EN 14227-4 Mixtures bounded by hydraulic binders are satisfied as required by the Article 4 of the Ordinance. Testing based on methodology defined by the aforementioned standard, or equivalent, presents a base for the compliance assessment and report by an accredited body. The investor must foresee the use of such materials in the technical documentation.

#### *6.2.2.7 Workers and Community Health and Safety (H&S)*

##### *Road Rehabilitation*

At least, a portion of works will be carried out while the roads are in use. The works increase risk of accidents especially if the signposting and signalization is improper.

During the rehabilitation, communities living in vicinity of works can suffer from noise, vibrations, odors and localized air pollution (elaborated in other section), but also traffic jams and delays, inability to temporary use right of way, accidents or injuries from unauthorized access to the working site (while works are ongoing and after).

In the case roads on the transport routes are not properly and regularly cleaned, mineral materials can create layers on the pavement and create slippery conditions similar to road ice increasing the risk of traffic accidents.

For the road operations, workers' health and safety risk is related mostly to organization of the working site, traffic flow, training/education for the performed work and responsibilities and availability of the protective equipment. The workers should be trained and experienced for the tasks they are to perform. Appropriate protective equipment must be available at all times (helmets, working boots, gloves, goggles, etc.). Sanitary facilities should be available and appropriate amounts of water (especially in the summer/high temperature periods). An emergency response plan must be in place including defined procedures in the case of accidents or serious injuries.

In non-urbanized areas accidents involving wild animals are also possible especially during the vegetation clearing such as snake bites. Wild game can be attracted by litter, especially food leftovers dumped into the surrounding area.

Environmental risk assigned to this aspect is low.

### Reconstruction and Improvements of State-owned Facilities

The unlawful and improper handling (especially asbestos), management and disposal of wastes and use of construction equipment that does not meet the safety requirements or by untrained or inexperienced workers, presents a health and safety risk both, for the workers at the construction sites, and the population within the border of the relevant area. Risks for workers' health can also occur as a result of lack of appropriate training and instructions on health and safety during work in accordance with the specifics of the individual jobs and professions (work at heights, on electric installations, specific machinery, etc.); lack of protective equipment or refusal to wear it, lack of fencing, inadequate light, signposting, protection of working areas (especially open pits or exterior communication corridors) and safety.

Management of the generated wastes adhering to all legal requirements will lead to prevention of the occurrence of the risk to human health (both, to the health of the workers at the construction site and the population in the impact range of the site). The assessment related to waste risks is provided in the subchapter on wastes (including hazardous and toxic wastes).

Further risks to human health include risks related to use of buildings during the renovation works (e.g. in lack of inadequate alternatives) that can place the users in the jeopardy of injuring, or worse, from falling objects, inhaling asbestos fibers, noise and vibration impacts, falling, and more. These risks are also relevant for pedestrians and users of building surrounding, in addition to danger from transportation vehicles and machinery.

Removal of radioactive lighting rods, which are a source of highly-active ionizing radiation, presents a health hazard for workers.

Although short termed, limited and easily managed, the potential severity to human health is substantial and therefore the risk is assessed as moderate.

### System-based risk management

In addition to specific health and safety regulation such as Rulebook on Safety of Machines, the system addresses community and workers' health and safety through many of the legislation requirements defined and elaborated in other environmental impacts sections such as construction/municipal and hazardous waste (asbestos, fluorescent lamps containing mercury, etc.), noise and vibrations protection, air pollution section. Compliance with the provisions of the laws and by-laws regulating the listed environmental aspects presents a precondition for achieving satisfactory level of safeguards against workers and community health and safety risks.

The aforementioned Rulebook on Safety of Machines (OG 13/2010) applies to machinery, replaceable equipment, safety components, lifting equipment, chains, ropes and belt conveyers, replaceable mechanicals power transfers, and partly assembled machinery. Appendix 1 of the Rulebook defines:

- (i) Section 1.1. - important health and safety (H&S) requirements for design and production of machines, including lighting requirements, ergonomics, working positions;
- (ii) Section 1.2. - command systems and devices requirements such as, safety requirements, management systems, ignition7start and termination of work (regular, during operations and in the case of emergency);
- (iii) Section 1.3. - protection from mechanical risk (risk of instability, breaking, dropping load, working environment, movable parts, etc.);
- (iv) Section 1.4. - protection devices and objects requirements (fixed protectors, movable protecting parts);
- (v) Section 1.5. - other risks including electric supply, static electricity, assembly errors, high temperatures, fire, explosions, noise, vibrations and radiation, emission of dangerous substances, risk of lightning, risk for face wounds and risk of stumbling and falling;
- (vi) Section 1.6. defines requirements for maintenance;
- (vii) Section 1.7. posts requirements on availability of information and instructions.

In the Health and Safety Act (OG 101/2005 i 91/2015), the Section III defines obligations and responsibilities of the employer. Article 9 posts a general requirement for all employers, including construction contractors, to make certain that the worker performs the work on the working place and in the environment where measures of health and safety at work have been applied. In the Articles 14 and 15The employer can define the obligations and responsibilities for H&S in the individual contracts if employs up to 10 workers (micro company), but has to do so in the general act/collective agreement or other in all other. In addition, the employer appoints H&S responsible person, arranges trainings for workers, provide safety equipment, provides fire protecting equipment and measures in line with the Fire Protection Act (OG 111/2009, 20/2015).

The Health and Safety Act specifies that measures must be implemented in the way that do not incur costs for the worker or workers' representative. Furthermore, it lists, in the Article 10, principles for measures (including avoidance and risk assessment, state of the art machinery and equipment, and provision of adequate trainings and more).

The employer in the construction industry (amongst others) regardless of size, as defined in the Article 37a of the Act, must engage a H&S professional with, at minimum, university education 180 ETS points equivalent, or three year professional scientific studies in the educational, scientific, technical, technological, natural, mathematical or medical sciences.

In addition, the employee working on the higher risk jobs has the right and an obligation to a medical examination assured by the employer. The examination confirms or rejects the readiness and capability of the worker to perform the higher risk job. The employer engages Occupational Health Service (OHS) in identification and risk assessment of higher risk H&S work positions, to acquaint the employees with the H&S risks, to analyze causes of work injuries, incidents, professional illness, participates in emergency situations, advises the employer on work distribution and other H&S issues (Article 41).

Section XI of the Law on Road Safety (OG 41/2009, 53/2010, 101/2011, 32/2013, 9/2016 - decision 55/2014, 96/2015) regulates technical traffic regulation, which includes the regulation during works. Article 2 stipulates that only authorized persons under this law can regulate the traffic during the works an article 158 requires traffic regulation project to be made and approved by the a competent body. For the state roads, this is Ministry of Transport and for local ones LSG authorized body (Article 157). The signalization must be placed in line with the project.

Rulebook on Technical Requirements for Safety Signaling Devices (OG 18/2016) includes technical provisions for remote control roads safety signaling devices.

#### *6.2.2.8 Natural Resources Depletion (stone, gravel, etc.)*

##### *Road Rehabilitation*

Depending on the assessed needs in maintenance that can vary from road sweeping, repair to rehabilitation (pavement removal and thin overlay paving) or even road reconstruction, including removal of all road layers (soil, asphalt, geomembrane, etc.), the maintenance works can use large quantities of natural resources. Primarily these are mineral resources such as stone aggregate, sand and gravel for road foundations, and production of asphalt.

Unauthorized and excessive extraction of mineral resources presents the main environmental risk in this category; Overexploitation of sand and gravel from the river basins can damage sensitive habitats of rivers resulting in loss of conditions and habitats for spawning and feeding and, in cascading effect, result in loss of biodiversity including fish stock, number and variety of birds and more. In the case of the extreme exploitation, the characteristics of the water body as well as landscape features can irreversibly alter. Exploitation of stone quarries as a source of stone aggregate is an irreversible process which can greatly damage landscape, surrounding biodiversity, land stability and, indirectly, water quality as well as incur hedonic costs to the local population. The illegal, uncontrolled, exploitation of mineral resources can take place in the protected and naturally sensitive areas (e.g. Ramsar sites). Considering that the potential harmful impacts of such activities would be irreversible and in juxtaposition with the relatively low probability for a situation of an unauthorized extraction and uncontrolled exploitation of mineral resources for the use in the Road Rehabilitation Program to arise, the environmental risk is assessed as low.

The program should tend to use as much as recycled materials as possible (e.g. for the road foundation construction/rehabilitation) keeping in mind required material quality and characteristics.

### Reconstruction and Improvements of State-owned Facilities

Mineral materials are, in general, used in construction industry in vast quantities. However, civil works in rehabilitation of buildings under this program are limited to insulation, roofing, façade renovation, replacement of doors and windows and similar. As such, limited amount of mostly sand, gravel, lime and cement is expected to be used. However, the large number of buildings and road sections that will be rehabilitated or reconstructed under the Program, and irreversible character of exploitation, makes the issue of exploitation of natural resources relevant for the Program.

The illegal, uncontrolled, exploitation of mineral resources can take place in the protected and naturally sensitive areas (e.g. Ramsar sites). Although such situation is not expected in this program, in the case there will be unauthorized extraction and uncontrolled exploitation of mineral resources under the Program, it would encompass limited areas for a limited amount of time and in limited amount, hence the high severity of the impact is not expected. Although the system and procedures for issuing concessions and monitor the compliance for extraction of mineral resources is in place, the media and nongovernmental sector often reports on uncontrolled and illegal exploitation. Morava River is particularly affected by the uncontrolled and illegal exploitation of sand.

For this reason and for the reason that, the impact of incompliance can be irreversible, the environmental risk for this impact is assessed as moderate.

### System-based risk management

Nature Protection Act (OG 36/2009, 88/2010) Article 7 prescribes that the public or private person responsible for a project taking place using natural resources must act in line with nature protection measures defined in the plans, baselines and programs in the way that avoids or minimizes endangering and causing damage to nature.

Strategy for Management of Mineral and other Geological Resources of Serbia sets the long-term goals for development of mining and geological research of metal, nonmetal, energy and techno genic mineral raw materials, ground waters and geothermal resources. The implementation of strategy is regulated by Law on Mining and Geological Research.

Permits for geological research for all mineral resources, including nonmetal minerals (sand, gravel, stone, etc.) is issued by the Ministry of Mining and Energy or the authorized body of Autonomous Region, and the sampling quantities are limited under the Article 159 of Law on Mining and Geological Research.

However, the exploitation of river deposits, which is the important topic under the Program, is regulated by Water Act (OG 30/2010, 93/2012, 101/2016). Article 89 of the Act requires that the right for exploitation is granted based on the Water Approval, which demands positive opinion on the exploitation project EIA or decision of the authorized body that the EIA or other environmental protection document was not needed. Under the EIA Act (OG 135/2004, 36/2009) and Ordinance on

the List of Projects Mandatory to the EIA and Optional to the EIA (OG 114/08) List 1, the surface exploitation of mineral resources of surface larger of 10ha requires mandatory EIA, and for smaller the EIA can be required by the competent body.

Under the Article 114 of the Water Act, Srbijavode, national water public utility, are authorized for governing waterbodies and the related land. Sustainable development is one of proclaimed operating principles of Srbijavode. The company issues license for exploitation of sand and gravel from the river deposits except in Belgrade where that is the task of City competent office and in the Autonomous Region of Vojvodina it is issued by Regional Secretariat for Agriculture, Water Management and Forestry. The inspection of compliance with the concession agreement is within the authority of Republic Secretariat for Waters, within Ministry of Agriculture, Forestry and Water Management. Ministry of Mining and Energy Inspection Department is authorized for concessions and supervision of exploitation of other nonmetal mineral resources such as stone (Article 68 of Law on Mining and Geological Research). Roles, rights, obligations of Inspection of the Ministry of Mining and Energy are defined in the Articles 170-183 of the Law on Mining and Geological Research.

#### *6.2.2.9 Cultural heritage*

Given that the supported Program activities are carried out at the existing roads and buildings and no new constructions, road sections, considerable widening or additional lanes (to the existing roads) will be built under the Program, the risk of impacts to cultural heritage is mostly related to (i) chance findings in the narrow strip of right of way or narrow widening strips adjacent to the roads, or (ii) construction and/or reconstruction works on or within the borders of cultural protected building and sites .

Based on the above and the assessment of potential partner municipalities for the Reconstruction and Improvements of State-owned Facilities segment of this Program stating that the number of protected cultural heritage sites is limited, the risk for the impact to cultural heritage is assessed as low.

#### System-based risk management

The Cultural Heritage Act (OG 71/94, 52/2011 and 99/2011) defines the cultural heritage and cultural heritage of special value under Articles 2-5, including cultural objects that are assumed to have characteristics of special importance for culture, art and history ('ex ante protected objects'). The Article 28 of the Act prescribes that all chance findings in the category of 'ex ante protected objects' must inform the competent authority (State office for Protection of Cultural Heritage) and Ministry of Interior within 24 hours from when the finding took place.

In addition, the Law on Planning and Construction (OG 72/2009, 81/2009 - corr., 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014 and 145/2014) states that in the cases of renovation, maintenance and construction activities with the protected site the ministry responsible for construction is solely responsible for issuing building permits, thus exercising a form of centralized control over this issue ensuring certain minimization of potential risks. Any reconstruction and/or construction works are subject to prior approval of relevant local institutes for protection of cultural heritage and in cases of sites and/or objects of significant importance, such approvals are issued by

the Republic Institute for Protection of Cultural Monuments, as per the Law on Cultural Assets (OG 71/94, 52/2011 and 99/2011).

### 6.2.3 Climate Change (Resilience and Impacts)

The floods that hit Serbia in May 2014, the extent of which had not been recorded in the previous 120 years, amongst other things, caused a considerable damage to roads as well as public facilities in the fields of education and healthcare and some of them had been completely destroyed. The fact that in recent years' natural hazards have become more frequent as a result of climate change, a need has arisen for applying the principle of building more resilient infrastructure by reconstructing and improving such facilities so that in the future they could be more resistant to natural and other types of hazards and thus boost the endurance and safety of the entire society.

The changes of the landscape, destruction of natural flood barriers, construction of barriers such as provisional bridges and destruction of vegetation and habitats are all effects of uncontrolled exploitation that nonmetal mineral resources can reduce climate change resilience.

Climate change poses costly impacts in terms of maintenance, repairs and lost connectivity. In rural areas roads represent a lifeline for economic and agricultural livelihood, as well as a number of indirect benefits including access to healthcare, education, credit, political participation, and more. Roads may be sparse through geographic locations, making each road critical. Extreme climate events pose a costly hazard to roads and road reconstruction works in terms of degradation, necessary maintenance, and potential decrease in lifespan due to climatic impacts.

Impact of climate change is considered to have both short term and long term effects on buildings (state-owned real estate). The relevant physical impacts of climate change are mainly decrease in the durability and performance of building materials, pressure on water resources and subsidence due to which delays in construction might become repetitive. Greenhouse gas emissions' analyses have shown that activities concerning building construction and operation, are some of the single most significant contributors to greenhouse gas emissions, at comparable levels to the transport and industrial manufacturing sectors.

The risk of negative climate change-related effects is assessed as low, because many of these impacts can be easily mitigated and avoided by pro-active adaptation measures.

System-based risk management Republic of Serbia is already fulfilling the obligations resulting from Energy Community Membership, and these are transposition of EU energy efficiency and renewable energy directives (27% energy from renewable sources until 2020).

Serbia is a member of UN Framework Convention on Climate Change (UNFCCC) from 2008. As a non-Annex member, Serbia does not have an obligation of GHG reduction, however, does have to regularly report to activities combating climate and measures of adaptation to changed climate conditions. The reporting also includes GHG emission reports and inclusion of climate change issues to sectoral and national strategic documents.

In line with Kyoto agreement Serbia has accessed Mechanisms for Clean Development and, so far, there were 7 such projects implemented in Serbia. Moreover, Serbia has developed Guidelines for National Appropriate Mitigation Actions (NAMA).

In the recent period, the Republic of Serbia invested significant efforts to the establishment of system for monitoring, reporting and verification of GHG emissions. In this sense, the Ministry of Mining and Energy has developed methodology, prepared the needed legislation and is soon to introduce the ISEM system. The ongoing supporting projects to this project were funded by IPA: 'Establishment of system for monitoring, reporting and verification of GHG emissions as precondition of successful establishment of emissions trading' (IPA 2012), developing Climate Change Combat Strategy with the Action Plan (IPA 2014), MMR mechanism Implementation establishment (IPA 2013). The Strategy is expected by the 2019.

## 7 Social Impacts and Risks

### 7.1 Positive Impacts

The program is designed in response to an established and growing demand, as demonstrated by local government representatives met during field and as documented by submitted application in rounds I and II for the energy efficiency component and the PERS Operation Plan and in the meetings with PERS representatives. The program will help Serbia in achieving tangible progress in Transport and Energy sectors, thus supporting Serbia's EU integration.

The P4R will generate significant long-term social benefits during the use phase, while negative impacts are expected to be short-term and linked mainly to the rehabilitation phase. Positive social benefits of the Program are expected to occur immediately upon the finalization of the rehabilitation works. For the energy sector, the objective is to support the government's Program for Reconstruction and Improvement of State-Owned Public Facilities by improving energy efficiency and safety in renovated public buildings, and strengthening the implementation capacity for the program.

The positive expected social impacts for the transport sector include: improved road safety; better road network; increased value of road network; and this would manifest to greater road user satisfaction. Increased capacity of PERS for full adoption of Performance Based Maintenance Contracting (PBC) by 2019 will lead to better planning, contracting and fiscal discipline in the Public Enterprise Roads of Serbia. Expected long term gains further include enhanced competitiveness in road maintenance sector, greater transparency and greater incentives for use of innovative and more efficient approaches.

The positive expected social impacts for the energy efficiency program include: better public services in reconstructed public facilities; increased value of public buildings; decreased energy consumption without compromising the comfort level<sup>73</sup>, i.e. reduced costs; improved fire safety standards and practices; better conditions for staff and service users; improved and increased access for Persons with disabilities to target public facilities<sup>74</sup>; improved capacities for monitoring of energy consumption across participating municipalities; increased capacity of PIMO and participating municipalities to track and report on social gains from public investment in energy efficiency and reconstruction.

Program-for-Results financing is defined in a way that contributes to participating institutions' capacities to deliver against set objectives, expenditures, activities, and defined results that are closely monitored by both local actors and the World Bank. Adoption of a system with a clear baseline and entry point, set milestones and target values promotes participating Serbian institutions' capacities to seek and achieve sustainable development.

Finally, the P4R will potentially have a cohesive role if outcomes under transport and energy efficiency sectors are combined for an even greater value added, and the procedures, safeguards and checks developed along the way are adopted as new standard practices that promote informed decision-making relating to the Program's environmental and social impacts.

PERS already has vast experience in supporting schools and NGOs to conduct road safety trainings and information campaigns for various audiences. Experience shows that road safety has strong gender

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<sup>73</sup> Given that sometimes the cost savings could be achieved by decreasing the comfort level. I.e. lower average internal temperature in the winter and higher average temperature in the summer.

<sup>74</sup> In addition to energy efficiency retrofitting, the program will finance improvement of access for the persons with disabilities. In fact, spillover effect of this major social gain will extend to a large segment of the population, including wheelchair users, elderly, and persons with mobility restraints and parents with children in strollers.

aspects and that unsafe behaviors of drivers are closely tied to gender roles and in particular gender stereotyping of men.

These are important social aspects of the physical road infrastructure improvements that coincide with strategic and policy priorities<sup>75</sup>. Also, it may be worth noting that Ministry of Construction, Transport and Infrastructure is tracking decrease in number of fatal and road accidents with grave injuries by 50% until 2020 and perhaps PERS could contribute to it with appropriate attribution levels as program budget indicator.

## 7.2 Negative Impacts

The likely negative impacts of the Program will principally be caused in the form of discomfort for service users and public institution's staff during the rehabilitation and reconstruction phase. These impacts are site-specific and of a limited duration.

The negative social impacts for the energy efficiency program include a possible disruption of services or limitation of access to services during the physical works on reconstruction. Whereas service providers are bound to organize service provision in alternative locations if it is not possible to do so by making temporary arrangements on site and working in portions that ensure minimal disruption, it is likely that in some instances, health care services may be moved to alternative locations, whereas some schools or nursing homes may need to be closed for major reconstruction works. Every effort is made, however to ensure that the works in schools are done during school breaks but that is not always possible given approval and tendering procedure timeframes that are not always predictable and depend on a number of variables tied to the different actors. In these situations, PIMO and LSGs apply phased maintenance depending of the occupancy of the facility. i.e. depending of schools whether they work in one or two shifts strategies are taken for the rehabilitation works. For the works in schools, if the rehabilitation cannot be finished during summer holidays than for the school with two shifts occupancy only outside works are performed during the school season. The inner works are postponed for the following school break such as winter break. For the schools with the one shift occupancy the logistics are less complicated and there is space to work inside in one part of the facility while other part of the facility organizes two shifts of schooling. There are no other social risks tied with the component. Same approach is taken for the health institutions or those providing social assistance. The users are redirected to the ambulatory services in the closest village/town

In the Transport sector, there are no negative impacts related to land acquisition or expropriation. Neither there will be impacts in the livelihoods for the businesses. i.e. restaurants and the gas stations are secured with temporary access. There is no evidence of legal or illegal small vendors or squatters as the roads for maintenance finance are non-local roads. Maintenance in this context is defined as routine, periodic, minor repairs, limited resurfacing, and limited reconstruction of drainage and pavement that would be performed in the existing Right of Way. Road users may experience delays and slowed traffic during maintenance works but this will be of a limited duration with immediate improvement in road use after the completion of works.

Issues that arise with the labor influx in the smaller inhabited areas such as rural ones are not relevant as well for the program because of the nature of the works is of smaller volume and thus usually the number of employees working on sites is negligible viz a vis host population but also because the labor is mostly from the local and micro region area.

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<sup>75</sup> [http://www.putevi-srbije.rs/images/pdf/strategija/strategija\\_bezbednosti\\_saobracaja\\_2015-2020.pdf](http://www.putevi-srbije.rs/images/pdf/strategija/strategija_bezbednosti_saobracaja_2015-2020.pdf)

Thus, social risks related for the program for the both components are of a limited duration and it is reflected as a discomforted in the service use and very low likelihood of disruption of services for short time.

### 7.3 Assessment methodology

The social risk screening exercise focuses on three social issues that were identified as potential risks for effective program implementation: (i) capacity constraints of key stakeholders to adequately manage the social dimensions of the program; and (ii) effectiveness of consultation procedures and practices at two levels: between national lead institution and local governments respectively, and within local government for the EE sector, and grievance redress mechanisms.

### 7.4 Risk Assessment

#### Energy Efficiency Sector

##### 7.4.1 Failure to capture LSG-level and aggregate social impact

There are currently ongoing broader efforts to re-frame development discourse relying on better use and management of available resources. The number and scope of public buildings included in the program provide an opportunity for local and national institutions to establish a clear link between improvements made in public facility management and quality of services/user satisfaction. Before further scale up is considered, monitoring of 'soft' as well as hard indicators should be established, along with monitoring of social outcomes over a longer time span, i.e. up to 2 years after completion of works. One illustrative example of social improvements that may go unnoticed if it is not tracked systematically based on evidence is that almost all of the retrofitted buildings should be accessible for wheelchair users but many were not before the retrofitting works. Yet, it is not possible at this point to get a clear before and after picture based on indicators tracked by PIMO. Another example pertains to social aspects of improvements in fire safety and energy efficiency at individual, sectoral and national level. A purposeful and targeted effort should be made to capture evidence and disseminate information on these positive changes against baseline conditions at local and aggregate levels.

**Risk mitigation strategy.** With so many variables to account for, PIMO could really use a database that allows for quick search and easier reporting against a broader set of social impact indicators. The current excel based operation is a vulnerability that ought to be mitigated. Also, PIMO ought to solicit assistance for the design of a consistent methodology for accounting on final beneficiaries/service users. As part of their monitoring requirements, PIMO should request from LSGs and MLEVSP more detailed, sex disaggregated data on beneficiaries. Every effort must be made to make sure that numeric data are not 'polluted' by textual comments in the same cell, as is currently the case.

PIMO needs to commission design and delivery of training on social impact monitoring of retrofitting/energy efficiency projects for LSGs to increase their capacities for social impact monitoring and communication of results. Equally, PIMO's offer should include a mandatory training for participating LSG leaders in order to raise their awareness on links between the program and national/supranational priorities, and on potential social, political and economic gains tied to tracking social indicators related to energy efficiency and public facility retrofitting and improvements

Social impact monitoring further requires PIMO to design a methodology to track increase in value of public buildings against a baseline. Also, PIMO should guide the effort to track changes in relationship

between works done and quality of service and/or quality of life improvements for beneficiaries based on a common attribution methodology. It should design and disseminate illustrative examples and case studies that will make it easier for direct participants to build on the work done and to steer public and private spending towards energy efficient products, buildings, services and works.

Social impact monitoring and beneficiary satisfaction should be monitored periodically i.e. annually to follow the beneficiary feedback on the maintenance of the buildings in addition to rehabilitation only.

PIMO should systematically document verification of accessibility levels before and after works funded against the standards set in Technical standards of accessibility<sup>76</sup> as well as in the annual surveys that will monitor the maintenance based on the beneficiaries point of view

#### 7.4.2 Ineffective consultation and grievance redress and complaint handling mechanisms

The Law foresees formal complaints and grievance mechanisms but in reality, these are not used effectively. Some municipalities are more proactive and some are less. Only very personal and extreme issues and situations get reported to local authorities, and the room for negotiations and improvements before a situation escalates is reduced. Without effective ways to express, channel and address dissatisfaction in community, the sense of pride will be minimized and threatened by popular belief that there is no institutional way in dealing with a general or specific perception of unfair, unjust and inequitable policies and practices. Effective grievance redress on the other hand reduces conflicts, brings uniformity in handling issues raised, and boosts community morale and a sense of ownership of results.

**Risk mitigation strategy.** PIMO with LSG support should initiate the design of grievance redress mechanisms in cooperation with the Standing Conference on Towns and Municipalities. The grievance redress system should include standardized services and clear procedural steps and a pre-set time for institution's response. The use of IT should be strengthened by creating an easy to use e-grievance form. The objectives of a grievance handling procedure should be to enable citizens to air her/his grievance; to clarify the nature of the grievance; to investigate evidence and reasons for dissatisfaction; to obtain, wherever possible, a speedy resolution; to take appropriate action and follow up to ensure that commitments are implemented; to inform the citizen on her or his right to take the case to the next stage of the procedure, in the event of an unsuccessful resolution. The grievances from citizens posted to local self-governments related to the program should be made available to PIMO who in other side could follow up with municipalities whether these grievances are addressed. But also PIMO could keep aggregate level track of all grievances and

Every effort should be made to ensure that information on grievance redress mechanism is disseminated widely and that all population groups – including marginalized population groups and ethnic minorities – are aware of it and encouraged to make use of the complaints handling services.

#### Transport sector

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<sup>76</sup> Pravilnik o tehničkim standardima pristupačnosti, "Sl. glasnik RS", br. 46/2013

### 7.4.3 LSGs consultation about road maintenance

Whereas the Law on Public Roads is clear with regards to responsibilities of PERS and LSGs for maintenance of different categories of roads<sup>77</sup>, there is a need for PERS to be more forthcoming in consulting LSGs as key stakeholders in regular and periodic maintenance of the roads within the PERS' mandate. This is especially relevant as PERS moves forward with PBMC implementation and input as well as feedback from the field becomes increasingly important in installing a healthy tension in the triangle between public funding/contract provider, contractor and beneficiary/end user. Given that approximately 15% of the works will be dedicated to road reconstruction, greater input from local community and local government should be taken into account in deciding on the specific sections of the road, monitoring work progress and voicing satisfaction or otherwise.

**Risk mitigation strategy.** PERS should be supported by LSGs to design a system to carry on road user's satisfaction as well as road user complaint possibilities with Bank's assistance. These surveys should target LSGs, affected businesses and citizens. LSG assistance should also be solicited in interpretation of results and in design of necessary improvements and risk mitigation strategies. In some cases, quantifying public support may serve the broader purpose of public promotion of program results.

### 7.4.4 Formal consultations with no conduit to influence outcomes

At a first glance road infrastructure maintenance offers very little in terms of meaningful public consultations. Yet, there are in fact so many important linkages between roads and daily lives of women and men in communities. If these links are overlooked, important investments in road maintenance can be undermined in their effects. The portion of total maintenance budget dedicated to minor "reconstruction" works is particularly relevant in this regard, as well as any upgrading of the road. Public opinion should be solicited with regards to the type and scope of interventions to be included to further improve community life and free circulation of people and commodities. Essentially, consultations serve three purposes: a. to understand any issues that might affect the outcomes of planned changes/works/improvements; b. to understand concerns and objections by different stakeholders; and c. to make room for suggestions for improvements. Examples could include introduction of pedestrian crossings in particular locations, safe stops for cars, buses and/or pedestrians that are lit at night, and/or other ways to improve safety and circulation.

**Risk mitigation strategy.** PERS should design and implement Code of Practice for Consultation to specify when formal consultation should take place - at a stage when there is scope to influence the outcome, duration of consultation exercises, clarity of scope and impact, accessibility, minimal burden of consultation, responsiveness to consultation, and realistic consultation and engagement standards. A Consultation Team should be formed to facilitate the process, create tools, analyze input and disseminate results.

PERS should conduct periodic i.e. annual or in two to four years, road user surveys, and establish a baseline against which changes will be measured on sections that have undergone maintenance work. The survey should seek to uncover information and data gaps that are important to road users. A particular section should consider specific aspects concerning businesses gravitating to road use and/or located in the proximity and/or around the road.

PERS should design and put to regular use machinery for dialogue with stakeholders to identify and address issues of common interest with a view to minimizing impacts and resolving problems,

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<sup>77</sup> Law on Public Roads, Official Gazette RS, No. 101/2005, 123/2007, 101/2011, 93/2012 and 104/2013, articles 57 to 65

especially with regards to a portion of reconstruction works, while making sure that no interventions involving expropriations are allowed. In providing consultation guidelines, PERS should make sure that monetary limits are included regarding the cost of interventions and types of interventions (i.e. no interventions involving expropriation are allowed, etc.) to increase chances of obtaining relevant input /feedback. Online consultation forms, emailing, posting and telephone calling customer service could all be used to ensure maximum coverage.

Transparency of feedback received from those affected is key in making this new practice 'stick'. PERS should make sure to publish annual surveys and feedback results, along with planned changes to mitigate negative impact.

Finally, PERS should create a grievance mechanism specifically regarding maintenance and reconstruction works, or within existing one classify and keep a log of those financed by the program. The objectives of PERS' grievance handling procedure would be similar to PIMO's: a. enable citizens to air her/his grievance; to clarify the nature of the grievance; b. to investigate evidence and reasons for dissatisfaction; c. to obtain, wherever possible, a speedy resolution; d. to take appropriate action and follow up to ensure that commitments are implemented; e. to inform the citizen on her or his right to take the case to the next stage of the procedure, in the event of an unsuccessful resolution. Grievance system should focus also on safety of works, including construction practice and ensuring that construction site is properly marked.

#### 7.4.5 Risk of investing in deepening of an existing gender bias in road maintenance sector employment

In most places in the world, including Serbia, road maintenance is a sector with strong male employment bias, including company ownership and management. With the emerging opportunity to include additional actors under PBMC, PERS could either invest in the status quo or invest in positive changes.

**Risk mitigation strategy.** In cooperation with the Commissioner for Protection of Equality, PERS could analyze the results of the road users survey and check whether there are patterns of issues specific by gender. PESR with the same Commissioner could design criteria for affirmative actions, hence not discrimination, in line with the Constitution of Serbia, National Strategy on Gender Equality and Budget System Law requirements pertaining to introduction of gender responsive budgeting<sup>78</sup>.

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<sup>78</sup> Budget System Law, Official Gazette RS, No. 54/2009, 73/2010, 101/2010, 101/2011, 93/2012, 62/2013, 63/2013 - corr., 108/2013, 142/2014, 68/2015 – other law 103/2015 i 99/2016, article 2, 58v: "Gender responsive budgeting entails gender mainstreaming of the budget process, including gender analysis of the budget and restructuring of income and expenditures in order to advance gender equality."

Budget objectives, article 4: Budget system should achieve the following: 4) efficient allocation of budget resources with the objective advancing gender equality.

## 8 Environmental Systems Assessment

### 8.1 Overall Assessment

Serbia has been improving its environmental legislation and the overall environment management system, as stated in the most recent Environmental Performance Review of the Republic of Serbia performed by UN Economic Commission for Europe in 2015. At the same time, ministries whose work bears certain relevance for the current Program, have most of the necessary capacities, while resources are often not in place to ensure immediate implementation, and time is required for institutional structures to adjust to new responsibilities, especially in the context of frequent institutional reforms. This is particularly relevant for the local level of administration, where the resources allocation is not systematically dealt with and depends on case-by-case basis. Following delays in the adoption of strategic documents and secondary legislation at the national level, further delays in implementation take place at the provincial and local self-government levels, which may negatively affect the speed and efficiency of implementation of the current Program.

Based on the EC Serbia 2016 Report, in the area of horizontal legislation, Serbia adopted its transposition and implementation plan in 2015. Serbia has achieved a high level of alignment with the EU acquis. Further progress has been made in transposing EU directives on public access to environmental information and public participation in environmental decision-making. Additional efforts are required to further increase the effectiveness of public consultations. The environmental impact assessment process has improved but needs further strengthening, partly through capacity-building at all levels, but particularly at the local level where these capacities were assessed as fairly limited. Further progress is also needed on transposing and implementing the remaining horizontal components of environmental directives.

### 8.2 EIA procedure

Based on the rules set forth in the Serbian legislation (OG 135/04 and 36/09), it is not expected that there will be needs for EIA studies for the vast majority of projects to be implemented under the current Program. However, as the EIA procedure is tied up with issuing building permits and can be conducted at all three levels of governance, it is important to consider it not only as a legal prerequisite, but also as one of the key pillars ensuring the implementation of environmental safeguard principles in Serbia.

An approved EIA study, together with conditions prescribed by the competent authority, is a prerequisite to obtaining a building and other subsequent permits. According to LOEIA, Annex 1 projects must undergo an EIA, while Annex 2 projects (all road rehabilitation and building reconstruction projects, except in the cases when works are carried out in a natural protected area), may be subject to EIA only following the specific decision by competent authorities (ministry responsible for environmental protection, municipality). In the case of road rehabilitation projects, PERS submits a formal motion to MAEP requiring their decision if an EIA is required. In the vast majority of cases, EIA study is not required, and the formal response from MAEP normally contains minimal environmental protection requirements to be followed during construction works. In cases of reconstruction of public buildings, as defined by LOEIA, no EIA is requested and there is no need to file a motion with MAEP.

**IDENTIFIED GAPS:** A particularity of the system of environmental regulation on EIA is its link with the planning and construction regulation. Many of the environmental laws distribute the responsibility for their implementation among different levels of governance. The distribution of those competences among authorities is related to their responsibilities on issuing the building permits set by the Law on Planning and Construction (OG 72/2009, 81/2009 - corr., 64/2010, 24/2011, 121/2012, 42/2013, 50/2013, 98/2013, 132/2014 and 145/2014). If the competences for issuing a building permit are at the republic level, then the EIA permitting procedure will also be carried out by competent bodies at the republic level, while republic environmental inspectors will be in charge of enforcement of environmental laws at those installations. If the respective permits and consents are issued by Vojvodina or the local self-governments, then the provincial or municipal environmental inspectors, respectively, will be in charge of enforcement. Capacities of both latter groups to perform appropriate responsibilities is assessed as low. In respect to the Program, it is likely that most of the activities would not require carrying out separate EIA/EA. In these cases, particularly where the local administration has low implementation capacity, there is a risk that environmental issues will not receive adequate attention. Due to the above risk, the Program Action Plan includes practical measures which will ensure that environmental issues are adequately noted during design stage and incorporated into the bidding documents and resulting contracts for the civil works implementation. Both PERS and PIMO will have their capacity to deal with environmental assessment-related issues strengthened and fully incorporated into their internal operating procedures.

### 8.2.1 Environmental Enforcement and Compliance

Among the issues of relevance for the current Program, permits are issued on nature protection, waste management and chemicals management and other authorizations (consents/approvals) are granted on EIA, chemical accidents protection, environmental noise and air quality management by different authorities, at the national, provincial and local governance levels. Permits for management of hazardous waste, non-hazardous waste incineration and treatment of waste in mobile facilities are issued by the MAEP's Division for Waste Management and MAEP has exclusive prerogatives on the transboundary movement of waste. The Autonomous Province is entrusted with the issuing of permits for all waste management activities on its territory and for all the facilities that apply to the provincial authorities for a building permit. LSGUs are entrusted with the issuing of permits for collection, transport, storage, treatment and disposal of inert and non-hazardous waste. The register of waste management permits issued by all competent authorities is publicly available on SEPA's official website.

Inspection is based on well-established legislation, both general and environmental: The Law on General Administrative Procedure (OG 33/97, 31/01, 30/10), the Law on State Administration, the Law on Environmental Protection and specific laws on environmental protection. The Law on General Administrative Procedure describes general inspection procedures and calls for cooperation between the enforcement agencies. The Law on Environmental Protection deals with a broad range of compliance assurance powers, providing inspectors with the right to order the correction of irregularities, prohibit activities that harm the environment or seize goods obtained through illegal action. At the same time, every law regulating a specific environmental area (e.g. air, waste, nature protection) describes in a more adapted way the duties and powers of inspectors as well as providing guidance on inspection criteria and procedures.

Instructions on reporting requirements for provincial and local environmental inspections, which entered into force in January 2007, attempted to introduce unified planning, reporting and record-

keeping requirements compliant with Recommendation 2001/331/EC providing for minimum criteria for environmental inspections in the Member States. Reportedly, these instructions are not followed in Vojvodina.

**IDENTIFIED GAPS:** Compliance assurance is exposed to several institutional problems. Division of responsibilities across the levels of governance does not take account of capacity constraints faced by local authorities, and horizontal cooperation is fairly limited. Inconsistencies remain in the vertical division of mandates for inspection. Similarly, there are problems of horizontal organization. Institutionalized cooperation and coordination mechanisms are lacking.

Within the MAEP, inspectors are mostly informed, and much less consulted, on issues of permitting. DCS staff regularly receive information on EIA consents and decisions on the approval of safety reports and waste management permits. However, feedback from inspectors is not systematically considered a part of permitting. Coordination mechanisms on environmental inspection in Serbia are not effective enough. There is only ad hoc communication and coordination, and no/few formalized mechanisms of cooperation exist. Attempts were made to formally establish an environmental inspection and enforcement network; however, there was resistance to this initiative based on the view that the legislation (specifically, the Law on State Administration) already contained sufficient provisions to enable state organizations to work together. Inspection campaigns are planned and implemented by different divisions of DCS, often involving other inspecting authorities.

In order to address issues related to enforcement and compliance monitoring risk, the Program will include measures to verify implementation of the environmentally-related measures, both during and on finalization of civil works. These measures aim to ensure that civil works undertaken within the Program do not result in negative environmental impacts, and that the relevant process is documented and verified.

### 8.2.2 Sectoral Issues

**Air quality** in Serbia is regulated by the Law on Air Protection (OG 36/09, 10/13) and monitoring and assessment of air quality are specify regulated by the Regulation for air quality monitoring and air quality requirements (OG 11/10, 75/10 and 63/13), the Regulation on the establishment of programs for air quality control in national network (OG 58/11) and the Regulation on the establishment of zones and agglomerations (OG 58/11, 98/12). SEPA monitors air quality in the national network in accordance with Art. 13 Law on Air Protection and prepares and publishes annual report on the state of air quality in the Republic of Serbia in accordance with Art. 67 Law on Air Protection. Overall, Serbia has a good level of alignment with the acquis, but needs to adopt a national air protection strategy. Air quality plans for areas where the level of pollutants exceeds limit values remain to be adopted. Regulation on limit values of emission, the method and time limits for measuring and recording the data (OG 30/97 and 35/97) determines limit values of the emission of harmful and hazardous substances into the air on the site of the pollution source, the manner and time limits for measuring and recording the data on conducted measurements and the Regulation on limit values, methods of immission measurement, criteria for the establishment of measuring points and data record (OG 54/92, 30/99 and 19/06) stipulates limit values of immission, warning immissions, periodic air pollution, the methods of systematic immission measurement, the criteria for the establishment of measuring points and method of data record and impact of polluted air on the human health.

IDENTIFIED GAPS: The national air quality monitoring network requires considerable reinforcement. Further work is needed to finish transposing and to implement EU directive on volatile organic compound emissions and to comply with EU requirements on sulphur content in liquid fuels.

**Waste management** performance in Serbia is based on the Law on Waste Management (OG 36/09) that sets forth types of waste and its classification, waste management planning, stakeholders, obligations and liability with regard to waste management, specific waste streams management, requirements and procedures for the issuance of permits, transboundary waste movement, reporting, waste management financing, supervision and other relevant aspects of waste management. Additionally, relevant waste legislation includes:

- In the area of landfilling, main bodies of legislation are the Law on Waste Management, Law on Environmental Protection (OG 66/91, 83/92, 53/93-other law, 67/93- other law, 48/94-other law, 53/95 and 135/04), Regulation on landfill of waste (OG 92/10) and Rulebook on categories, testing and classification of waste (OG 56/10). Landfills are classified according to EU landfill directive 1999/31/EC (Law on Waste Management, Article 42) and deposition of untreated hazardous waste in landfills is prohibited (Law on Waste Management, Article 44);
  - By-law on criteria for the determination of location and development of landfills for hazardous substances (OG 54/92) which sets forth the criteria for the determination of the location of hazardous substance landfills, method of sanitary and technical development of landfills for environmental protection, as well as the method of landfill eradication;
  - By-law on hazardous waste management (OG 12/95) sets forth the method of managing of certain types of hazardous waste, including asbestos, conducting inventory of types and quantities of hazardous substances in production, use, transport, marketing, storing and disposal and provides waste categorization in accordance with the Basel Convention;
  - By-law on methodology for chemical incidence and pollution risk assessment, action plans for preparation and overcoming of consequences (OG 60/94).
- In the area of hazardous waste, the Law on Conformity with Basel Convention on Transboundary Movement of Hazardous Waste and its Disposal (OG 2/99) provides internationally aligned mechanisms and instruments for the control of transboundary movement of waste.
- In the domain of waste fluorescent tubes, the Law on Waste Management prescribes the requirements in Article 51, although these tubes are freely deposited in municipal waste landfills. The requirements from the Directive 2002/95/EC and the Directive 2002/96/EC need to be entered into the regulation which would govern the mode and procedure for the management of waste fluorescent tubes that contain quicksilver.
- In the domain of asbestos waste, the Law on Waste Management prescribes the requirements in Article 54. In accordance with the Law on waste management and in conformity with the Directive 87/217/EEC on the prevention and reduction of environment pollution with asbestos, the Regulation on Procedure of asbestos-containing Waste (OG 75/2010) was enacted.
- In the domain of waste oils, the Law on Waste Management prescribes the requirements in Article 48. The requirements from the Directive 75/439/EEC on disposal of waste oils was transposed in the Regulation on waste oils management (60/08 and 8/10).

- In the domain of packaging waste, the Law on Packaging and Packaging Waste Management (OG 36/09) sets forth environmental requirements which packaging must meet in order to be marketed; packaging and packaging waste management, reporting on packaging and packaging waste. It regulates imported packaging, produced, i.e. marketed packaging, as well as packaging waste generated in the course of business activities on the territory of Serbia, regardless of its origin or purpose, and used packaging material. The Law is in compliance with the EU regulation.
- In the domain of construction and demolition waste (containing soil from excavation 75%, waste from demolition and construction (ceramics, concrete, iron, steel, plastic waste, etc.) 15-25%, waste asphalt and concrete 5-10%, totaling to an estimated 1 million tons of this waste generated in the Republic of Serbia annually), Law on Waste Management (OG 36/09) regulates this area. Construction waste ends up at landfills for municipal waste and is also used as inert material to cover waste at the landfill. Recycling of construction waste does not exist (asphalt is recycled in small quantities).

Waste management in Serbia is not satisfactory according to the Serbian Waste Management Strategy. Organized collection of municipal waste covers only around 60% of population, whilst rural areas are not sufficiently provided with organized waste collection. Serbia has no regional waste legislation, while rules for organizing municipal waste management within local governments are established by a regulation of each local self-government council.

Waste is being disposed to official landfills which often fail to comply even with the minimum technical standards. There are 4,481 wild landfills in Serbia. Separate collection and recycling of packaging waste and other municipal waste is not implemented. There is no permanent hazardous waste storage for now that complies with regulations, and temporary disposal is mainly performed in-house and often inadequately. There are no facilities for hazardous waste treatment. There is no system for separate collection of medical waste. There is a good level of alignment with the EU's principal waste directives, with recent progress made regarding the waste framework, landfill and industrial emissions directives. A national integrated waste management plan and additional economic instruments for special waste streams need to be developed.

**IDENTIFIED GAPS:** The following problems of waste management in Serbia were identified: lack of infrastructure for treatment and disposal of waste, joint disposal of municipal and hazardous waste from households, lack of data on waste composition and streams, absence of facilities for storage, treatment and disposal of hazardous waste, absence of separate collection and treatment of medical waste, pollution of soil, surface water and ground water by waste. Additionally, implementation remains at an early stage, with some progress noted in increased rates of municipal waste collection and sanitary landfilling. The national waste management strategy and municipal waste management plans need to be updated to reflect the new legal provisions on e.g. waste minimization and waste separation at source. Increased efforts are needed to close Serbia's non-compliant landfills more quickly and invest in waste separation and recycling. The above risks will be mitigated by preparation of the site-specific Waste Management Plans that are obligatory for each structure to be included in the Program (the measure is included in the Program Action Plan).

**Water management** in Serbia is regulated by the Law on Waters (OG 46/91, 53/93, 67/93, 48/94, 54/96 and 101/05) that regulates among other issues facilities for disposal and discharge of wastewater, including industrial and municipal landfills. The bylaws based on this Law are Rulebook on hazardous substances in waters (OG 31/82) and the Rulebook on the method and minimal number

of wastewater quality tests (OG 47/83 and 13/84). Based on the above Law, Water management falls mainly under the responsibility of MAEP, but also the Ministry of Mining and Energy (strategy and policy of the development of natural resources, exploitation of natural resources), the Ministry of Construction, Transport and Infrastructure (municipal infrastructure and utility services, including inspections in these areas), the Ministry of Health (health and sanitary inspection in the domain of public supply, control of sanitary and hygienic state of the facilities under sanitary supervision) and the Ministry of Interior (protection and rescue in emergency situations, prevention and risk reduction, protection and rescue, organization of the monitoring system, informing, early warning and alert system).

MAEP has the highest administrative jurisdiction in water management and environmental protection. MAEP carries out activities related to the "protection of water from pollution in order to prevent deterioration of the quality of surface and groundwater; identification of environmental requirements in spatial planning and construction of facilities" and inspection in this area. The autonomous province implements water management within its administrative boundaries, including the adoption of planning documents (water management plans, plans for flood risk management) and administrative acts. According to the Law on Water, the LGSUs are responsible for second-order water management, issuance of water policies for facilities of local importance, as well as the documents for wastewater discharge into public sewers. Among its most important activities is the performance and development of utility activities (water treatment and distribution of drinking water, collection and treatment of wastewater, etc.).

Serbian water legislation is moderately aligned with the EU and national strategy and action plan on water protection have yet to be adopted. Untreated sewage remains the main source of pollution. Monitoring of surface water and ground water has improved but needs further strengthening.

IDENTIFIED GAPS: Additional efforts need to be invested to further align Serbian legislation with the acquis, to implement it and to strengthen administrative capacity, in particular for enforcement and inter-institutional coordination. At the local level, administrative and other activities related to water are performed within various organizational bodies (secretariats, directorates, bureaus and other forms) that mostly do not have sufficient capacities to address all relevant issues. These gaps will not present significant negative risks to the Program, as site-specific Waste Management Plans will cover the issue of potential negative impacts of the Program-related works to water.

As regards **noise**, Serbia has achieved a good level of alignment with EU acquis in this sector, but implementation is at an early stage. Principles of protection from noise and noise emission values are defined in the Law on Environmental Noise (OG 36/09 and 88/10), while additional legal requirements are contained in the Serbian standards for environmental protection (OG 66/91, 83/92, 53/93, 67/93, 48/94 and 53/95), Rulebook on allowed levels of noise in urban environments (OG 54/92), Rulebook on acoustic zone methodology (OG 72/10) and Rulebook on methods for measurement of noise, contents and scope of noise measurement reports (OG 72/10).

Rulebook on the noise emission in the environment by equipment for use outdoors (OG 1/13) specifies: the requirements and other conditions which must be satisfied for the placing on the market and / or use of equipment that is used in the open and emits noise into the environment, for the protection and welfare of people and for free circulation of such equipment in the Serbian market, presumption of conformity of equipment used outdoors, types of equipment used outdoors; conformity assessment procedures; contents of the declaration of conformity, technical

documentation content, the mark of conformity and marking of conformity, as well as the designation of the guaranteed sound power level of equipment used in the open air and noise emitted into the environment, methods of measuring noise emissions and Serbian standards applicable to the measurement of noise emissions; collecting of data on noise emission and equipment requirements to be met by a conformity assessment body to be appointed for conformity assessment.

IDENTIFIED GAPS: Serbia needs to build administrative capacity for drafting strategic noise maps and action plans, while improving administrative capacities for legislation enforcement and oversight. Above gaps will not present significant negative risks to the Program, as works will be carried out in built-up areas, where the working hours and levels of noise caused by construction sites are defined by other regulations.

In the field of **labor/health and safety**, Law on Occupational Safety and Health (OG 101/2005) and Fire Protection Law (OG 37/88, 53/93, 67/93, 48/94) regulate accordingly. The new amendments to the law on health and safety at work contribute to further alignment with the EU acquis. In this regard, labor inspection activities have been intensified. Serbian health and safety law has been harmonized with ratified International Labor Organization Conventions and the European Union Framework Directive 89/391/EEC, as well as with special Directives deriving from the Framework Directive. Approach to risk assessment is robust and thorough. Every task is assessed against the individual's daily work requirement and is called 'AKT Risk Assessment on workplace and work environment'. The results of the assessment are clearly communicated to the individual and not only do they sign the document to show that they have read and understood it, but it is also countersigned by the plant manager and the health and safety officer. This is a specific document named 'statement 6'. The risk assessment requirement is clearly outlined in Serbian regulation 'Book of rules on manner and procedure of risk assessment at work place and working environment (OG 72/06, 84/06-correction). Concerning the waste produced in road construction works, it is to be handled by the Contractor in accordance with procedures defined in the Site establishment report prepared according to the Law on Occupational Safety and Health and the Rulebook on contents of the site establishment report (OG 75/11). The Site establishment report and registration of work start shall be delivered to the labor inspectorate.

IDENTIFIED GAPS: The Labor Inspectorate's administrative capacity needs to be further strengthened, in order to support the implementation of national HS programs. The above risk will be dealt with at local level and by local health and safety inspectors.

### 8.3 Appeal/Grievance System

The basis for the current appeal system in Serbia is contained in the Law on information of public importance (OG 120/2004, 54/2007, 104/2009 and 36/2010) that ensures the rights of access to information of public importance held by public authorities, with a view to exercising and protecting the public interest to know and attaining a free democratic order and an open society. By virtue of this Law access to information shall be granted to all stakeholders, including every natural person or legal entity upon written request unless otherwise regulated by the Law. Within 15 days of receipt of a request at the latest, the authority shall inform the applicant whether the requested information is held, and grant him/her access to the document containing the requested information or issue or send to the applicant a copy of the document.

Based on the Law on General Administrative Procedure (OG 33/97, 31/01, 30/10), the Law on State Administration (OG 79/05, 101/07, 95/10 99/14), the Law on General Administrative Procedure (OG 18/16) and Law on Inspection Supervision (OG 36/15) there is a right to administrative appeal against the decisions of the competent authorities, which can be used by individuals and legal entities. An appeal against the decision of a republic (national), provincial or municipal environmental inspector can be lodged to MAEP within 15 days from the day of receipt of the decision. Such appeal does not delay the execution of the decision. There are exceptions in which the decisions/orders of environmental inspectors are final in the administrative procedure; eventual disputes must be resolved in administrative courts. The EIA law provides no right to administrative appeal against the decision of the competent authority on approval of the EIA study allowing instead initiation of an administrative dispute. No appeal can be made against the judgment brought into the administrative dispute. Adequate provisions exist for public participation and appeal, based on the provisions of the Law on Free Access to Information of Public Importance (OG 120/04, 54/07, 104/09, 36/10). General and sector-specific guidelines are available to support the developers.

According to the Law on Planning and Construction (OG 72/09, 81/09, 145/14) public review and participation throughout the process of development and adoption of planning documents, including construction permits and operating permits is required. Upon the final decision, the authorized agency delivers a copy of the construction permit to the inspection which carries out the supervision over the construction of the facility, and if the decision is made by the Ministry, or autonomous province, a copy of the decision is delivered to the local government unit on whose territory the facility is constructed. Appeals on such decisions about the construction permits issued by LSGUs are solved by the ministry possible construction issues. The autonomous province is entrusted with the solution of appeals against the first-degree decision about the construction permit issued by the local government unit, made for the construction of facilities which are built on the territory of the autonomous province.

**IDENTIFIED GAPS:** The administrative appeal system in Serbia is well developed, but heavily burdened with the rising number of unsolved cases in the recent years. Although the legislation is in place, it is difficult to ensure the access to a timely resolution of an appeal in the transport and building reconstruction sectors. Concerning the appeal/grievance mechanisms, the number of vehicles for receiving appeals and complaints with the general public is relatively low and is limited to the inspection's emergency phone line and e-mail, and preparation of information for the media and the interested public (NGOs, individual citizens' requests).

#### 8.4 Local Environmental Governance

Compared to the capacities at the national level, which have a relatively sufficient number of qualified staff to allow timely and lawful implementation of activities under the current Program, the study of the structures of individual municipal governments showed that they are facing some critical difficulties in implementing their functions under this Program. Based on the EC Serbia 2016 Report, most municipalities in Serbia, apart only from larger ones, face important capacity problems. In most of them, one person conducts inspection of a high number of sectors. Local-level inspectors lack training, technical and legal knowledge as well as the basic equipment required to carry out their duties. Detailed analysis of this situation is presented in Chapter 10 below.

| Municipality   | Aleksandr<br>ovac   | Cicevac   | Jagodina   | Krusevac   | Novi Sad  | Pancevo   | Pecinci  | Sabac  | Svilajnac  |
|--|---------------------|---|--|--|---|---|--|--|--|
| Size   | 25K                 | 10K   | 70K  | 100K   | 300K  | 60K   | 10K  | 60K  | 30K  |
| Municipal environmental monitoring programs present?   | No.<br>Krusevac.    | Yes.  | Yes.   | Yes.   | Yes, for surface waters, air and noise. There is a plan for monitoring on every 3 months                                      | Yes (soil, noise, air and water).   | Yes.   | Yes.   | Yes.   |
| Type of permits, licenses or approvals issued by Municipality?                                   | None.<br>Krusevac.  | Approvals/ decrees for waste management (treatment and storage) | Approvals on planning documents, studies on strategic assessment and impacts | Approvals on planning documents, studies on strategic assessment and impacts | approvals on planning documents, studies on strategic assessment and impacts. Permits for waste management to legal entities. | approvals on planning documents, studies on strategic assessment and impacts. Permits for waste management to legal entities. | Approvals on planning documents, studies on strategic assessment and impacts | Approvals on planning documents, studies on strategic assessment and impacts | Approvals/ decrees for waste management (treatment and storage). |
| Separate environmental protection department in the municipality?<br>a) If yes, how many people? | Yes.<br>1 inspector | Yes.<br>1 inspector   | Yes.<br>3 staff.   | Yes.<br>10 staff.  | Yes.<br>15 staff.   | Yes.<br>10 staff.   | No.<br>1 staff.  | No.<br>5 staff.  | No.<br>5 staff.  |
| Duties of the environmental department/ in the Municipality?                                     | Regular inspections | Regular inspections   | Issuance of different acts; monitoring and inspections.                      | Issuance of different acts; monitoring and inspections.                      | Issuance of different acts. Monitoring, education and trainings pertain a program approved by line ministry.                  | Issuance of different acts; monitoring and inspections.   | Regular inspections  | Issuance of different acts; monitoring and inspections.                      | Regular inspections  |
| Environmental specialists working solely on the  | Yes                 | No. Add duties in   | Yes.   | Yes.   | Yes.  | Yes.  | Yes.   | Yes.   | Yes.   |

|  |                                      |                                      |   |   |  |   |                                      |   |   |
|--|--------------------------------------|--------------------------------------|---|---|--|---|--------------------------------------|---|---|
| environmental issues or covers other areas?  |                                      | construction sector                  |   |   |  |   |                                      |   |   |
| Environmental staff received training/guidelines/instructions on environmental management for the Program?                                 | No                                   | No.                                  | No.   | No.   | No.                                    | No.   | No.                                  | No.   | No.   |
| Adequate budget for environmental management in the Municipality<br>A) in general;<br>B) For the Program?                                  | Yes. 200K USD<br>No.                 | Yes.<br>No.                          | Yes.<br>No.                                   | Yes. 100K USD<br>No.                          | Yes.<br>No.                            | Yes.<br>No.                                   | Yes.<br>No.                          | Yes.<br>No.                                   | Yes.<br>No.                                   |
| Regular communication with competent authorities on environmental management issues? Designated person within MAEP to support the Program? | No.                                  | No.                                  | Yes.<br>No.                                   | Yes.<br>No.                                   | Yes.<br>No.                            | Yes.<br>No.                                   | Yes.<br>No.                          | Yes.<br>No.                                   | Yes.<br>No.                                   |
| Municipal level environmental regulatory framework consists of?  | Decree of municipal Assembly.        | Decree of municipal Assembly.        | Local acts and decrees. Communal inspections. | Local acts and decrees. Communal inspections. | Communal inspections; acoustic zoning. | Local acts and decrees. Communal inspections. | Decree of municipal Assembly.        | Local acts and decrees. Communal inspections. | Local acts and decrees. Communal inspections. |
| Necessity to develop construction waste management plans for approved and upcoming projects.   | No. BAU.                             | No. BAU.                             | No. BAU.                                      | No. BAU.                                      | No. BAU.                               | No. BAU.                                      | No. BAU.                             | No. BAU.                                      | No. BAU.                                      |
| Compliance with environmental regulation ensured in any phase of the Program?  | No special instruments.              | No special instruments.              | No special instruments.                       | No special instruments.                       | No special instruments.                | No special instruments.                       | No special instruments.              | No special instruments.                       | No special instruments.                       |
| What kind of documents (related to environment and H&S) are required from the contractor?  | designation of HS responsible person | designation of HS responsible person | designation of HS responsible person          | designation of HS responsible person          | designation of HS responsible person   | designation of HS responsible person          | designation of HS responsible person | designation of HS responsible person          | designation of HS responsible person          |

Table 7. Comparative overview of main local environmental governance characteristics of nine analyzed Serbian municipalities

The results of the recent “Research on the state of the environmental protection system at the local level” from 2016 conducted by the Standing Conference of Towns and Municipalities, states that institutional capacities of municipalities in environmental protection are exactly the same in 2013 and 2016, whereby those employed in the related jobs are considerably more insufficient than they were considered in 2013. Lower level of activities of central authorities in this area have also had an impact on the cooperation of municipalities in this area, and probably also a low number of established bodies or mechanisms that would mediate between the administration and local decision-makers and citizens, which further reduce institutional capacities.

Plans in the field of environmental protection require that municipalities begin a new cycle of planning. A large number of environmental plans are invalid or have marginal importance. The same stands for regional waste management planning processes.

Regarding administrative activity of LGSUs, the results are similar to the 2013 survey, but with limited significance, since the observed procedures are initiated by the parties' requests in areas that are highly susceptible to market effects and local investment cycles. Regarding decision-makers and their environmental practices, they are even less suitable for quantitative observation and therefore the results of the survey on this issue is of a limited scope.

Financing of environmental protection at the local level shows the decline in the share of environmental protection revenues in the total local budget revenues.

The relationship of the environmental authorities and decision makers is marked by mutual respect, while the views of decision makers on environmental protection show coherence with indicators on decision-making practice where environmental protection is of no key importance, but cannot be ignored.

IDENTIFIED GAPS: National authorities exercise supervision over the delegated work of the Autonomous Province and local self-government units by requesting information, records and documents as needed. Support and guidance to local self-governments on implementation of their competences in the area of environmental protection are to be provided in a more systematic way. Cooperation between the Ministry of Public Administration and Local Self-Government and MAEP could assist local self-government units in the implementation of their competences in the area of environmental protection. The Standing Conference of Towns and Municipalities helps local self-government units in implementing selected competences on environment; however, such assistance is largely dependent on the availability of funds.

As the most of EIAs are carried out at the municipal level or the provincial level, competent authorities at the municipal level, which predominantly deal with smaller enterprises (EIA Annex 2), have the tendency to wrap up project assessment at the screening phase, by prescribing some general environmental protection requirements to be included in the technical documentation.

Neither the Autonomous Province of Vojvodina, nor local self-governments have the legal obligation to regularly report to the national environmental authority. The Law on Local Self-Government stipulates: “In carrying out tasks from their competence, the authorities of the Republic and the territorial autonomy shall: ... (3) request reports, data and information about the performance of tasks ... of units of local self-government”.

Addressing the risks related to above issues, particularly to those at the local self-government level, is largely beyond the capacity of the Program, but is linked directly to overall reform and re-configuration

of the public service at the local level. Nevertheless, the Program will, as its integral part, include specific environmental trainings for the constrictors and local administration staff, which will contribute to increase of their competencies.

#### 8.5 Adequacy of institutional organization and capacity, labor division and likelihood for the objectives of the applicable environmental management systems to meet their goals

As already noted, the most significant role in the implementation of activities under the Program is given to the respective municipal administrations. Compared to the resource capacity of national institutions, which have a relatively sufficient number of qualified staff for the implementation of the Program, the study of the municipality structures showed that the majority are facing severe capacity constraints. Especially smaller municipalities noted that they lack sufficient environmental experts to ensure the appropriate implementation, supervision and evaluation of the environmental dimensions of the current Program. Main capacity constraints are twofold: (i) lack of number of staff, to sufficiently cover Program activities in a timely and high-quality manner; (ii) lack of expertise among staff particularly with regard to managing the social dimensions of the program.

#### 8.6 Effectiveness of inter-agency coordination arrangements

The level of inter-agency coordination between the competent authorities in the domain of environment is satisfactory, concerning processes of planning the activities under the Program, the development and coordination of the technical designs, their subsequent implementation, as well as the monitoring and assessment of the performed activities of the current Program.

The ESSA concluded that there is deficient inter-agency communication at local level, regarding the management of environmental aspects.

## 9 Social Management Systems Assessment

For the energy efficiency component, PIMO's capacities and procedures in managing social impact monitoring ought to be strengthened. A targeted investment should be made in making PIMO better able and equipped to capture social development outcomes in cooperation with local governments and relevant national institutions. Whereas no formal social management systems apply, this would strengthen and make more visible the program's overall success.

For the transport component, road user satisfaction surveys and machinery for consultation and dialogue are identified as missing parts of the social management system. Whereas these are not mandated by national legislation, they constitute enablers of the program's success.

## 10 Program Capacity and Performance Assessment

As already noted, the most significant role in the implementation of activities under the Program is given to PERS concerning road rehabilitation and respective municipal administrations, concerning energy efficiency component of the current Program. Compared to the resource capacities of the national environmental administration bodies, which have a sufficient number of qualified staff for the implementation of the Program, the study of PERS, PIMO and the municipality structures showed that these are facing some capacity constraints, especially smaller municipalities. In case of PERS and PIMO the level of internal coordination seems not to be sufficient, while especially smaller municipalities noted that they lack sufficient experts to ensure the appropriate implementation, supervision and evaluation of both the environmental and social outcomes of the current Program. In this regard, capacity constraints are twofold: (i) lack of number of staff, to sufficiently cover Program activities in a timely and efficient manner; (ii) lack of expertise among staff concerning the management of the environmental dimensions of the current Program.

The same can be said for the capacity of the implementing institutions in respect to social dimensions of the Programme.

### Road Rehabilitation

Department for Environmental protection in PERS is placed in the Sector Strategies, Design and Development and has developed the Environmental Policy in 2006. Environmental procedures for the activities encompassed by the Program, road rehabilitation and maintenance, are not developed, apart from monitoring requirements and procedures elaborated in the Guidelines for Environmental Monitoring of State Roads in the Republic of Serbia.

The Department prepared the Guidelines for Environmental Protection in the Road Sector as a result of a Twinning Project. However, the Guidelines are predominantly analyzing and elaborating EIA in the road sector and preparation of environmental programs. The company has successfully implemented ISO 9001, and is preparing to integrate ISO 14001 to the existing procedures.

In addition, PERS also has Department for Health and Safety, Fire-protection, and Rescue which has developed (i) procedures for waste, health and safety, (ii) procedures for communication and consultation in regards to health and safety, (iii) procedures for monitoring and reduction of risks, (iv) incidents investigation procedures and (v) emergency procedures.

There are no centralized, consolidated and well known grievance mechanism for environmental issues. The complaints are sent randomly to various departments while there is not unified approach to resolving and providing feedback.

The implementation of the procedures is Environmental Department participates in the preparation of projects, however, does not have any impact on project implementation. Neither the contractor nor

supervising engineer are reporting compliance to environmental to the Department. Operational permit does not require opinion of Environmental Department.

There are no procedures on information dissemination, cooperation or consultations with the local community.

**Further in social dimensions, PERS** is developing some social impact monitoring practices and procedures. However, obtaining regular road user feedback is not a common practice and it can be established under the P4R. Making feedback and consultation data available and relevant to road users in different categories is also a competence area that can be strengthened in order to maximize positive social impact.

### Reconstruction and Improvements of State-owned Facilities

Procedures for granting financial support to client municipalities are developed, detailed and well-functioning in PIMO. PIMO has previous experience in grant scheme management and working with local self-government (LSG). Prior to the commencement of their Program, PIMO has executed several rounds of grants to municipalities in Serbia.

The main role of PIMO is verification of applications, management of the selection process and, in later stages of grant project implementation, verification of work carried out under the project (based on reports of supervising engineer) and release of funds.

Contrary to the well-developed management procedures, PIMO does not have any environmental policy and procedures prepared for its company nor for the environmental management of the granted projects. PIMO follows relevant legislation of the Republic of Serbia for its own work, however, does not monitor environmental compliance of projects or implementation of environmental legislation requirements by contractors. Neither supervising engineers nor contractors report on environmental management in the course of their work.

**PIMO's** current set up is not geared to social impact monitoring. A capacity assessment<sup>79</sup> ought to be conducted before developing a specific budget and timeline for capacity development. Based on their education and prior experiences, PIMO's staff has the requisite competencies to design and conduct social surveys, establish baselines and develop monitoring protocols. Outsourced assistance may be needed in design of a database, social indicator design, development of M&E policies and procedures, training and engagement of municipalities. Core activities are included in the proposed Action Plan.

## 10.1 Human Resources

### Road Rehabilitation

Environmental Department of PERS was founded in 2006 and currently employs 4 persons while the systematization defined 5 as required for the work scope and intensity. All four employees are environmental professionals with backgrounds in civil engineering, geography, ecology and spatial

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<sup>79</sup> For the PIMO's readiness, together with local self-government, to manage and implement social impact monitoring

planning. The employees themselves find the team sufficient for the current work volume, however, additional person will be needed in the case Program would pose additional environmental requirements.

The Department is appropriately educated for their scope of current work which includes participation in the working groups for construction, reconstruction and rehabilitation projects. In the course of the Department's work it regularly communicates with the Environmental Protection Ministry, State Institute for Nature protection, Srbijavode, State Institute for Cultural Heritage and other, on EIA content or needs of EIA on certain projects. However, the EIAs are outsourced.

Additionally, the Department participates in environmental regulation preparation of road sector, strategic noise maps (as basis for Noise Protection Action Plan), specific climate changes studies and action plans such as those for snow deposits or climate change risks for state roads.

### *Reconstruction and Improvements of State-owned Facilities*

PIMO has a group of resident construction, mechanical and electrical engineers available that support client municipalities in the application procedure, however, does not have a designated person to deal with environmental aspects of their projects. Moreover, is likely, that, as it is, the number of engineers in the PIMO staff is not sufficient for supervision of 230 announced projects. It is safe to conclude that human resources, in the terms of number as well as competence is insufficient for effective and efficient supervision of environmental compliance of implemented projects.

PIMO has a dedicated person to deal with HS issues, but only the internal ones. The final HS-related responsibility lies with the contractors.

Compared to the resource capacity of the national environmental institutions, the ESSA showed that PERS has an adequate number of staff to perform the duties and responsibilities delegated to them in the current system. The same stands for PIMO, but individual LSGUs are faced with the following difficulties in implementing their functions under the Program.

The assessment of the administrative and technical capacity of the municipalities for implementation and management of their duties regarding environmental protection is prepared on the basis of the results from the conducted in-depth interviews (site visits) and desk reviews, as presented in Table 2.

In eight out of nine investigated municipalities, there is a designated unit (directorate, department, sector, etc.) in the structure of the municipal administration, with responsibilities are related to environmental protection environment and implementation of the requirements of the relevant national legislation at the local level. There is no such unit in the municipality of Aleksandrovac, that delegates its responsibilities to a nearby larger city.

In some of the smaller municipalities, such as Cicevac, the implementation of the environmental legislation at local level is not the solely function of the environmental experts. Together with that, they perform a range of other duties, mainly in the domain of construction.

In all investigated municipalities, as part of the municipal administration structure, there are established and operational independent units – inspectorates, with the staff of these structural units being responsible for the implementation of control on the territories of the respective municipalities in relation

to the adherence of the requirements of the local ordinances mainly for waste management, but also water and construction-related issues.

The specialized units of the investigated municipalities employ from 1 to 15 people (Aleksandrovac and Novi Sad), and their number varies and is in direct relation to the size of the municipality, e.g. in the bigger municipalities the number of staff in the specialized unit is larger and the financial resources of the municipal administration.

The assessment of the qualification of the employees responsible for the implementation of the environmental legislation at local level are in the positive scale and are supported by the following arguments:

- In all investigated municipalities, the regulatory requirements in the field of the environmental protection in Serbia are implemented as a minimum;
- All surveyed municipalities have an established system for waste collection and transportation of all types of wastes, generated by the households, as well as an established local act on waste management on the territory of the respective municipality;
- Only a limited number of investigated municipalities have developed plans that are either updated or being updated to align them with the Strategy for Waste Management. Most of these plans are not vertically integrated with higher tiers of environmental governance.;
- The approval of the investment projects takes place only after presenting the necessary documents, according the environmental legislation in force, e.g. construction waste management plan, EIA Decision or Decision on assessing the need of an EIA report, etc.

From the above presented, it can be concluded that, except the small municipal administrations, the other municipalities have a well-established and functioning organizational structure. The obligations regarding the environmental protection at local level are distributed among the municipal administration experts so that their timely implementation is guaranteed.

Only an issue regarding the lack of sufficient expert potential in the small municipalities, necessary for the implementation of activities under the Program is identified. This is expected to occur as a result from the increased workload for the municipal level experts. The extent of the increase depends on and is proportional to the number of buildings to be simultaneously renovated and the simultaneous commencement of several Programs. Reconciling of the functions of more than one expert position from one person is observed, which would impede the timely implementation of the tasks set by the Program. The experts in the municipal administrations mostly of small municipalities often do not participate in regular training to improve their qualifications.

In contrast to small municipalities, the largest, such as Novi Sad, have a sufficient number of qualified and experienced staff, which would allow the timely and lawful fulfilment of their environmental obligations under the current Program.

All above mentioned conclusions can be referenced to the rest of the Serbia municipalities, depending on their size and stage of development.

### 10.1.1 Human Resources for Social Impact

**PERS** is developing some social impact monitoring practices and procedures. However, obtaining regular road user feedback is not a common practice and it can be established under the P4R. Making feedback and consultation data available and relevant to road users in different categories is also a competence area that can be strengthened in order to maximize positive social impact. As mentioned above (capacity of the main stakeholders) PERS has advanced communication and public information practices. Regular Information dissemination and communication with broad publics occurs through the five channels. Thus, the departments and units of PERS in particular the unit for public relations under the management of the PERS and the Sector for Management of the Information Systems with its seven units serve as a good starting point to make step further and the advanced dissemination and information of public practices improve further to two-way communication to incorporate the community/users feedback for further service improvement.

For the **energy efficiency** component, with the aim to capture and strengthen the social impacts the social assessment exercise focused on issues that were identified as potential risk to undermine capture of the social benefits. Those are mostly related to: some capacity constraints of key stakeholders, PIMO and local self-governments, to adequately portray the social benefits of the program. While in PIMO there is staff with engineering background (14 engineer out of 43) and staff with social science background and some even with experience in social surveying, PIMO has not practiced to measure benefits beyond the financial and technical, so called social outcomes, and thus it was not done until now. So, in the PIMO capacity constrain would not relate to human resources but mostly to organizational culture to be able to see and present the benefits of the program beyond the direct financial and technical ones

## 10.2 Education and Trainings

PERS and PIMO staff have been involved in regular training activities and have acquired sufficient skills and competencies to efficiently perform their respective roles under the current Program.

All investigated municipalities reported that the administrative capacity of the environmental experts is a priority, and programs for participation in training improving their qualification are lacking, pointing out that there is no practice of conducting training to improve the expert potential and knowledge of relevant staff.

PERS organizes and invests in regular training as part of the compliance for the staff. But there has been no practice of relevant trainings for issues addressed in ESSA, under social dimension

Given that PIMO's focus on measurements of results was to capture finance gains only there have been no need for training other than core mandate of the PIMO.

On the local self-government level there is uneven human capacity with more capacity to larger municipalities and those more active interacting with donors.

### 10.3 Financial Resources

PERS and PIMO have adequate budgetary resources to cover their activities, pertaining both environment and social, planned under the current Program.

Regarding the municipal budget for the aims of environmental protection, it can be summarized that in all investigated municipalities have a dedicated budget for environmental protection. The size of this budget greatly varies (undisclosed amounts, presumed to be low, to 100 – 200K USD) and its sources are also different, from municipal taxes collected locally to environmental protection funds at the provincial level (Novi Sad).

All of the investigated municipalities have the funds allocated for environmental protection, that are sufficient to cover the basic needs of the municipalities. Insufficiency of funds for covering administrative needs in the field of environmental protection have not been reported, as all investigated municipalities claimed that they have a budget that matches their requirements.

Recommendations under social dimensions will not have significant budget implication for local self-governments once the indicators and methodology are defined by PIMO and PERS respectively

### 10.4 Effectiveness of inter-agency coordination arrangements where multiple agencies or multiple jurisdictions are involved

Satisfactory inter-agency coordination between the competent authorities at the national level in the process of planning the activities under the Program, the development and coordination of the technical designs, their subsequent realization, as well as the monitoring and assessment of the performed activities are of crucial importance for the successful implementation of the Program. To this end, PERS and PIMO are well integrated into the Serbian environmental protection system, mainly through the communication and coordination with MAEP on issuance opinions on the need for performing EIA studies.

A significant portion of environmental management, including control of lawful treatment and landfilling of waste generated on the territory of the municipality, is in the power of LSGUs. In the cases of established violations in the waste management process at municipal level, the mayor of the respective municipality or a person authorized by him/her can take the necessary steps for the elimination of the violation. They can also issue a penal decree. If the established violations are related to deterioration of the quality of the ambient air or other, the case is different. Precisely in such cases the municipal administration has to seek assistance from the respective responsible bodies, in the current case, MAEP.

Given the above it can be concluded that there is effective inter-agency communication at local level, regarding the management of environmental aspects, while the coordination between the local environmental authorities and the national ones is relatively limited. The latter is mainly related to the earliest stage of project implementation, in the EIA screening process, where LSGUs would address the question on the need to perform an EIA to MAEP. In case, no EIA is needed, the responsibility for

prescribing environmental protection measures and monitoring their implementation, rests with the LSGU.

## 11 Suggested Areas of Improvement and Inputs to Program Action Plan

### 11.1 Identified Areas for Improvement

The main conclusion of ESSA is there are no significant gaps between the core principles of the Program for Result and Regulative and Policy Framework of Environmental Management System in Serbia: the process of approximation of the national environmental legislation to EU environmental Acquis is well on its way. However, previous implementation incompliances reported by the state competent authorities and LSG authorized bodies, EU progress reports and reports of non-governmental organizations and other public stakeholders indicate gaps in implementation of the framework.

#### 11.1.1 Environmental

The key areas for improvement under the Program include waste management practices, use of natural resources and environmental and energy efficiency monitoring system.

The waste (hazardous and non-hazardous) policy and legislation framework is in place. The current Waste Management Strategy is being revised to strengthen municipal waste management and infrastructure components and the legislation is increasingly being adjusted to requirements of EU waste directives. The number of illegal dumping sites has been reduced, however, there is still a large number of illegal dumping sites and non-sanitary landfills.

Although there are clear procedures and well developed legislation for issuance of licenses and concessions for use of mineral resources that will be used in activities financed by this Program (these are predominantly stone aggregate, gravel and sand) there are evidence of unsustainable exploitation practices in Serbia. Regardless of the cause (over-generosity of concessions or deliberate exploitation over limits set in permits, concessions and licenses) and the large number of potential suppliers due to potentially large quantities that will be used in the Program the issue should be addressed.

Environmental monitoring of works that do not require construction permit or EIA is weak under the current legislative framework as well as in policies and procedures and practices of Program implementing agencies. There is also a potential conflict of interest involved where the LSG decide on the need of construction permit for a project, while in the same time are in charge of issuing permit for commencement of construction works, when it does not. Even where there were developed environmental monitoring and supervision procedures in PRES, the examined field reports could not provide sufficient proof that these are being implemented.

#### 11.1.2 Social

Main conclusion of the ESSA is that there is space for improvement of the practices of consultation, advancing them from disclosing and informing (one way) to a dialogue with possibility of feedback to be used for improvement of the services. Formally there are no major gaps between the principles of Serbian Social Management Systems and the Program-For-Results core principles. While legally under the Law on

Administrative Procedures citizens complains or queries need to be addressed in 48 hours this is not enabled in all local self-governments for example Core principles of Social Management that promote social sustainability are included in Program design. Public and worker safety is included as a concern in Serbian laws, procedures and standards. Land acquisition is not included in the Program. Vulnerable groups enjoy strategic and legal protection and there are clear responsibilities of actors with regards to affected population groups. There are no threats of escalation of social conflict resulting from Program design or implementation.

As a whole, environmental sustainability is promoted in the Program design. With regard to social sustainability, the Program operates within an adequate legal and regulatory framework and will provide long-term social gains to beneficiaries. The most important improvements are needed in the realm of capturing the social outcomes and its monitoring and evaluation of both road reconstruction and energy efficiency components of the program.

Illustrative recommended additional program indicators to help capture social dimensions in transport sector:

- Percentage change in road safety on maintained sections of the road against baseline/ in comparison with control group of same category roads in need of maintenance.
- Implemented changes in road safety management (new partnerships, consultations with LSGs and other road users - roles, procedures, campaigns) Documented quality of life/quality of service improvements resulting from P4R transport.
- Changes in road users' satisfaction against baseline/ in comparison with control group of same category roads in need of maintenance based on road user surveys.
- Activities/funds to address exclusion/gender gaps in funding of road employment.
- Number and type of grievances received/addressed by PERS with regards to P4R road maintenance and reconstruction works.

Proposed indicators for energy efficiency sector:

- Increase in value of public buildings against a baseline.
- Share of participating municipalities with standardized grievance redress systems in place specifically referring to the retrofitting program.
- Number of grievances and complaints submitted/addressed.
- Number of P4R direct beneficiaries, disaggregated by sex, in the energy efficiency sector, by municipality and type of public facility.
- Documented quality of service and/or quality of life improvements resulting from P4R EE
- Share of targeted public facilities made accessible for PWDs in line with Technical standards for accessibility.

- Share of targeted public facilities with improved fire safety standards.
- Share of targeted public facilities with reduced spending on heating.
- Evidence of public investments due to savings attributable to P4R EE.

## 11.2 Inputs to the Program Action Plan

Based on screening, analysis and assessment of environmental and social regulation and policy framework, programs, procedures on the national, local and level of the implementing entities (PIMO, PERS, LSG) as well as the system response to the risks of adverse impacts, the sections below present mandatory and recommended measures under the Program. The mandatory measures present the Program Action Plan input of ESSA.

### 11.2.1 Environmental

#### 11.2.1.1 Mandatory Measures

##### Road Rehabilitation

- a) In the preparation phase:
  - Increase capacity of PERS for environmental management under the Program by (i) training in environmental management tailored in accordance to Program needs; (ii) designating in-house or employing an environmental manager to work exclusively under the Program,
  - Creating guidelines for environmental management and monitoring for PERS for Program activities/projects. The guidelines would include an environmental checklist for road rehabilitation and maintenance projects and the reporting template.
  - Preparing environmental management and monitoring guidelines for contractors.
  - Prepare Waste Management Plan for the Program.
- b) In the implementation phase:
  - Positive decision on environmental compliance report becoming a precondition for final payment of contractors.

##### Reconstruction and Improvement of State-owned Public Facilities

- a) In the preparation phase:
  - Increase capacity of PIMO for environmental management under the Program by (i) employment of environmental manager for the Program work; (ii) creating environmental management and monitoring procedures for the Program; (iii) provide appropriate training to Program staff, supervising engineers and environmental manager to enable efficient and effective environmental supervision and compliance.
  - Preparing guidelines for environmental management and monitoring for PIMO for Program activities/projects (tailored for environmental manager, site and supervising engineers). The

guidelines would include an environmental checklist for rehabilitation of buildings and the reporting template.

- Preparing environmental management and monitoring guidelines for contractors.
  - Prepare Waste Management Plan for the Program.
- b) In the implementation phase:
- Positive decision on environmental compliance report becoming a precondition for final payment of LSG and subsequently, contractors.

#### *11.2.1.2 Recommended measures*

##### Road Rehabilitation

- a) In the preparation phase:
- Increase capacity of PERS for environmental management under the Program by (i) revising and supplement the environmental management procedures; (ii) stream/re-direct all environmental work through Environmental Department of PERS.
  - Prepare Waste Management Plan for each project.
- b) In the implementation phase:
- Provide on-the-job training to contractor representatives on practical issues related to environmental mitigation measures and environmental monitoring and recording.
  - Support local municipal staff by providing good examples and training on implementation of measures as defined in Waste Management Plans.

##### Reconstruction and Improvement of State-owned Public Facilities

- a) In the preparation phase:
- Harmonization of EE evaluation methodology with those of the Ministry of Mining and Energy.
  - Prepare Resources Management Plan prior to works.
  - Prepare Waste Management Plan for each project
- b) In the implementation phase:
- Provide on-the-job training to contractor representatives on practical issues related to environmental mitigation measures and environmental monitoring and recording.
  - Support local municipal staff by providing good examples and training on implementation of measures as defined in Waste Management Plans.

## 11.2.2 Social

### 11.2.2.1 *Mandatory Measures*

#### Road Rehabilitation

- Design a system to carry on road user's (disaggregated by gender) satisfaction through regular user survey's and establish a baseline against changes will be measured on sections that have undergone maintenance work
- Create grievance mechanism specifically regarding the maintenance work / Or within the current system keep separate log about the grievances related the maintenance program

#### Reconstruction and Improvement of State-owned Public Facilities

- Within the M&E of the program incorporate variables for social impact monitoring, including beneficiary feedback as part of broader monitoring efforts
- For participating municipalities establish within existing citizens LSG GRM a section for the program. Copy of the each complain to be sent to PIMO to oversee the follow up by local self-government and develop the data base of complaints data on aggregate level

### 11.2.2.2 *Recommended Measures*

#### Road Rehabilitation

- In cooperation with the Commissioner for Protection of Equality, analyze the results of the road users survey and check whether there are patterns of issues specific by gender
- PESR with the same Commissioner could design criteria for affirmative actions, hence not discrimination, in line with the Constitution of Serbia, National Strategy on Gender Equality and Budget System Law requirements pertaining to introduction of gender responsive budgeting

#### Reconstruction and Improvement of State-owned Public Facilities

- Develop on the aggregate level complaints to the municipalities related the program and analyze them to improve the program implementation

## 12 Final conclusions and recommendations

Overall assessment of the Program's contribution and impact is a positive one. The Program will contribute to a number of environmentally significant areas and processes: The Program will directly contribute to reduction of CO2 emissions from heating and electricity production through cut in the energy demand and increase of energy efficiency, increase safety of roads. Indirectly, the Program can create long-term benefits by implementing the suggested measures, such as: improving environmental management and monitoring in state institutions, exercising control on origin and sustainable use of mineral natural resources, increasing quantities of recycled construction waste and creating a good practice example for waste management and monitoring for the public and private sector. While it was assessed that regulation, policies and procedures are in place on all levels and the expertise and know how are available, their implementation is occasionally partial and inconsistent, which makes monitoring and supervision activities a key area for improvements.

Adverse environmental impacts of the Program are mostly short term, typical, predictable and easy to mitigate. Both sectors within the Program produce negative impacts typical for construction works. Based on the available information on key stakeholders' capacities, existing environmental procedures and regulation analysis, the ESSA concluded that there are no major gaps between the principles of Serbian environmental and social management systems and the Program-For-Results core principles and that with the applied recommended risk mitigation measures, the system will be capable of addressing the environmental issues that may occur as a result of Program activities. The environmental sustainability is somewhat promoted in the Program design, the Program design sets health and safety requirements, which will provide public and workers' safety against the potential risks associated with the rehabilitation and operation of selected roads and the reconstruction of state-owned buildings. Concerning social sustainability, this Program operates within an adequate legal and regulatory framework and is expected to provide long-term improvements to the standard of living of its beneficiaries.

Nevertheless, several areas for improvement had been identified:

- EIA permitting procedure is carried out by competent bodies at the national level and republic environmental inspectors will be in charge of enforcement of the environmental laws at the facilities subject to the Program. If the respective permits and consents are issued by AP of Vojvodina or local self-governments, then the provincial or municipal environmental inspectors, respectively, will be in charge of their enforcement. Capacities of both latter groups to perform appropriate responsibilities is assessed as low.
- Environmental Enforcement and Compliance is exposed to the fact that division of responsibilities across the levels of governance does not take account of capacity constraints faced by local authorities, and horizontal cooperation is fairly limited. Inconsistencies remain in the vertical division of mandates for inspection. Additionally, there are problems of horizontal organization as institutionalized cooperation and coordination mechanisms are lacking.
- Waste management in Serbia is suffering from the lack of infrastructure for treatment and disposal of waste, joint disposal of municipal and hazardous waste, lack of data on waste composition and

streams, absence of facilities for storage, treatment and disposal of hazardous waste, absence of separate collection and treatment of medical waste, pollution of soil, surface water and ground water by waste.

- Water management activities at the local level are performed within various organizational bodies (secretariats, directorates, bureaus and other forms) that mostly do not have sufficient capacities to address all relevant issues.
- Appeal/Grievance System in Serbia is heavily burdened with the rising number of unsolved cases in the recent years and the number of avenues for receiving such appeals and complaints by the general public is relatively low and is limited to the inspection's emergency phone line and e-mail, and preparation of information for the media and the interested public (NGOs, individual citizens' requests).
- Local Environmental Governance units in Serbia do not have the legal obligation to regularly report to the national environmental authority, which results in lack of coordination of activities, while the adequacy of institutional organization and capacity, labor division and likelihood for the objectives of the applicable environmental management systems to meet their goals is inadequate. Municipalities lack sufficient environmental experts to ensure the appropriate implementation, supervision and evaluation of the environmental dimensions of the current Program. Main capacity constraints are lack of number of staff to sufficiently cover Program activities in a timely and high-quality manner and lack of expertise among staff - particularly with regard to managing the social dimensions of the program.
- Inter-agency coordination arrangements between the competent authorities in the domain of environment is low, while it is deficient at the local level, regarding the management of environmental aspects of the current Program.

Summarizing the available information presented in details above, as well as the data from the conducted site visits and desk reviews, it may be concluded that the Enhancing Infrastructure Efficiency and Sustainability Program will result in long-term positive social and environmental impacts, the main of which are increase of the energy efficiency of buildings and reduction of CO2 emissions, increased number of buildings with improved fire safety standards, improved access to persons with disabilities – all resulting in better services' provision in target communities. Transport component will effectively improve road safety and introduce a novel performance based contract management system that will result in cost savings for road maintenance works. A small portion of works will be dedicated to reconstruction (without expropriation) in consultation with key stakeholders, including local governments, households, businesses and other road users. In addition to an increased overall value of the Serbian road network, the P4R will improve road user satisfaction measurement and machinery for dialogue with stakeholders.

The negative impacts will be short in duration and in most cases low in intensity. They will last only during the construction/ rehabilitation period. However, some of the impacts, if not managed properly, may have a significant cumulative negative impact. All of the potentially negative Program-related impacts can be successfully managed by (i) applying the requirements of the national legislation at the local level, (ii) implementing specific measures related to environmental and social areas, as defined in the Program Action Plan, and (iii) ensuring effective guidance and coordination in implementation of the Program by agencies that will lead the respective P4R components – PIMO and PERS. This is fully applicable and

evidences of this are: the adequate national and local administrative structures, the presence of local environmental regulations and their implementation so far.

In order to improve the implementation of the National Program from a social point of view, some measures are proposed in the Program Action Plan. They are limited primarily to improving the monitoring and administrative capacity of PIMO and PERS, development of stakeholder consultation, and citizen grievance and complaint mechanisms by both PIMO and PERS, and outsourcing of experts' assistance for targeted policy development work related to effective P4R implementation.

## 13 ESSA disclosure and public consultations

In accordance with the World Bank procedures, the Environmental and Social System Assessment was prepared for the Enhancing Infrastructure Efficiency and Sustainability Program for Results in Serbia. Preparation of ESSA commenced in June 2017 and was completed in early September 2017.

On 14 September 2017 both PIMO and PERS issued calls for a public discussion to the authorities, organizations and the public concerning the Environmental and Social System Assessment for the Enhancing Infrastructure Efficiency and Sustainability Program for Results. The general public, national institutions and organizations, local institutions, NGOs and other interested parties were invited to review the draft ESSA document and participate in the public debate on it. The same call for public consultation was placed at internet sites of both PIMO and PERS. Hard copies of draft ESSA were made available for review and inspection on each working day from September 14 to 22, from 11 a.m. to 1 p.m. local time, in Serbian and English languages. Electronic version of draft ESSA in both languages was made available at respective web sites:

- PERS web site: <http://www.putevi-srbije.rs/index.php/en/enhancing-infrastructure-efficiency-and-sustainability-program-for-results-p4r>
- PIMO web site: <http://www.obnova.gov.rs/english/news/article/enhancing-infrastructure-efficiency-and-sustainability-program-for-results-p4r>

Public discussion and presentation of the ESSA was held at the office of PERS, Sector for Investments, Vojkovićeve Street 19a, Belgrade, conference room at the first floor, on 22 September 2017, at 12:00 noon.

The public discussion in PERS offices was attended by seven participants. The meeting began at 12:10 p.m. Representatives of PERS welcomed the participants. Mr. Ille and Mr. Imeri of the World Bank introduced the Program for Results model of financing and some procedural details concerning the current Program. Mr. Susic, environmental consultant presented the ESSA in detail to the participants. During the public consultations, no complaints regarding the text of ESSA were recorded.

The questions received during the public consultations were the following:

Q: Are gender aspects of the inputs to the social part of the Program Action Plan necessary and what are the main gender aspects of road reconstruction projects?

A: Gender aspects of all WB-financed projects must be taken into account during both project design and implementation phases. The gender aspects of infrastructural projects should be considered as an integral part of the Program. The same requirements exist in some of the Serbian legislation as well.

Q: Which countries have already been using the Program for Results model of financing in the recent past and what are the related experiences. How the results will be monitored and confirmed and what will be financing schedule?

A: The Bank representatives provided additional details concerning basic principles of PforR and the Program and confirmed that this model of financing has been recently employed in several ECA and SEA countries. Additional information was provided on the process of Program auditing, confirming that an independent auditor will have to be procured during the Program implementation. ToR for this auditor and the subsequent reports will be reviewed and approved by the Bank as a condition for transfer of funds. The Program Action Plan and other Legal documents will be specifying details related to financing and dynamics of fund transfers.

Q: More details were requested in respect to content of the client satisfaction surveys.

A: The Bank representatives confirmed that the design of this important process is left with PERS and PIMO, and that its implementation will be subject of *ex post* Bank review. Technical details concerning conducting client satisfaction surveys were discussed as well and it was confirmed that there is no obligatory format/template to follow. However, it is important to consider developing an efficient and robust grievance redress system for this Program, as the Bank finance only those projects that bring benefits to the local people and environment - but these benefits have to be measured and recorded. Client satisfaction and grievance redress systems would prove useful tools for this.

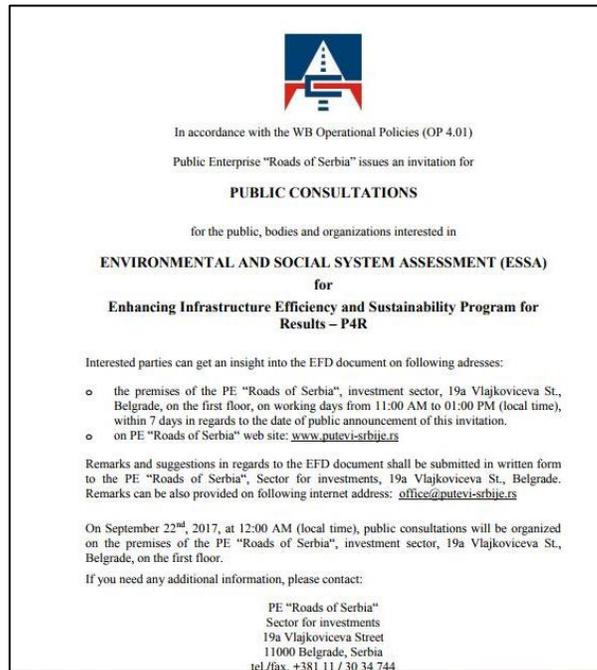
Q: Would animal crossings and specialized environmental studies related to road rehabilitation would be eligible for financing under this Program.

A: The Bank representative confirmed that this would be possible if this is an integral segment of road rehabilitation/reconstruction projects.

The meeting was adjourned at 1:30 PM, local time.

## DOCUMENTATION

**Photo A:** Announcement of public consultation on the web site of PERS



**Photo B:** Announcement of public consultation on the web site of PERS



Photo C: Announcement of public consultation on the web site of PIMO

The screenshot shows the website of the Public Investment Management Office (PIMO) of the Government of the Republic of Serbia. The page features a navigation menu with options like HOME, OFFICE, DOCUMENTS, ACTIVITIES, ACTUALITIES, ARCHIVE, CONTACT, and SEARCH. The main content area is titled 'Actualities' and contains an announcement dated 14 September 2017, 10:14. The announcement is for the 'Enhancing Infrastructure Efficiency and Sustainability Program for Results - P4R'. It states that the PE 'Roads of Serbia' has issued an invitation for public consultations for the Environmental and Social System Assessment (ESSA). Interested parties can get an insight into the EFD document at the premises of the PE 'Roads of Serbia' or on their website. The announcement also mentions that public consultations will be organized on September 22nd, 2017, at 12:00 AM (local time) at the premises of the PE 'Roads of Serbia'. On the right side of the page, there are several blue buttons with icons and text: FUNDS FOR RECONSTRUCTION, RECONSTRUCTION IN NUMBERS, PREVENTION, HELP FROM EUROPEAN UNION, THE PUBLICATION ON SOLIDARITY FUND, and FLOOD RELIEF ACCOUNT BALANCE.

Photo D: List of participants

**ENHANCING INFRASTRUCTURE EFFICIENCY AND SUSTAINABILITY PROGRAM FOR RESULTS (P4R) – SERBIA**  
**Public Consultations - List of Attendance**

| Subject:<br><b>PUBLIC CONSULTATIONS<br/>Environmental and Social System Assessment</b>                    |                  | Held in:<br><b>JP „Putevi Srbije“ – Vojkovičeva 19a, Beograd</b> |  |
|---|------------------|--|--|
| Program: <b>Enhancing Infrastructure Efficiency And Sustainability Program For Results (P4R) – Serbia</b> |                  | <b>Belgrade, 22 September 2017</b>                               |  |
| No.   | Name and Surname | Organisation and adress  | Phone.; Fax; E-mail                              |
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| 2   | DORĐE MITROVIĆ   | JP „PUTEVI SRBIJE“   | 011 3040735                                      |
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**Photo E:** Public discussion meeting in PERS Offices in Belgrade, 22 September 2017



## 14 Annex

### 14.1 Inputs to the Program Action Plan – overview

#### 14.1.1 Environmentally-related measures

| <b>Measure</b>   | <b>Action deadline</b>       | <b>Party Responsible</b> | <b>Financing Source</b>        |
|--|------------------------------|--------------------------|--------------------------------|
| Preparing environmental management and monitoring guidelines for contractors.  | 3 months after Program start | PERS                     | Program, Company own resources |
| Prepare Waste Management Plan for the Program.   | 3 months after Program start | PERS                     | Program, Company own resources |
| Increase capacity of PIMO for environmental management under the Program by (i) employment of environmental manager for the Program work; (ii) creating environmental management and monitoring procedures for the Program; (iii) provide appropriate training to Program staff, supervising engineers and environmental manager to enable efficient and effective environmental supervision and compliance. | Adoption of Operation Manual | PIMO                     | Program, Company own resources |
| Prepare guidelines for environmental management and monitoring for PIMO for Program activities/projects (tailored for environmental manager, site and supervising engineers). The guidelines would include an environmental checklist for rehabilitation of buildings and the reporting template.  | 3 months after Program start | PIMO                     | Program, Company own resources |
| Preparing environmental management and monitoring guidelines for contractors.  | 3 months after Program start | PIMO                     | Program, Company own resources |
| Prepare Waste Management Plan for the Program.   | 3 months after Program start | PIMO                     | Program, Company own resources |
| Positive decision on environmental compliance report becoming a precondition for final payment of contractors.   | 3 months after Program start | PIMO, PERS               | Program, Company own resources |

#### 14.1.2 Socially-related measures

| Measure  | Action deadline              | Party Responsible            | Financing Source               |
|--|------------------------------|------------------------------|--------------------------------|
| <p><b>Consultations with influenced outcomes:</b></p> <p>(i) Design a system to carry on road user’s (disaggregated by gender) satisfaction through regular user survey’s and establish a baseline against changes will be measured on sections that have undergone maintenance work. The survey should seek to uncover information and data gaps that are important to road users. A particular section should consider specific aspects considering business gravitating to road use and/or located in the proximity and around the road.</p> <p>(ii) Create an online and by telephone grievance mechanism specifically regarding maintenance and reconstruction works.</p>   | 3 months after Program start | PERS                         | Program, Company own resources |
| <p><b>Capture LSG-level and aggregate social impact</b></p> <p>Assign staff responsibility for social impact monitoring, including beneficiary feedback as part of broader monitoring efforts whereby M&amp;E database is searchable by different variables. The staff will support PIMO to (i) Formally adopt social indicators and design program M&amp;E searchable by different variables (type of facility, municipality, work progress, due date, some social outcome variable, beneficiary category and by cross-linked criteria); (ii) Design consistent methodology for accounting final beneficiaries/service users whereby data should be more detailed and disaggregated by sex; (iii) The survey results should be disaggregated by gender and analyzed through gender aspects. Check whether there are patterns of issues specific by gender and later address the issues; (iv) Design and deliver training to participating LSG leaders to raise awareness on benefits of retrofitting program and gains to capture these benefits; (v) In addition, document accessibility level (before and after) of the retrofitted institutions.</p> | 6 months after Program start | PIMO Intersectoral Committee | Program, Company own resources |

|   |                                     |  |                                       |
|---|-------------------------------------|--|---------------------------------------|
| <p>Note: these actions are more detailed explanation of the action 5 of the technical assessment.</p>   |                                     |  |                                       |
| <p><b>Consultation and grievance redress and complaint handling mechanisms</b><br/> For participating municipalities establish within existing citizens LSG GRM a section for the program. The system should be as a such that the copy of the grievance is send to PIMO to oversee the follow up of the municipalities to the complaint.</p> | <p>3 months after Program start</p> | <p>PIMO and Participating Local Self-Governments</p> | <p>Program, Company own resources</p> |