

Document of
The World Bank

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Report No: 120292-YF

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF EURO 100 MILLION

(USD 119 MILLION EQUIVALENT)

TO THE

REPUBLIC OF SERBIA

FOR AN

ENHANCING INFRASTRUCTURE EFFICIENCY AND SUSTAINABILITY PROGRAM

October 12, 2017

Sustainable Development Practice Group
South East Europe Country Unit
Europe and Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August 31, 2017)

| | | |
|---------------|---|---------------------|
| Currency Unit | = | Serbian Dinar (RSD) |
| RSDs 100.44 | = | US\$1 |
| US\$1.1861 | = | € (Euro) 1 |

ABBREVIATIONS AND ACRONYMS

| | |
|--------|---|
| ASA | Advisory services and analytics |
| CXHP | Corridor X Highway Project (corridor ten highway project) |
| CPF | Country Partnership Framework |
| DLI | Disbursement Linked Indicator |
| DLR | Disbursement Linked Results |
| DPL | Development Policy Loan |
| EBRD | European Bank for Reconstruction and Development |
| EIB | European Investment Bank |
| EIRR | Economic Internal Rate of Return |
| EE | Energy Efficiency |
| ESSA | Environment and Social Safeguards Assessment |
| EU | European Union |
| GDP | Gross Domestic Product |
| GiZ | Gesellschaft für Internationale Zusammenarbeit |
| GoS | Government of Serbia |
| GRM | Grievance Redress Mechanism |
| IFI | International Financial Institutions |
| IMF | International Monetary Fund |
| IPSAS | International Public Sector Accounting Standards |
| KfW | Kreditanstalt für Wiederaufbau |
| LSG | Local self-government |
| M&E | Monitoring and Evaluation |
| MCTI | Ministry of Construction, Transport and Infrastructure |
| MME | Ministry of Mining and Energy |
| MoF | Ministry of Finance |
| MPALSG | Ministry of Public Administration and Local Self-Government |
| MTEF | Medium Term Expenditure Framework |
| NEEAP | National Energy Efficiency Action Plan |
| NES | National Employment Service |
| OECD | Organization for Economic Cooperation and Development |
| PAC | Project Auditor Consultant |
| PAP | Public Administration Principles |

| | |
|-------|---|
| PAR | Public Administration Reform |
| PBMC | Performance-based maintenance contracting |
| PEFA | Public Expenditure and Financial Accountability |
| PERS | Public Enterprise Roads of Serbia |
| PforR | Program-for-Results |
| PIMO | Public Investment Management Office |
| PPL | Public Procurement Law |
| PPO | Public Procurement Office |
| RC | Republic Commission |
| RINO | Registry of Settlements of Pecuniary Commitments (Rokovi Izmirenja Novcanih Obaveza) |
| RRSP | Road Rehabilitation and Safety Project |
| SAI | State Audit Institution |
| SCTM | Standing Conference of Towns and Municipalities |
| SOE | State Owned Enterprise |
| TA | Technical Assistance |
| TF | Trust Fund |
| TRP | Transport Rehabilitation Project |
| UNDP | United Nations Development Program |
| WB | World Bank |
| WG | Working Group |

| | |
|---------------------------------|--------------------------------|
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| Practice Managers: | Juan Gaviria, Sameer Shukla |
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Republic of Serbia

Enhancing Infrastructure Efficiency and Sustainability (P 163760)

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Republic of Serbia

Enhancing Infrastructure Efficiency and Sustainability Program (P163760)

PROGRAM APPRAISAL DOCUMENT

*Europe and Central Asia Region
Transport and ICT, Energy and Extractives Global Practices*

Basic Information

| | | | |
|--------------------|----------------------------------|----------------|--|
| Date: | October 12, 2017 | Sectors: | Transport and Energy |
| Country Director: | Linda Van Gelder | Themes: | Road Maintenance, Energy Efficiency, Climate Change |
| Practice Managers: | Juan Gaviria, Sameer | | |
| Global Practice | Shukla | | |
| Vice President: | Laura Tuck | | |
| Program ID: | P163760 | | |
| Team Leader(s): | Rakesh Tripathi Jasneet Singh | Report number: | 120292-YF |

Program Implementation Period: Start Date: 05/03/2017 End Date: 06/30/2021

Expected Financing Effectiveness Date: 11/10/2017

Expected Financing Closing Date: 12/31/2021

Program Financing Data

| | | |
|--|--------------------------------|--------------------------------|
| <input checked="" type="checkbox"/> Loan | <input type="checkbox"/> Grant | <input type="checkbox"/> Other |
| <input type="checkbox"/> Credit | | |

For Loans/Credits/Others (US\$M):

| | | | |
|---------------------|---------------|-----------------------|---------------|
| Total Program Cost: | \$763,960,000 | Total Bank Financing: | \$118,610,000 |
| Total Cofinancing: | \$645,350,000 | Financing Gap: | 0 |

| Financing Source | Amount |
|-------------------------|---------------|
| BORROWER | \$129,400,000 |

| | |
|-------------------|---------------|
| PERS Toll Revenue | \$515,950,000 |
| IBRD | \$118,610,000 |
| Total | \$763,960,000 |

Borrower: Republic of Serbia

Responsible Agency: Public Enterprise Roads of Serbia (PERS)

| | | | |
|----------------|---------------------|--------|--|
| Contact: | Slavoljub Tubic | Title: | Deputy Director |
| Telephone No.: | +381 (66) 86-65-040 | Email: | office@putevi-srbije.rs |

Responsible Agency: Public Investment Management Office (PIMO)

| | | | |
|----------------|---------------------|--------|-------------------------|
| Contact: | Marko Blagojevic | Title: | Acting Director |
| Telephone No.: | +381 (11) 36-17-737 | Email: | marko.blagojevic@gov.rs |

Expected Disbursements (in USD Million)

| Fiscal Year | 2018 | 2019 | 2020 | 2021 |
|-------------|------|-------|--------|--------|
| Annual | 34.4 | 39.73 | 35.88 | 8.66 |
| Cumulative | 34.4 | 74.13 | 109.95 | 118.61 |

The Project Development Objective is to improve the management and sustainability of select public infrastructure by strengthening government capacity and systems, upgrading assets, and increasing expenditure efficiency.

Compliance

Policy

| | | |
|---|---------|--------|
| Does the program depart from the CAS in content or in other significant respects? | Yes [] | No [X] |
|---|---------|--------|

| | | |
|---|---------|--------|
| Does the program require any waivers of Bank policies applicable to Program-for-Results operations? | Yes [] | No [X] |
|---|---------|--------|

| | | |
|--|---------|--------|
| Have these been approved by Bank management? | Yes [] | No [X] |
|--|---------|--------|

| | | |
|--|---------|--------|
| Is approval for any policy waiver sought from the Board? | Yes [] | No [X] |
|--|---------|--------|

| | | | |
|---|---|-----------------------------|------------------|
| Has the project conducted Climate & Disaster Risk Screening tool? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> | | |
| Overall Risk Rating: Substantial | | | |
| Legal Covenants | | | |
| Name | Recurrent | Due Date | Frequency |
| Program Implementation for Part 1 of the Program | X | | Continuous |
| Description of Covenant | | | |
| The Borrower shall cause PERS to carry out Part 1 of the Program and coordinate all related Program activities including procurement, supervision, monitoring of the progress of the performance based maintenance contract (“PBMC”) roll-out and reporting on the achievements of the DLIs, with Ministry of Construction, Transport and Infrastructure (MCTI) overseeing the regular management and execution of Part 1 of the Program. | | | |
| Name | Recurrent | Due Date | Frequency |
| Program Implementation for Part 2 of the Program | X | | Continuous |
| Description of Covenant | | | |
| The Borrower shall carry out Part 2 of the Program, through the Public Investment Management Office (“PIMO”), which shall oversee the day-to-day management and execution of Part 2 of the Program. | | | |
| Name | Recurrent | Due Date | Frequency |
| Establish and maintain PBMC Steering Committee for Part 1 of the Program | | 30 days after Effectiveness | Continuous |
| Description of Covenant | | | |
| The Borrower, through MCTI, shall establish, by no later than thirty (30) days after the Effective Date, and thereafter maintain throughout Project implementation, a Performance Based Maintenance Contract (PBMC) Steering Committee, acceptable to the Bank, to provide oversight and guidance in the implementation of the Part 1 of the Program. | | | |
| Name | Recurrent | Due Date | Frequency |
| Establish and maintain Steering Committee for Part 2 of the Program | | 30 days after Effectiveness | Continuous |
| Description of Covenant | | | |
| The Borrower, through the Ministry of Mining and Energy, shall establish by no later than thirty (30) days after the Effective Date, and thereafter maintain throughout the implementation of the Program, a Steering Committee for Part 2 of the Program for Program oversight and approval and issuance of policies and procedures for Part 2 of the Program, all acceptable to the Bank. | | | |
| Name | Recurrent | Due Date | Frequency |

| | | | |
|--|------------------|--|------------------|
| Program Action Plan | | Multiple dates | |
| Description of Covenant | | | |
| The Borrower shall carry out the Program Action Plan, or cause the Program Action Plan to be carried out, in accordance with the schedule set out in the plan and in a manner satisfactory to the Bank. | | | |
| Name | Recurrent | Due Date | Frequency |
| Municipal contracts with PIMO under Part 2 of the Program | X | | Continuous |
| Description of Covenant | | | |
| The Borrower, through PIMO, shall enter into a contract with each municipality that is authorized to renovate a public building or public buildings located in the respective municipality and approved for renovation under Part 2 of the Program. | | | |
| Conditions | | | |
| Name | | Type | |
| Disbursement linked results for Part 2 of the Program | | Disbursement for Part 2 of the Program | |
| Description of Condition | | | |
| For DLIs 5-7, no withdrawals shall be made until the Borrower has furnished evidence satisfactory to the Bank verifying that the Program Operations Manual for Part 2 of the Program has been achieved in a manner acceptable to the Bank (under DLI 4). | | | |
| Team Composition | | | |
| Bank Staff | | | |

| Name | Title | Specialization | Unit |
|-------------------------|-------------------------------------|-------------------------------------|-------------|
| Rakesh Tripathi | Sr. Transport Specialist | TTL (ADM) | GTI03 |
| Jas Singh | Lead. Energy Specialist | Co-TTL | GEE03 |
| Katharina Gassner | Sr. Energy Economist | Energy Sector Reform and Regulation | GEE03 |
| Victor Aragonés | Sr. Transport Economist | Transport Policy | GTI03 |
| Svetlana Vukanovic | Transport Specialist | Road Maintenance and ITS | GTI03 |
| Hunt La Cascia | Sr. Procurement Specialist | Procurement | GGO03 |
| Nikola Ille | Sr. Environmental Specialist | Environmental Safeguards | GEN03 |
| Bekim Imeri | Sr. Social Development Specialist | Social Safeguards | GSU03 |
| Aleksandar Crnomarkovic | Sr. Financial Management Specialist | Financial Management | GGO21 |
| Lisa Lui | Lead Counsel | Lawyer | LEGLE |
| Luis Schwarz | Sr. Finance Officer | Finance Officer | WFALN |

| | | | |
|-----------------------------|--|---------------------------------|-------|
| Simon David Ellis | Program Leader | Peer reviewer | ECCWB |
| Gregoire Gauthier | Senior Transport Specialist | Peer reviewer | GTI04 |
| Feng Liu | Senior Energy Specialist | Peer reviewer | GEE03 |
| Gailius Draugelis | Lead Energy Specialist | Peer reviewer | GEE06 |
| Maria Ayuso Olmedo | Young Professional | Energy Specialist | GEE07 |
| Jasna Vukoje | Portfolio Analyst | Operational Policy | ECCYU |
| Desanka Stanic | Program Assistant | Program Assistant | ECCYU |
| Andoria Indah Purwaningtyas | Program Assistant | Program Assistant | GTI03 |
| Non Bank Staff | | | |
| Name | Specialization | | |
| Aleksandar Durkovic | Energy Efficiency Specialist, Consultant | Technical Assessment, Energy | |
| Branko Bajatovic | Transport Specialist, Consultant | Technical Assessment, Transport | |

I. STRATEGIC CONTEXT

A. Country Context

1. The Republic of Serbia is an upper middle income country with a Gross National Income per capita of US\$5,041 and a population of 7.1 million. After an average annual growth of 5.9 percent during the decade before the 2008 global financial crisis, economic growth stalled, reversing some of the progress made in earlier years. Average real growth dropped to close to zero as the economy experienced three recessions from 2009 to 2014. Public debt doubled to 76 percent of GDP between 2009 and 2015. At the same time, the stock of public guarantees, mainly to state owned enterprises (SOEs) and public enterprises, rose from below 3 percent of GDP in 2008 to 7.2 percent by the end of 2015. Subsidies, high levels of public sector employment, inefficient human resource management and weaknesses in financial management all contributed to Serbia's fiscal challenges. In 2014, the Government of Serbia (GoS) adopted an ambitious fiscal consolidation and structural reform program. The program is supported by a 36-month Standby Arrangement with the International Monetary Fund (IMF). In the short term, the program focuses on the control of aggregate wage and pension expenditures, improvements in tax administration, and reductions in subsidies to state owned enterprises. As a result of these measures, general government deficit in 2015 was 3.7 percent of GDP and in 2016 went further down to reach 1.4 percent of GDP.

2. As a result of the global financial crisis, poverty peaked at 15.1 percent in 2010 but then dropped to 13.6 percent in 2016 due to the recent economic recovery and labor market trends. In addition to improvement of public finances, Serbia has made progress towards its European Union (EU) membership. The prospects for EU accession are providing an important impetus for reforms in the Serbian public sector. In November 2007, Serbia initiated a Stabilization and Association Agreement with the EU and in 2012, Serbia was granted EU candidate status. Since the formal start of accession negotiations in 2014, progress is moving largely on its predicted trajectory. As of July 2017, Serbia opened 10 out of 35 chapters of the EU's *acquis communautaire*. Serbia has set an objective of being ready to enter the EU by 2020.

B. Multi-sectoral and Institutional Context

3. *Infrastructure in Serbia remains largely outdated due to decades of under-maintenance and underinvestment.* These aging infrastructure systems, including in the transport and building sectors, have resulted in substantial loss of economic productivity, reduced safety and often higher budgetary outlays. The deteriorating infrastructure has been identified as a critical factor that increasingly weighs heavily on budget resources, threatens the delivery of critical services necessary to support growth, and discourages private sector investment.

4. Inadequate performance by the public sector and the limited use of modern technologies and methods in Serbia have adversely impacted the management of infrastructure and contributed to the deterioration in its quality. Public sector performance in Serbia is ranked 132nd by the 2016-17 Global Competitiveness Index (GCI), significantly worse than Serbia's overall competitiveness ranking of 94. Serbia also ranks low in the availability of the latest technologies (107th) and in the government's procurement of advanced technology (110th). Taken in aggregate, these indicators clearly show that improving and modernizing public sector management of infrastructure, Serbia's most valuable asset base, could have significant impacts on enhancing the efficiency of expenditures in the sector and in improving quality.

5. GoS recognizes the need to modernize the management of its infrastructure sector and has requested World Bank support in two infrastructure sectors with high asset values: roads and buildings. The aim is to improve the quality of maintenance practices for national roads and refocus the programs on outcomes rather than budgetary inputs. For buildings, this aim is institutional and operational support for a national, large scale program to renovate the public social building stock and increase its energy

efficiency and safety. As such, this Program-for-Results would continue the WB's involvement in the infrastructure sector by improving the management of the transport and energy infrastructure and service delivery while seeking concurrent enhancements in public institutional capacity and long-term sustainability of the sectors.

6. GoS sent a strong signal for its desire to improve infrastructure management in two key sectors by creating a single budget line for a multi-sectoral project. This shows the intention of the government to elevate the focus from isolated energy efficiency or road maintenance efforts to improving infrastructure management systems. A PforR supports this effort by including institutional building actions in the public administration principles (PAP) and by providing technical assistance in the implementation of more innovative practices.

7. **Transport Sector:** Serbia is at the cross-roads of South East Europe and its road network is expected to be a major contributor of continued economic growth in the region. As per the 2016–2017 Global Competitiveness Report, out of 138 countries, Serbia ranked 115th on the quality of roads. The road network in Serbia is a major asset that extends for about 38,600 kilometers of which a little over a third are national roads and two thirds are local roads. While limitations in financial resources and stability of financing are two major reasons for the condition of the network, institutional arrangements for road management also contribute to the unsatisfactory outcomes in the sector. The poor quality of roads manifests itself in high vehicle operating costs and inadequate road safety, and reduces Serbia's overall trade competitiveness.

8. Under the current structure, the Ministry of Construction, Transport and Infrastructure (MCTI) is responsible for policy; while the Public Enterprise "Roads of Serbia" (PERS), under MCTI, is responsible for construction, maintenance, operation and management of the national roads. The sectoral context 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).

9. **PERS maintains and rehabilitates the National Road Network (about 15,000 km) and highways (600 km).** The main revenue source for these activities is a closed tolling system on the national highways. This is supplemented by discretionary financial support from the general budget and loans from International Financial Institutions (IFIs). Prior to 2012, PERS used to receive 20 percent of the excise tax on fuel but did not receive any additional budgetary support. On balance, the current discretionary budgetary support is lower than what PERS used to receive from the excise tax.

10. **PERS budget has been insufficient to meet the annual needs resulting in a large maintenance backlog.** In 2008, the level of expenditures for maintenance were about €315 million, this amount dropped to €194 million in 2010 and to €168 million in 2011. Expenditures for maintenance were reduced further and were stable in the past 3 years at slightly more than €150 million. It is important to note that previous maintenance funding is well below what is needed to keep road system at a good state of repair. In 2008, the World Bank estimated that annual investment levels to adequately address routine, periodic and backlog maintenance needs is about €500 million, at least €350 more than what was invested in the last three years. Consequently, the maintenance funding shortfall is increasing the maintenance backlog as time passes.

11. Besides inadequate funding for the National Road Network, asset preservation management and contracting practices remain inefficient and in need of modernization. Competitive tendering of maintenance works is not used. All the companies still operate in the same region for which they were responsible (a total of about 26 regions) before privatization through annual extensions of their contracts. The contract model for road maintenance was developed in 1992 and is based on unit rates set by PERS.

12. PERS, as the entity responsible for national road management, has recognized that improving the condition and reliability of the road network requires: (1) addressing the maintenance backlog which has resulted in massive needs for rehabilitation, (2) modernizing maintenance management and ensuring

sufficient funds for preserving road assets, (3) strengthening the institutional arrangements for the road sector and (4) increasing the resilience of the road network. The World Bank is supporting the GoS in all four areas.

13. **Rehabilitation:** To address the maintenance backlog and improve the overall quality of the national road network, the Government embarked on an IFI-supported National Road Rehabilitation and Safety Program (RRSP). The first phase of RRSP is rehabilitating and enhancing the safety of about 1,125 kilometers of road sections. This project is being implemented with the financial support of several IFIs over the next five years at an estimated cost of €400 million.

14. **Modernizing maintenance practices:** In RRSP, the Bank is using disbursement linked indicators to incentivize the use of performance-based maintenance contracts.¹ The PforR would build on the activities under RRSP.

15. **Strengthening the institutional arrangements:** A reform plan prepared under the Corridor X Highway project identified areas for institutional reform. Several of the proposed recommendations have been implemented but some key reforms are still pending. One of the critical actions for improving road sector management is a Service Level Agreement (SLA) between MCTI and PERS. An SLA would define the required levels of service and performance for the networks and the associated sources of funding committed to achieve agreed levels. The Bank is supporting the implementation of this agreement through a Development Policy Loan (DPL) for Public Expenditure and Public Utilities.

16. **Enhancing climate resilience in transport in the Western Balkans.** The Bank has embarked on an advisory service and analytics (ASA) activity focusing on improving and institutionalizing resilience in the design and implementation of transport infrastructure.

17. The World Bank is partnering with European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB) and European Union (EU) delegation to Serbia, the EC and the IMF in the financing and/or support in the implementation of the different road sector reforms.

18. **Energy Sector:** Serbia remains an energy and carbon intensive country. While the energy intensity has declined by 19.2 percent since 2005, it is still four times higher than the average for EU-28 countries (486.1 vs. 120.4 kgoe/€1,000).² Further, the energy consumption per capita is 38.4 percent lower than the EU-28 countries' average (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 average (0.46 kg CO₂/US\$ 2010 PPP vs. 0.18). Much of these inefficiencies are due to a chronic lack of investment in the energy and infrastructure sectors, its aging and inefficient building stock and the prevalence of inefficient technologies in factories and households across the country.

19. To address the challenges related to its high energy and carbon intensity, the GoS has made energy efficiency a cornerstone of its energy strategy. It has adopted the Law on Efficient Use of Energy in 2013 to provide the legal basis for energy efficiency measures under its National Energy Efficiency

¹ Under the performance-based maintenance contract (PBMC) approach to road maintenance, the contractor assumes responsibility for managing the condition of the road assets to ensure that a pre-set level of performance is achieved. The road owner specifies what needs to be achieved rather than how to achieve it. This incentivizes the contractors to adopt measures that improve the condition of the road asset for the duration of the contract rather than ad-hoc repairs. In return for the delivery of an agreed level of performance, the contractor receives a schedule of payments. The PBMC approach provides a financial incentive for the contractor to focus on achieving the performance standards. It also incentivizes the contractor to be innovative and minimize waste because the payments are based on a set level of performance rather on the value of inputs used.

² Eurostat, <http://ec.europa.eu/eurostat/data/database>

Action Plan (NEEAP). In line with the obligations of the Energy Community to comply with the Directive 2006/32/EC, the GoS adopted the 3rd 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.

20. The building sector (residential, public and commercial) continues to dominate energy consumption, representing 45 percent of final energy use (Table 1). With some 245 million square meters (m²) of gross floor area, comprising an estimated 2.2 million residential buildings and 15,000 public facilities³, Serbia's building stock is large. About 15 percent of this stock was built between 1918 and 1941 or earlier, and about 32 percent was constructed between 1945 and 1970—making about half of the building stock over 50 years old. About 41 percent of the public building area (~11 million m²) are in the education sector, 14 percent (4 million m²) in the health sector and the remaining 44 percent (~1,641, 4 million m²) in administrative and other public buildings⁴. There is no official breakdown of central and municipal government buildings; however, the Ministry of Mining and Energy (MME) is heading a working group to develop a registry on central government buildings to be finalized by the end of 2017. The age of the building stock, combined with obsolete construction practices that did not include energy efficiency elements, decades of under-maintenance and chronic underinvestment, result in a need for massive investments to upgrade these facilities to meet modern requirements for safety, energy efficiency and modern usage standards. Although energy consumption in public buildings represents only about 4 percent of the total consumption, energy savings and corresponding GHG reductions in this sector can have a catalytic effect by developing the market and leading by example

Table 1. Energy consumption by sector in 2015 (ktoe)

| Sector | Energy consumption | Percentage |
|------------------------------|--------------------|------------|
| Industry | 2,304.7 | 28.2 |
| Transport | 2,038.5 | 25.0 |
| Residential | 2,832.1 | 34.7 |
| Service Sector (incl public) | 839.6 | 10.3 |
| Agriculture and Forestry | 152.4 | 1.9 |
| Total | 8,167.2 | 100.0 |

Source: Eurostat, <http://ec.europa.eu/eurostat/data/database>

21. **Several barriers for energy efficiency have prevented scale-up.** Current planning documents in education, healthcare and social protection sectors usually do not include statistics on age and physical condition of the facilities, nor do they make any assessment of the financial resources needed for reconstruction or regular maintenance. Although managers and directors of the facilities prepare annual budget plans to include some of these investments, budgetary constraints often only allow for relatively modest repairs and minor maintenance works. To date, annual budget allocations at federal and municipal

³ 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 the Statistical Office of the Republic of Serbia (SORS), central government and public utilities, and on Energy Savings International (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.

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

level have been grossly insufficient to address the backlog of required investments. In addition, several other policy, financial, institutional and informational impediments have discouraged investment in energy efficiency in public buildings in Serbia, including:

- (a) *Energy pricing.* While electricity prices are generally cost-reflective, they are 10-20 percent below regional costs, reflecting the lower cost generation mix in Serbia. District heating prices are set by municipalities based on supply costs, although despite this, many of the utilities remain under financial distress due to systemic problems. Other fuels (gas, fuel oil, wood, coal, pellets) are generally based on market prices, although they often do not include environmental externalities.
- (b) *Financing.* Despite the large energy savings potential, the lack of appropriate financing is a main barrier to energy efficiency investments for public buildings. The investments are often limited due to restrictions on public and municipal borrowings, poor creditworthiness or even lack of borrowing history, inability to collateralize loans and an unclear ownership of energy cost savings. In addition, the small nature of these dispersed investments lead to high transaction costs.
- (c) *Institutional and regulatory framework.* The institutional and implementation mechanisms for energy efficiency remains weak. The Serbian Energy Efficiency Agency was abolished in 2012 with the key functions taken over by MME, which is in-charge of energy efficiency policy development, implementation and monitoring and has an Energy Efficiency Department with few staff. The government does not have a separate document that clearly articulates a strategy to renovate its full public building stock. There also remains a lack regulatory clarity on issues related to public procurement and budgeting, although adherence to the EU energy policy has improved the situation.
- (d) *Data.* A lack of proper building data, energy consumption and baseline data, savings potential and general awareness collectively hamper interest and investment in energy efficiency. Potential project sponsors and public entities often lack the capacity to develop high quality, bankable energy efficiency investment proposals, are skeptical of the baseline energy consumption, or have lower baselines (i.e., comfort levels or internal heating below national norms).

22. ***The previous World Bank-financed Serbia Energy Efficiency Project (SEEP) (2004-13), which included the renovation of 82 public buildings, helped introduce energy efficiency in the market and demonstrate the benefits.*** While the project was largely considered a success in creating implementation capacity within the government and awareness about the benefits of energy efficiency, it was unfortunately not sustainable as the project implementation unit created within MME was not retained and thus no further investments were made. It was also observed that the pace of implementation, renovating less than 1 percent of the public building stock in seven years, would not be sufficient to address the estimated 16,000 public buildings within a reasonable period of time. Before the project's closure, the World Bank team discussed options with the government for a more sustainable and scalable approach which included the introduction of an Energy Efficiency Revolving Fund. However, at the time, the Ministry of Finance was not willing to establish a new public institution for this purpose. Still the program design builds upon SEEP in several important ways: (i) this is a programmatic approach initiated by the GoS on its own; (ii) no project implementation unit will be created as PIMO is fully staffed, thereby reducing the risk of losing project-based staff; (iii) the program utilizes a more decentralized implementation model, with municipal procurement and management, which can increase the pace and scale of implementation; and (iv) the GoS contribution to the program is about 50 percent (versus about 4 percent under SEEP).

23. The government and several donors are active in the area of energy efficiency. MME operates a Budgetary Fund for Energy Efficiency since 2014 (with about €1.5 million per year) which has cofinanced 39 projects in municipalities to date. KfW, through the Ministry of Education, has an ongoing

€15 million investment program to renovate about 30 schools and has expressed interest to support the new program in future phases. EBRD has an ongoing regional program, the Western Balkans Sustainable Energy Financing Facility, which provides credit lines to Serbian banks to support on-lending to private companies and municipalities for EE and renewable energy investments. However, to date, no municipal investments have been approved. The investment projects are complemented by several ongoing technical assistance (TA) activities, including TA coordinated by GIZ (public building typology), IFC (support to Belgrade on district heating and setting-up of a municipal energy efficiency fund), and UNDP (municipal energy efficient procurement, energy management systems).

C. Relationship to the CPF and Rationale for Use of Program-for-Results Instrument

24. ***Infrastructure is one of the six areas identified in the Country Partnership Framework (CPF) for FY 2016 - 2020.*** Better regional connectivity through infrastructure development is essential to boost investment and growth in Serbia. The WBG has been heavily engaged in infrastructure development, both through investment support to highway and national road construction, improvements in road and rail sector management systems and support to energy sector reforms and rehabilitation. The CPF notes that improved efficiency in spending, better quality maintenance of infrastructure, and improved prioritization of public investments need to be pursued. Furthermore, the CPF notes that engagement in infrastructure development will be continued in close coordination and cooperation with other international bodies (i.e., IFIs and the EU).

25. The Program-for-Results instrument selected for this operation will support the improved delivery of public services and management of assets in the form of rehabilitation of public buildings and road maintenance. The CPF encompasses this subject under Focus Area 1: Economic governance and the role of the state. This area covers removing constraints to the effectiveness of economic governance which in turn are grouped in: the size and management of the budget, the scope and capacity of the administration to implement reform and deliver services, the footprint of the government in the economy, and the performance of public utilities. Therefore, there is a close alignment between the proposed operation and the choice of instrument with CPF Focus Area 1.

26. ***Climate change and disaster risk mitigation are also present in the rationale of the operation.*** Climate risk mitigation, through climate change mitigation and resilience, is an increasingly important part of Serbia's development agenda. In the medium term, the operation will support mitigation by reducing energy use and corresponding reductions in greenhouse gas emissions. Reduced energy use, the rehabilitation of the existing infrastructure and improved maintenance practices will also help Serbia become less susceptible to energy supply risks while making the road and building infrastructure more resilient to possible changes in climate conditions.

27. Convergence is strong between priority areas and the standards that Serbia has to meet for joining the EU, including in terms of adherence to the 'Acquis Communautaire' in the policy areas of energy and transport. The priorities set out are also reflected in the National Economic Reform Strategy 2015. The economic reform program places, amongst other, strong emphasis on the more effective use of public resources, including the reform of public service delivery systems, strengthening public financial management and public investment management. Serbia has also aligned its legal and regulatory framework with relevant energy and energy efficiency EU Directives and established a suitable institutional framework to support the development of necessary secondary legislation, programming and achievement of its energy efficiency targets.

28. Program for Results (PforR) financing is more suitable for this operation because: (i) the operation supports ongoing government programs in infrastructure rather than the implementation of a few large investments and (ii) the Bank can add value to improve the overall efficiency, effectiveness and sustainability of program implementation, including enhancement of institutional capacities and implementation procedures. DLIs are used to incentivize the implementation and the strengthening of select government programs in infrastructure. The programs also have tangible and measurable results

which are fully aligned with the country's energy savings and GHG emissions reduction targets and commercialization of road maintenance practices.

29. ***Rationale for Bank Involvement-Transport:*** Serbia has a well-defined roads maintenance program administered by PERS. However, the program is underfunded and contracts are not tendered competitively. In addition, there is an absence of a programmatic results-oriented approach to maintenance. The Bank started supporting such an approach through technical work to mainstream Performance Based Maintenance Contracting (PBMC) in the road sector under the Transport Rehabilitation Project (TRP); followed by the use of disbursement-linked indicators (DLIs) in RRSP to encourage the expansion of PBMC use. In coordination with the Bank, the EU provided financing for the preparation of a PBMC for 3000 kilometers of the National Road network. A PforR would help scale up and incentivize the establishment of PBMC as the preferred way of maintaining and preserving the roads of Serbia and complete institutionalization of PBMC. The Bank has experience in implementing successful PforR 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.

30. ***Rationale for Bank Involvement-Energy:*** 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, Lithuania, Montenegro, Poland), which can contribute to strengthening this Program and help enhance processes and procedures, increase technical quality, improve monitoring and reporting systems, and better ensure sustainability. Bank 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 is also envisioned to improve implementation capacity to comply with national standards and procedures, technical oversight and fiduciary and safeguard aspects. Given the tremendous needs for public building investments and limited scope offered by a traditional IPF, a PforR would have the best opportunity for scale, since this would be a national program.

31. ***Alignment with the Bank's maximum finance for development principles.*** Maximizing finance for development by leveraging the private sector and optimizing the use of scarce public resources (the "cascade") is a high priority for the Bank. While private sector involvement is a core element of the program through the performance-based maintenance contracts for roads and design and construction works for building rehabilitation and the program includes elements to further strengthen their capabilities, current conditions do not support private sector solutions that limit public debt and contingent liabilities at this stage. This situation is quite typical for a lot of infrastructure programs that do not directly generate revenues from users but are financed through the government budget. This is the situation for most national roads, local roads and for rehabilitating buildings and enhancing their energy efficiency.

32. The maintenance of the national road network, is largely a public good which is financed by the public sector and general toll revenues from motorways. As such attracting private financing to these activities is not currently feasible. However, under the Bank-supported Corridor X Highway Project, an ongoing technical assistance is developing options for the financial sustainability of the national road network that considers user charges such as electronic tolling and vignette systems. Once these financing mechanisms are in place, it becomes feasible to implement private sector solutions that utilize user charges to finance the maintenance of a proportion of the national road network. Moreover, the shift in the maintenance approach from traditional methods where payments are based purely on inputs (such as sand, gravel, asphalt) to outcome-based methods linking payments to the condition of road, and the 3-year duration of such contracts will attract more established private sector contractors to the sector further increasing the sector's efficiency and reducing the need for budgetary resources.

33. For the buildings sector, renovation of the most dilapidated buildings in smaller municipalities is very challenging—projects are small, there are often no budgetary savings for structural investments, these LSGs are not creditworthy or have low debt capacities, etc. However, the proposed development of a medium-term strategy has been agreed to develop a more sustainable approach for the broader public building stock based on market principles and a path to commercial financing, such as the introduction of energy efficiency revolving funds, supplier credit and leasing, commercial bank loans, and energy service companies (ESCOs).

II. PROGRAM DESCRIPTION

A. Government programs

34. Serbia has pursued a comprehensive reform agenda including public enterprises and SOEs, and improving the business climate. It has made significant progress on fiscal consolidation in part due to the ongoing expenditure control. The government has embarked on institutional reform programs toward fiscal sustainability and improving public services. Among the key priorities are reforming the public administration, and strengthening public investment management. Ongoing reforms of SOEs especially in the mining, energy, and transportation sectors are intended to minimize fiscal risks and place viable companies on a pace of financial sustainability.

35. Towards enhancing infrastructure management, GoS has created a single budget line in its 2017 Budget for a multi-sectoral project to improve the efficiency, quality and sustainability of infrastructure systems. The focus of the government programs has been the road sector and the building sector, two sectors with large asset bases. Modernizing public sector management in these sectors could have significant impacts on enhancing the efficiency of expenditures and on further controlling costs. The following sections therefore focus on the government programs in roads and energy efficiency for public buildings

36. **Transport Sector:** PERS, has identified 4 priorities for improving the condition and reliability of the road network: (1) addressing the maintenance backlog (2) modernizing maintenance management, (3) strengthening the institutional arrangements for the road sector and (4) increasing the resilience of the road network. The WB is supporting the GoS in all four areas. The focus of this activity will be improving maintenance practices.

37. Modernization of maintenance management is a clear priority for PERS. This is the focus of the transport part of this Program loan. PERS is taking steps to modernize maintenance management. The current framework has been in place since the mid-2000s when the regional maintenance companies were privatized. The shortcoming of the first reform is that there has been no introduction of competitive bidding for maintenance works. All the maintenance companies still operate in the same “region” for which they were responsible before privatization through annual extensions of their contract. PERS’s contract model for road maintenance was developed in 1992 and is based on unit rates set by PERS. Competitive bidding for maintenance contracts is not being used.

38. In order to improve maintenance practices and increase the efficiency of the sector, GoS requested assistance from the EU and the Bank in mainstreaming PBMC in Serbia building on the earlier successes in Macva and Kolubara which resulted in financial savings of up to 40 percent. The Bank has continued to support GoS in the introduction of PBMC through the RRSP where it is using DLIs for road rehabilitation that support use of PBMC in line with MCTI plans. In addition, the EU provided financing for the preparation of PBMC for an additional 3000 kilometers of the national road network. The tender

documentation for these 3000 kilometers was completed in April 2017. As can be seen, there have been multiple efforts on the subject and this operation will build on the progress in maintenance management.

39. **Energy Efficiency:** 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 (hereafter referred to as the “government program”) in April 2016, revised October 2016.⁵ The government designated Public Investment Management Office (PIMO) to implement the government program.⁶ The main aspects of the government program are summarized below:

- A. *Government program scope.* The government program is open-ended and covers all municipal-level social buildings (including education, healthcare and social protection facilities) in need of reconstruction. Works covered under the program include improvements of the building envelope (roof, windows, doors and wall insulation), internal equipment (lighting, fuel switching such as coal/oil to pellets/wood chips, solar hot water heaters) as well as some non-EE measures (structural reinforcement, sanitary repairs, rewiring, painting, etc.). According to PIMO estimates, 70-80 percent of the works to be undertaken can be categorized as EE improvement measures.
- B. *Implementation model.* The program is administered by PIMO. While the program relies largely on a decentralized implementation model with municipalities responsible for procurement and management, PIMO retains a critical role for final approvals and technical oversight. Municipalities select buildings from education, healthcare and social protection sectors and prioritize them based on the urgency of the need for renovation and lack of access to financing from other programs. They are responsible for the costs associated with the technical designs, bidding documents, construction supervision and commissioning; the Program bears 100 percent of the costs for the renovation works.
- C. *Eligibility and selection.* A call for proposals was issued by PIMO in May 2016 to all municipalities requesting them to provide a list of priority buildings for participation in the government program, based on criteria set by PIMO. These include 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.
- D. *Technical aspects.* As required under current regulations, all buildings to be renovated must have technical designs including an EE elaboration to meet basic building code parameters (e.g., fire safety, operational permits). The government program seeks to reach Class C for all buildings, except those for which it is uneconomic or other constraints to do so (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 (i.e., from Class F to Class D).⁷
- E. *Status.* To date, 234 buildings have been officially approved by the government for renovation under the government program, based on municipal priorities, satisfaction of the eligibility criteria set by PIMO, and review by a Working Group (WG) comprising

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

⁶ 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.

⁷ The Serbian transposition of the European Energy Performance in Buildings Directive (EPBD) stipulates that the energy consumption of Class C for existing buildings should be 39-75 kWh/m² in the education sector and 61-120 kWh/m² in the healthcare and social protection sectors.

representatives of key ministries. About 30 are already under construction or completed, 50 are in the works tendering phase and the rest are finalizing their designs.

40. It is evident that the need for improved management and enhanced efficiency is essential for both of these infrastructure sectors that account for a significant proportion of Serbia's capital assets.

B. Program Development Objective/s (PDO) and key results

41. The Program Development Objective is to improve the management and sustainability of select public infrastructure by strengthening government capacity and systems, upgrading assets, and increasing expenditure efficiency.

42. For the transport component, the goal of the government is the substantial implementation of *Performance Based Maintenance Contracting (PBMC) by 2020*. This transition from traditional maintenance to PBMC will bring better planning, contracting and fiscal discipline in the Public Enterprise Roads of Serbia. For the energy component, the Program will 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.

Key Program Results

43. Key Program results indicators would include:

For the transport sector:

- 1) Enhanced motorist satisfaction through better pavement condition.
- 2) Implementation of the Service Level Agreement (SLA) between the MCTI and the Public Enterprise Roads of Serbia (PERS) defining agreed maintenance service levels and the commensurate financing to ensure financial sustainability of the maintenance programs.

For the energy sector:

- 3) Projected lifetime energy savings (core) in renovated buildings.
- 4) Number of renovated buildings that meet Serbia's Class C energy performance (or at least two classes higher than the baseline) and receive a final acceptance report.

C. PforR Program Scope

44. **Transport:** The government program is the routine and periodic maintenance⁸ of 14,894 km of category 1 and 2 National roads under the management of Public Enterprise Roads of Serbia (PERS) annually. The government program is implemented under the government's Road Development and Maintenance Strategy, which is harmonized with the Strategy for Development of Railway, Road, Water, Air and Intermodal Transport in the Republic of Serbia.

45. The Bank's PforR operation supports the maintenance of a total of 8,000 km of the government program over the period 2017 to 2020. The aim of the PforR operation is to ensure system preservation and substantial implementation of modern maintenance approaches in Serbia, namely: the Performance Based Maintenance Contract (PBMC). The PforR operation will start by supporting 1000 km in the first year following the traditional (existing) contractual approaches to maintenance while ensuring that certain performance standards are observed. In the second year, the Bank operation will support 2000 km following an enhanced approach to maintenance contracts (traditional maintenance with performance

⁸ Routine and periodic maintenance are defined as per article 58 and 59 of the Serbian Roads Act.

standards). The PforR operation culminates in year 3 in with the beginning of the implementation of 3-year contracts covering 5000 km exclusively using PBMC. This will ensure gradual building-up of the required institutional capacity driven by key principles such as efficiency, accountability, and transparency. This will help PERS evolve as the sector evolves, in order to manage road assets under a results oriented environment focused on client satisfaction.

46. Under the PBMC approach to road maintenance, the contractor assumes responsibility for managing the condition of the road assets, typically for 3-5 years, to ensure that a pre-set level of performance is achieved. The PBMC approach shifts the planning and delivery risks from the road owner to the maintenance contractor. The road owner specifies what needs to be achieved rather than how to achieve it. This incentivizes the contractors to adopt measures that improve the condition of the road asset for the duration of the contract rather than ad-hoc repairs. In return for the delivery of an agreed level of performance, the contractor receives a schedule of payments. The PBMC approach provides a financial incentive for the contractor to focus on achieving the performance standards. It also incentivizes the contractor to be innovative and minimize waste because the payments are based on a set level of performance indicators rather on the value of inputs used. This approach and the longer-term contract duration will maximize private sector competition and introduce professional management practices, while providing a better customer experience to the travelling public.

47. The Bank’s transport component of the Program focuses on improving management practices in the road and building sectors by supporting nation-wide government programs in these two areas.

48. As described in Table 2, the Bank’s support in transport focuses on improving road maintenance management practices gradually introducing modern concepts and shifting the focus form inputs to outcomes. It culminates with the implementation of PBMC for 5000 km of the national road network. This does not include an additional 3000 km of network that is being prepared for tender under the auspices of EU Delegation to Serbia under PBMC. The tendering of the 3000 km is a DLI under the Bank supported RRSP. The PforR operation builds on this initiative and seeks to institutionalize the PBMC practice in Serbia.

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

| | | |
|-------------------|-------------------------|---|
| Year 1 2017-18 | Traditional Maintenance | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 1000 km using existing maintenance procedures. The contracts executed would ensure, as a minimum, that during the Project implementation period no potholes remains open, no edge break occurs between the pavement and the shoulders and that all horizontal marking and vertical signs are adequately restored, in order to comply with the most critical road safety requirements. The continuing maintenance will ensure system preservation and structural sustainability of the network’s state of repair. This will help change the mindset of PERS from a traditional approach based on payments for inputs to one that considers outcomes. |
|-------------------|-------------------------|---|

| | | |
|-------------------|--|---|
| Year 2 2018-19 | Transition Year: Enhanced Maintenance (Traditional Maintenance + Performance standards) | <ul style="list-style-type: none"> ▶ Bank Support: Preparation and signature of the Service Level Agreement (SLA) to ensure long term financial predictability and sustainability to address maintenance needs in Serbia. ▶ Bank Support to PERS to maintain 2000 km of network using enhanced maintenance (Traditional maintenance + Performance Standards). The contracts executed will ensure a clear set of performance standards, that would result in increased efficiency in maintenance operations and a predictable state of repair to ensure enhanced motorist satisfaction. ▶ PBMC tendered and contracts awarded for an additional 5000 km.⁹ |
| Year 3 2019-20 | Substantial Implementation of the Performance Based Maintenance (PBMC) | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 5000 km of national network using PBMC. These contracts will be for a duration of three (3) years, where bank support will be limited to the first year of implementation (where the sustainability of future years funding will be defined by the Service Level Agreement signed between PERS and the MCTI). The quality and service levels will also be defined by the SLA. |

49. The progression to, and institutionalization of, a full-fledged performance-based maintenance program is founded upon three key elements – a Service Level Agreement (SLA) between MCTI and PERS, Rolling Performance Based Maintenance Plans and Asset Management Plans. These three components interlink to each other very closely and establish the terms of involvement for each of the agencies or organizations that have a role in road maintenance.

50. **Service Level Agreement.** A SLA will be a multi annual infrastructure contract between the GoS and PERS. The SLA will be the centerpiece for the GoS’ policy towards the sustainable financing of public road network. It will define the level of GoS’s support for the activities of maintenance, rehabilitation and upgrades of national roads. Under this long-term commercial agreement between MCTI and PERS, PERS will be given details about the level of fiscal support over a certain period (typically 3-5 years), the road performance level (i.e., quality) to which the infrastructure will have to be maintained, and the incentives for better performance. The SLA articulates these long-term commitments to ensure all agencies understand the terms of performance and produce the best outcome possible.

51. **Rolling Performance Based Maintenance Plan.** PERS will develop a Rolling Performance Based Maintenance Plan to address SLA commitments. The Performance Based Maintenance plan will be a key in-house planning and business management tool to help achieve the agreed SLA targets. The funding levels for the period 2018-2020 will be set by MCTI and the Ministry of Finance (MoF). In turn, PERS will be directly responsible for a number of key decisions that impact its operational and financial performance. PERS will adjust its maintenance activities to a level consistent with traffic levels. This approach will allow scarce funds to be used more optimally as prioritized roads receive the pertinent levels of maintenance. In addition of PERS’ Performance Based Maintenance plan being in line with SLA, it will also be consistent with PERS’ Long-Term and Medium-Term Business Strategy and Development Plan 2017-2027, and updated annually as part of the PERS annual business plan.¹⁰ Once developed it will articulate the commercial management strategy along the three primary objectives: (i) link infrastructure requirements to usage; (ii) minimize road maintenance cost; and (iii) establish core activities.

⁹ PBMCs for 3,000 km are currently being tendered. The 5,000 km are in addition to the 3,000 km.

¹⁰ PERS Medium-Term Plan is the medium-term plan of business strategy and development for 2017-2021, adopted by PERS’s Supervisory Board and approved by Government Decision, all pursuant to the Law on Public Enterprises. Also, PERS annual business plan is the annual business plan, adopted by PERS’s Supervisory Board on an annual basis, that is harmonized with PERS’s long-term and medium-term plans of business strategy and development and approved by Government Decision, all pursuant to the Law on Public Enterprises.

52. **Asset Management Plan.** An asset management plan will provide information about how PERS will integrate management, financial, economic and engineering practices to utilize its physical assets. The asset management plan will have the objective to provide the users with the optimal level of infrastructure service and in the most cost-effective manner. Asset management thinking will challenge managers to optimize output, by achieving the best or most appropriate trade-off between competing factors such as performance, cost, and risk. The key objectives of implementing asset management in PERS include: (i) cost-effectiveness in infrastructure construction, preservation, operation, and reinvestment; (ii) value-for-Money in the delivery of road infrastructure, that would include professional value engineering for large investments; and (iii) transparency and accountability.

53. The elements delineated above will provide the right context for the management of PERS's activities on network development and PBMC contracts. From the start, when the SLA is established as the prime reference point and lever for future decision-making to the implementation when the key strategic message is conveyed across PERS, the three components need to be consistent and all organizations need to be aware that activities will rely more heavily on these documents, providing a clear target as it pertains to road maintenance performance and clarifying the role of each of the entities involved.

54. **Road Program Financing:** The PERS road maintenance program (Table 3) will be financed predominately (80%) by Toll revenues for the period 2017-2019. The balance of 20 percent will be financed through the government budget reflected as a budget line item in the national budget passed by the parliament. This line item refers to the Government program in road maintenance. The P4R operation is projected to finance about 12 percent of the total Government program.

55. The Toll revenue performance has exceeded PERS expectations and is expected to perform well in the future, especially once the highway corridors under construction are completed late next year. PERS is also undertaking an Electronic Tolling (E-Tolling) study financed through the Corridor X Highway Project to eventually enhance the revenue possibilities from the network. The potential cost savings from PBMC (24% saving achieved in the pilot projects), combined with current toll revenues puts PERS on a firm financial footing. In addition, the future implementation of E-Tolling would potentially result in significant additional revenues (as seen in neighboring countries in Europe). This robust financial standing will provide the basis for the SLA between the PERS and GoS to provide predictable and sustainable funding to successfully implement multi-year PBMC contracts.

Table 3. Proposed Financing for the Routine and Periodic Maintenance Program of the National Road Network- 2017-2019 (in million €-unless otherwise indicated)

| Calendar year | Total Government Maintenance | Government Budget | PERS own resources (Toll revenues) | Bank Support | | Total Available for Road Maintenance |
|---------------|------------------------------|-------------------|------------------------------------|--------------|---------------------------|--------------------------------------|
| | | | | (€) | (% of Government Program) | |
| Year 1: 2018 | 162.5 | 22.5 | 140 | 15 | 9.2% | 177.5 |
| Year 2: 2019 | 167.5 | 22.5 | 145 | 20 | 11.9% | 187.5 |
| Year 3: 2020 | 172.65 | 22.5 | 150 | 25 | 14.5% | 197.5 |
| Total | 562.65 | 67.5 | 435 | 60 | 12% | 562.5 |

56. **Energy Sector:** Based on the more than 1,500 buildings that have already been proposed, the government program could absorb significant resources; the Bank team estimates it may require more than €300 million to renovate all of them. After the first call for proposals issued in May 2016, PIMO received 523 applications and developed a shortlist of 234 eligible buildings after review by the WG; the

list was subsequently approved by the government. The eligible buildings were spread amongst 109 municipalities (out of a total of 174). As of today, the government program has committed its available budget but, because the government program is open-ended, it may expand the program with additional calls for proposals in future years and seek additional financing from the Bank and others. Therefore, the Bank has defined its energy component of the Program for the purposes of its Program-for-Results loan as the first phase of the government program, namely the 234 buildings currently approved by the government from the initial call for proposals. There is no geographic boundary as these buildings are located throughout the country and the Program is expected to be implemented over a 3-year period.

57. Under the Program, municipalities must submit project proposals in compliance with eligibility criteria and present requested information regarding rehabilitation and reconstruction measures. PIMO has advised municipalities to define priorities based on the degree of the dilapidation of the buildings, number of users, and estimated investment. PIMO processes and systematizes received applications and submits the list of proposed projects for review to a Working Group (WG) formed by the government with representatives of key ministries. After review, the WG shortlists selected projects and submits the list through PIMO to the government for approval. The rehabilitation and improvement of the public buildings should consider that all users and beneficiaries, children, disabled and elderly people, have unobstructed access, easy movement and appropriate working conditions in accordance with latest standards and technical requirements in their respective sectors. Issues related to energy efficiency, safety (structural and fire) and proper functioning (full lighting, heating, etc. per national norms) are also integral to the Program.

D. Disbursement Linked Indicators and Verification Protocols

58. Disbursements under the Program will be triggered by the achievement of key results or disbursement-linked indicators (DLIs) contributing to the PDO. Key considerations were taken into account in their selection: (i) DLIs signal and monitor critical milestones for the achievement of the PDO; (ii) they provide incentives to reward performance by ensuring transparency and economic efficiency; and (iii) they address specific risks or constraints to achieving the results, including long-term sustainability of the program and monitoring and evaluation. DLIs 1-3 are for the transport component under PERS and DLIs4-7 are for the energy component under PIMO. All DLIs would be verified by independent agencies, acceptable to the Bank, to be appointed by PERS and PIMO for their respective components.

Table 4. Program DLIs

| <i>Indicator</i> | <i>Disbursement Amount</i> | <i>Description of Indicators</i> | <i>Completion Deadline</i> |
|--|----------------------------|---|----------------------------|
| <p><u>DLI1</u></p> <p>▶ PERS Completes maintenance of 1000 km of national road network</p> | €15 million | <p>▶ PERS maintains 1000 km of its network in accordance with the contractual specifications. The contracts executed would ensure, as a minimum, that during the Project implementation period no potholes remains open, no edge break occurs between the pavement and the shoulders and that all horizontal marking and vertical signs are adequately restored, in order to comply with the most critical road safety requirements.</p> | Dec 2018 |
| <p><u>DLI2</u></p> <p>▶ Service Level Agreement (SLA) between PERS and MCTI is signed.</p> | €20 million | <p>▶ Funding and Service Levels agreed on (between PERS and MCTI) as part of the Service Level</p> | Dec 2019 |

| | | | |
|---|----------------|---|--------------------|
| <ul style="list-style-type: none"> ▶ PERS adopts its 3-year Performance Based Maintenance Plan. ▶ PERS Completes maintenance of 2000 km of its network using enhanced maintenance contract. | | <p>Agreement is used as the basis for the PERS's 3 year Performance Based Maintenance plan.</p> <ul style="list-style-type: none"> ▶ PERS governing body adopts the 3-year Performance Based Maintenance plan. ▶ PERS maintains 2000 km of its network in accordance with the Enhanced Maintenance contractual specifications. The contracts executed would include a clear set of performance standards, that would result in increased efficiency in maintenance operations and predictable state of repair to ensure an enhanced motorist satisfaction. | |
| <p><u>DLI3</u></p> <ul style="list-style-type: none"> ▶ 5000 km of the national road network managed by PERS is maintained using PBMC ▶ Adoption of the asset management plan for PERS | €24.85 million | <ul style="list-style-type: none"> ▶ PERS' contracted maintenance with PBMC contractors covers at least 5000 km of Serbian National Road System. The system condition standards will meet the service levels as agreed between PERS and MCTI as part of the Service Level Agreement (SLA) ▶ PERS governing body adopts its asset management plan | Dec 2020 |
| <p><u>DLI4</u></p> <ul style="list-style-type: none"> ▶ Adoption and publications by PIMO of a Program Operations Manual | €3 million | <ul style="list-style-type: none"> ▶ PIMO management has adopted and published a POM, acceptable to the Bank | November 30, 2017 |
| <p><u>DLI5</u></p> <ul style="list-style-type: none"> ▶ Issuance of a Government Decision on the Borrower's adoption of a medium term national plan for the renovation of public buildings, and its publication in the Official Gazette | €4.9 million | <ul style="list-style-type: none"> ▶ A national plan for the renovation of public buildings acceptable to the Bank will be develop by the Ministry of Mining and Energy, adopted by a Government decision and publicized in the Official Gazette. | December 31, 2019 |
| <p><u>DLI6</u></p> <ul style="list-style-type: none"> ▶ Design and operationalization of consolidated monitoring and evaluation system | €2 million | <ul style="list-style-type: none"> ▶ Development and issuance of a program progress report that includes the agreed parameters from the M&E system | December 31, 2018 |
| <p><u>DLI7</u></p> <ul style="list-style-type: none"> ▶ Renovated and commissioned 234 public buildings that (a) have acceptance reports signed and issued, (b) have energy certificates showing that the building either meets Class C energy performance certificate or are two classes higher than the class of the respective pre-renovated building, and (c) | €30 million | <ul style="list-style-type: none"> ▶ The acceptance reports and energy performance certificates have been signed and issued and all invoices paid. ▶ Scalability: €5 million for each batch of 39 buildings; partial disbursement will be allowed on a proportional basis (€128,205 per building) up to 234 buildings. | Biannual reporting |

| | | | |
|--|--|--|--|
| have had all renovation invoices paid. | | | |
|--|--|--|--|

59. Some of the DLIs will trigger full disbursement while others are scalable and would be disbursed on a proportional basis to the results achieved. Disbursement for each DLI is as follows:

- For DLI 1, €15 million will be attached to completion of maintenance of 1000 kilometers. Disbursement will be scalable (i.e., if PERS shows evidence of only 500 kilometers maintained, it would receive half of €15 million or €7.5 million). The disbursement threshold would be for a minimum of 100km.
- For DLI 2, €5 million will be attached to the commencement of activities towards the implementation of the SLA, €5 million will be attached to completion of the 3-year Performance Based Maintenance plan. € 10 million will attached to completion of enhanced maintenance of 2000 kilometers. The disbursement of road maintenance will be scalable. The disbursement threshold would be for a minimum of 100km.
- For DLI 3, €4.85 million will be attached to the asset management plan and €20 million to the achievements of the 5000 kilometers of PBMC coverage target. The road maintenance disbursement will be attached to the successful awarding and implementation of the PBMC contract for 5000 km. The disbursement of PBMC coverage target would be scalable. The road network covered in this DLI is exclusive of the network covered under the RRSP program. The disbursement threshold would be for a minimum of 100km.
- For DLI 4, the approval and publication of the Program Operations Manual (POM) by PIMO management would result in full payment of €3 million, to formalize program procedures, strengthen existing systems and introduce enhance technical and environmental standards and document templates.
- For DLI 5, the development and approval of a medium-term national plan for the renovation of public buildings would result in full disbursement of €4.9 million. This would include applicable laws and regulations (new and proposed) to transition to more market-based, sustainable schemes by, for example, revolving funds or increasing leverage of private funding through commercial banks or energy service company or ESCO financing to help ensure longer-term sustainability.
- For DLI 6, the enhancement and operationalization the Program’s M&E system will result in the full disbursement of €2 million once a progress report has been submitted containing the technical and socioeconomic data collected.
- For DLI 7, €30 million will be allocated for renovated buildings that meet Class C (or two classes higher than the baseline) and have a final acceptance report. This DLI will disburse €5 million for verification reports in batches of 39 buildings; partial disbursement will be allowed for any batches less than 39 on a proportional basis (e.g., €128,205 per building).

Advance Payment

60. An advanced payment following the Effectiveness of the Legal Agreement of up to 25 percent of the loan will be made against DLIs 1-3 under the transport component (PERS). Advance payment will provide PERS with the needed flexibility to carry out its operations in a timely fashion and support the implementation of PBMC in accordance with the timeline presented in each of these DLIs in the event that verification process of the DLIs is delayed.

E. Capacity Building and Institutional Strengthening

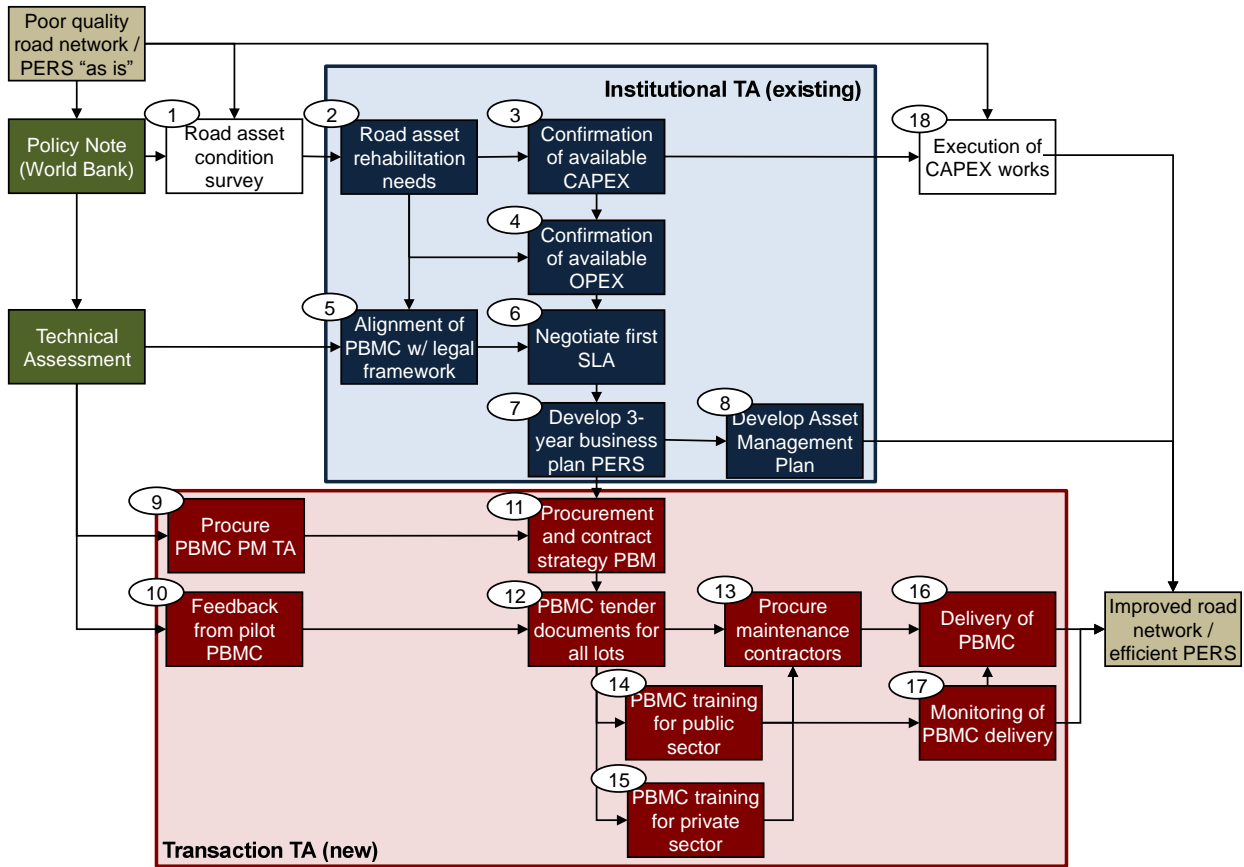
61. For the transport component, the Program builds upon the Bank’s involvement in the road sector in Serbia. The Bank has two ongoing projects in Serbia – Road Rehabilitation and Safety Program (“RRSP”) and Corridor X Highway Project. These projects identified areas for institutional reform and provide support to the sector.

62. ***Institutional Technical Assistance (ITA)***. The Bank is supporting the implementation of this ITA through the DPL series for Public Expenditure and Public Utilities and through the ongoing transport investment projects in Serbia. This Bank funded TA will provide expert support to MCTI and PERS on the development of the SLA, for the completion of the assessment of maintenance backlog, and support with policy decisions related to separate CAPEX work needed to upgrade the network. For PERS, the ITA will also provide direct support with the development of the Rolling Performance Based Maintenance Plan and the Asset Management Plan. The terms of reference for the ITA is currently being finalized. As noted in the Program Scope (PAD Section II.C), the program contains four main components, the SLA, the Rolling Performance Based Maintenance Plan, the Asset Management Plan, and the PBMCs. The ITA will support capacity building and institutional strengthening to successfully complete the first three (i.e. SLA, RBP, and AMP). The three are critical actions for improving road sector management.

63. ***PBMC Transaction advisor/Project Auditor Consultant (PAC)***. The PAC will initially be financed by RRSP for six months and thereafter by PERS internal resources. It will provide expert support to PERS with PBMC design and procurement strategy, preparation and execution of tender, PBMC training of private and public sector stakeholders and initial oversight of PBMC contract monitoring. Preparation of the terms of reference for this TA will commence shortly. This is key for PERS because PBMC is a new approach to road maintenance in Serbia. Therefore, this TA will make sure that PERS takes into consideration factors that are relevant to performance based maintenance. The PAC will be procured to perform annual audits and results monitoring and evaluation. The PAC will review a random sample of about 20 percent of the PBM contracts and other activities under the project. Besides the random selection of contracts, the review may also include works or contracts believed to require special review as determined by the Bank. The PAC's activities will broadly include the following: (i) verification of contents of the PBMC contracts, (ii) verification that roads are rehabilitated in accordance with contract documents (DLI1, DLI2, and DLI3); and (iii) review and verification that the DLIs have been met. This could include actual field visits and reviews of PERS documents.

64. The TAs presented above are closely connected in the design of the transport component of the Program, its results framework, DLIs, and the Program Action Plan. As can be seen Figure 1, 18 steps are identified from start to finish in the implementation of PBMCs. The World Bank TAs would provide institutional support to the Serbian road sector in 16 of these steps. The capacity building and institutional strengthening activities closely overlap the successful completion of the DLIs and the operation.

Figure 1. The Role of the WB Technical Assistance Activities



65. For the energy component of the Program, PIMO operates with 40 people entirely dedicated to the government program on a full-time basis, with engineering, legal/procurement and financial departments. Despite this, their procedures remain under development and less formal in nature. The development of a POM will help codify the operational elements of the Program while strengthening them in certain areas including the recommendations to adopt stronger technical, environmental and other standards.

66. Municipal capacity is more varied. While municipal staff interviewed from a sample of 11 municipalities visited were assessed to have sufficient technical expertise to ensure the integrity of the selection process, manage contracts and contractors efficiently and transparently, resolve disputes, and ensure that the contracts are executed on time and within budget, it has been proposed, and PIMO has agreed, to provide some additional training on lessons to be included in the POM. PIMO has had to increase its support to some of the smaller municipalities on the technical side, but no execution issues have been observed to date. The PIMO staff, standard documents and protocols have until now helped ensure that municipal staff have sufficient information on the government program criteria, eligible works and procedures.

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

67. The main institutions involved and their role in the Program are as follows:

- The Ministry of Construction, Transport, and Infrastructure (MCTI) is the line ministry responsible for policy and funding of the road sector. MCTI is the key driver of change in the road sector and is the co-implementing agency responsible for the program. In addition to its

operational support with changes to legislation and policy guidance, MCTI will supervise the overall performance of the program.

- For the transport component, PERS is the national road asset manager and administrator, responsible for construction, maintenance, operation and management of the Serbian national road network. As the other co-implementing agency for the program, PERS will lead its implementation and assume the day-to-day responsibility for the operation of the network, coordination of all program related activities including procurement of works, consultants, implementation supervision, monitoring of progress of PBMC roll-out and reporting on DLI achievement. PERS will also report to MCTI and the World Bank on the progress of the Program and its short-term plans regarding road maintenance.
- PERS' maintenance sector has 86 permanent employees, out of which 66 are field-based while the 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).
- The Project Auditor Consultant (PAC) will assume the key role in verifying Disbursement-Linked Indicators and reviewing contracts for the road maintenance project. The PAC will be procured to perform annual audits and results monitoring and evaluation. The PAC's activities will broadly include the following: (i) verification of contents of the PBMC contracts, (ii) verification that roads are rehabilitated in accordance with contract documents (DLI1, DLI2, and DLI3); and (iii) review and verification that the DLIs have been met. This could include actual field visits and reviews of PERS documents.
- For the energy component, PIMO is responsible on behalf of GoS for overall program design, management and coordination among the involved government entities. PIMO has developed draft methodological approach and brief guidelines that describe the program's objectives, eligibility criteria, procedures and institutional responsibilities. PIMO has mobilized and manages financial resources for program implementation and disburses funds in accordance with the program guidelines. PIMO has established a program website (www.obnova.gov.rs) with key information including legal and background documents, approved buildings, and the status of rehabilitation works. PIMO signs contracts (specifying mutual rights and responsibilities) with the municipalities for the implementation and financing of the works and maintains a register of submitted applications and agreements. PIMO also acts as an oversight and payment agent, remunerating contractors based on its own inspections and invoices approved by the municipalities.
- Municipalities are assigned investor's rights on behalf of the GoS and are responsible for proposing lists of public buildings for renovation, development of EE elaborations and technical designs for approved buildings, works procurement and supervision, construction supervision, and commissioning.
- SCTM maintains records on all applications to the program and prepares reports as requested based on its information system (SLAP IS). The database contains information such as municipal applications, descriptions of individual projects and expected results, estimated investment amounts, bidding documents, commissioning reports, energy performance certificates, fire protection approvals, usage permits and other documentation required for results monitoring and evaluation.
- The WG reviews and approves the list of buildings proposed by PIMO under the program. The WG also coordinates between entities, ensuring there are no buildings that are receiving support from parallel renovation programs.
- MME will establish a Program Steering Committee to provide oversight and approve policies and procedures, including final approval of the Program Operations Manual, for the Program's future

operations. The Steering Committee will also ensure coordination of the Program with relevant regulations in the area of building codes and energy efficiency standards and requirements. MME will also develop a medium-term national plan for the renovation of public buildings.

- Other agencies within GoS may likely be involved as part of the regular operation of governmental activities such as budgeting and funding allocations (MoF), procurement (National Procurement Office), financial control and auditing (MCTI and MoF), governance and anti-corruption (Anti-Corruption Council), and compliance and performance auditing (National Audit Institute).

68. As stipulated in the energy component of the Program, draft procedures prepared by PIMO note that municipalities are involved in the full project cycle—from nomination of the buildings through commissioning—and receive most of the Program benefits. Large municipalities can hire additional staff, mainly from their public utilities, or assign qualified personnel to undertake the responsibilities required under the Program as needed. Also, over the past decade, many municipalities have implemented some building renovation programs (largely in the public sector), so the regulatory obligations, technical parameters and other procedures are reasonably well-known to them. Some of the smaller municipalities may lack resources to hire staff and may have no alternative but to assign these additional responsibilities to existing staff, some of whom may lack the technical and administrative skills for the Program, such as approval of the EE elaborations and technical designs, works supervision and commissioning. PIMO has noted some capacity shortfalls in these areas and, as a result, has prepared and supplied some standard documents and templates (standard bidding documents, contracts, commissioning protocols, etc.) to assist municipalities during implementation.

B. Results Monitoring and Evaluation

69. *Transport Component:* While the existing organizational capability in PERS does need to be enhanced¹¹ to meet PERS' obligations under the SLA, including PBMC monitoring needs, the current reporting systems are deemed able to provide satisfactory monitoring of Program activities and results. This is so, because PERS has long-term experience of working with the IFIs and reporting on the status of its institutional and investment projects and programs.

70. Typical program progress reports by PERS are amalgamated with MCTI reports and submitted on a semi-annual basis to the World Bank for review. These reports cover all activities financed under an IFI-funded project or program. In addition, PERS provide frequent and ad-hoc reports to the MCTI on the status of its investment projects rather than use a systematic dash-board-type reporting arrangement on contracts execution and delivery. Given the identified non-integration of its predominantly technical databases and its accounting system this should not be a surprise.

71. Progress reports that will be submitted under this Program will use the existing in-house IFI reporting mechanisms and will address the following:

- (a) Program results framework update;
- (b) Program disbursement performance over the period covered by the report;
- (c) progress and results on the Program Action Plan;
- (d) description of potential developments that could affect Program implementation, which should consist in a review of the up-to-date risk profile of the Program and the impact of the proposed mitigation measures.

¹¹ This is highlighted in the risk rating for the Program and incorporated in the Program Action Plan.

72. For practical ease of day-to-day management of the transport component of the Program, PERS will assemble a PBMC Steering Committee. This committee will effectively own the major business change management effort and provide strategic and operational direction throughout the rollout of PBMC. Within the PBMC Steering Committee, PERS will identify a PBMC champion within its organization, an individual with full responsibility for the implementation of the PBMC. Experience suggests the individual must be senior enough and must be willing to assume substantial responsibility for successful delivery of the outcomes.

73. An independent Project Auditor Consultant (PAC), will be financed initially by RRSP for six months and thereafter by PERS internal resources. The PAC will be procured to perform annual audits and results monitoring and evaluation. The PAC will review a random sample of about 20 percent of the PBM contracts and other activities under the project. Besides the random selection of contracts, the review may also include works or contracts believed to require special review as determined by the Bank. The PAC's activities will broadly include the following: (i) verification of contents of the PBMC contracts, (ii) verification that roads are rehabilitated in accordance with contract documents (DLI1, DLI2, and DLI3); and (iii) review and verification that the DLIs have been met. This could include actual field visits and reviews of PERS documents.

74. Full operational details of the Results' Framework, Monitoring Matrix, and DLI Verifications Protocols are provided in the annexes.

75. *Energy Component:* At the central level, PIMO performs monitoring of all Program activities. PIMO keeps records on the number of received and approved applications and maintains a register of the received and eligible applications, signed contracts, and amounts committed and disbursed under the Program. Energy performance certificates issued under the Program are registered in a database administered by MCTI, which collects information for reporting under the NEEAP. PIMO is also obliged under the Program to submit interim and annual progress reports to the government for approval and to the WG for information; however, no reports have been prepared to date.

76. The agreed results framework is contained in Annex 2. In addition to the two PDO-level indicators of projected lifetime energy savings and number of commissioned buildings meeting Class C, several intermediate indicators are proposed, including reductions in associated CO₂, number of program beneficiaries disaggregated by gender, number of completed and approved technical designs and bidding documents, the development and adoption of a medium-term public building renovation strategy and program satisfaction.

77. It was also agreed that PIMO will develop and administer an annual satisfaction and social survey to collect such data both before and after the buildings have been renovated, as well as the possibility of enhanced process evaluation efforts, to document reasons for low satisfaction (if any), technical issues related to design and renovation works, commissioning, etc. so the processes and capacities can be improved over time. This is particularly relevant since the Program seeks to promote smaller construction firms whose capacities may be low. Lessons learned from early investments, technical challenges, work order variations, etc. should be properly documented so they can be shared with municipalities, technical consultants and firms to avoid their replication. PIMO has also agreed to provide periodic training to municipalities and interested firms on Program requirements and procedures, share standard documents and technical requirements, lessons learned, best practices, etc.

C. Disbursement Arrangements

78. Disbursements will be made on the basis of achieved and verified DLIs, following the World Bank review based on the verification protocols and the Bank's determination on disbursement levels. Annex 3 provides the list of DLIs, the disbursement amounts for each of the DLIs and the protocols for their verification. Road Maintenance Program is planned over a three-year period with disbursements up to a maximum of €60 million over the life of Bank's operation; the Energy Efficiency program will disburse €40 million over the four-year implementation period. The DLI targets are specified as the completion of a set of contracts by a set date. If the Program consistently out-performs the targets, the credit/loans can be fully disbursed before the formal end of the operation.

79. **Verification protocols.** DLI verification is an additional requirement of the PforR operation and vital for linking payments to results. For the transport component, the PAC (Program Auditor Consultant) will assume the key role in verifying Disbursement-Linked Indicators. This will also be the first step in progressing the GoS towards results-based monitoring and evaluation for Program management. As a result, it is essential that MCTI staff (1) assume a major role on World Bank-funded institutional TA project and (2) its staff are among the first recipients of PBMC training. Annex 3 provides details about the protocols to follow for each of the DLIs. Under all DLIs (DLI1, DLI2, and DLI3) PERS will be the agency originating the information. The PAC will verify the three DLIs. The consultant hired as the PAC will likely be well positioned in terms of knowledge and independence to verify compliance with the required DLIs.

80. For the energy component, two of the DLIs (Program Operations Manual, medium-term national plan for the renovation of public buildings) deal with specific decisions that the government would take and be obliged to formally report, which will be verified by an independent auditor. Similarly, for DLIs 6 and 7, operationalization of a consolidated M&E system and number of renovated buildings meeting Class C (which have to be registered with MCTI in any case) and received acceptance reports, would be verified by an independent auditor on a sampled basis (10%).

81. **Flow of funds.** The funds can flow either as reimbursement or an advance of up to 25 percent of the loan. The funds for the energy part will flow to government's foreign currency account at the National Bank of Serbia which the government indicates or Consolidated Treasury Account, while funds for the transport part will flow to PERS foreign currency account held at the National Bank of Serbia or acceptable commercial bank.

IV. ASSESSMENT SUMMARY

A. Technical Assessment

82. *Transport Component:* The quality of infrastructure in Serbia inflicts a substantial loss of economic productivity, reduced safety and in some cases, higher budgetary outlays. At the policy level, GoS identified closing critical infrastructure gaps and enhanced energy efficiency as strategic goals supporting the country's integration into the EU. In support, GoS is continuing with the road sector reform. GoS expects to improve the financial and operational performance of the sector. GoS policy goal of an efficient road sector requires a "top down" approach to governance of the sector. This approach needs to establish and clearly allocate responsibilities among GoS, MCTI, PERS and other sector players.

83. Most recently, the GoS explicitly recognized the scale of the "connectivity challenge" and articulated its goals to rehabilitate 900 km of roads and implement PBMC across Serbia's entire National Road network by 2019.¹² Prior engagement with the MCTI established the total estimated cost of the

¹² Keynote address of the Serbian Prime Minister, delivered to the National Assembly, June 28, 2017

Program over the 2017-2019 period at about €91 million, of which the Bank loan would finance €60.0 million (US71.17 million equivalent).

84. Technical Assessment of the proposed program concluded that, assuming swift acceleration of the required preparatory steps and smooth program execution, deployment of PBMC network-wide in Serbia could be completed within 34 months.

85. Worldwide experience supports GoS' view that PBMC is an innovative instrument with nation-wide impact. PBMC has the potential to increase the transparency and efficiency of public spending and asset management on routine tasks. This was confirmed on the PBMC pilot contracts in Macva and Kolubara where, on average, cost savings of 24 percent were achieved (and up to 40 percent). Recent EU-funded work on the application of PBMC on the pilot network in central/south Serbia supports the view that improvement of road conditions will only come from significant periodic maintenance, since a large proportion of the pilot network is overdue for resurfacing and rehabilitation.

86. Deployment of PBCM will also incentivize better planning, contracting and an improved fiscal focus in PERS. The Bank's own research established that many of the benefits of the Program are directly aligned to the benefits associated with good asset management. The Bank team therefore considers it prudent to set PBMC as an interim milestone towards good road asset management in the long term.

87. The Program builds upon the Bank's prior involvement in the road sector in Serbia. A Bank-funded road reform plan prepared under the Corridor X Highway project identified areas for institutional reform. The Bank is supporting the implementation of the reform plan through the DPL series for Public Expenditure and Public Utilities and through the ongoing transport investment projects in Serbia.

88. The novelty of the PBMC approach and the interrelationships between the various road sector reform actions drive the risk rating of the Program to the "substantial" level and require a series of risk mitigation actions in support. Deployment of network-wide PBMC could be acceptable to the Bank providing availability of the following elements:

Enabling conditions for PBMC:

- Detailed understanding of the network condition, based on a comprehensive road asset survey, so that the scope of the necessary rehabilitation, undertaken outside of the Program, and maintenance works can be identified, costed, and funding for it agreed by MCTI and PERS.
- SLA between MCTI and PERS, and backed-up by PERS' 3-year rolling Performance Based Maintenance plan, road asset management plan and PBMC contracts developed on a back-to-back basis with the SLA.
- Availability of funding for CAPEX works outside the scope of PBMC, so as to reduce the need for major items of periodic maintenance to be merged with PBMC.¹³ Operationally, the split CAPEX/PBMC will depend on (1) up-to-date road asset survey, (2) GoS' affordability and (3) terms in the SLA (i.e., negotiated outputs and GoS' committed funds for CAPEX and PBMC). As noted above, due to the structure of the program, the road expenditure profile can only be developed once the SLA is in place.

Preparation of PBMC approach:

- Necessary alignment of the current frameworks with the PBMC needs.
- Preparation and execution of tenders for PBMC for the whole network and contracting with the private sector companies.

¹³ Consideration should be given to mandate the GoS to secure CAPEX funding to reduce the pressure on PBMC to improve the road asset conditions.

- Training and education of public stakeholders and the supply chain.

Delivery of PBMC:

- Budgetary restrictions impose that PERS will initially only be able to guarantee 3-year financing. Longer contracts would necessitate legal changes and would enable laying-off of high capital expenditure over a longer period
- PERS will provide training to and hire personnel on contract for PBMC Supervision and Monitoring.
- PBMC monitoring and regulation should be based on an inspection regime which combines programmed “formal” inspections with “informal” site visits made by the PBMC Project Managers.

89. *Energy Component:* The overall performance of the Program to date (from April 2016 through June 2017) is assessed to be moderately satisfactory. The Program was launched with reasonably well formulated Program documents with some analytical underpinnings, initiated with a fair and moderately transparent process for building selection, and supported by an adequate outreach effort. Preliminary methodologies and procedures have evolved since the start of the Program with the introduction of standard documentation and increased oversight. As a result, demand (as measured by the number of applications received from the municipalities) has been high with 523 applications in the first call for proposals and about 300 in the second call. The government has indicated its high priority for this Program and both the central and local governments have ensured that sufficient and qualified staff have been assigned to support Program implementation. As similar initiatives in neighboring countries were often done with substantial grant funds from the EC and other donors, this initiative from the GoS is a positive development. The main areas to be discussed with the GoS include: (a) a lack of documented Program procedures and methodologies; (b) inconsistencies in EE measures and technical standards; (c) need for an M&E system that can capture Program impacts and document lessons learned; and (d) Program sustainability.

90. **Strategic Relevance.** Although the Program aims at enhancing infrastructure of old public buildings, which have experienced a deficit of maintenance and structural repairs over the past few decades, the Program deeply interconnects with the energy sector as energy efficiency measures are one of main implementation principles of the rehabilitation activities. The Program tackles critical issues of energy security, such as high energy consumption, and contributes to address the country’s energy and climate commitments including the NEEAP and EU 20-20-20 targets and local and global air pollution policies. The Program is also expected to have a tangible impact on the renewal of dilapidated and unsafe public buildings, extend their lifetime, and improve the comfort of end users. Further, it is intended to help stimulate economic activity in the construction and industry sectors. Therefore, the Program has a very high potential to significantly contribute to multiple national strategies (social, energy, climate) as well as to Serbia’s sustainable economic development.

91. Energy efficiency is a priority in Serbia’s energy strategy. The Government of Serbia adopted the Law on Efficient Use of Energy in 2013, which is the legal basis for energy efficiency measures under its National Energy Efficiency Action Plan (NEEAP). In compliance with the EU Directive 2006/32/EC, the Government of Serbia adopted the 3rd NEEAP (2016-2018) with the target to reduce final energy consumption by 9 percent by 2018 (based on 2008 consumption levels). Serbia is also a signatory of the Paris Agreement and submitted its 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.

92. The building sector (residential, public and commercial) dominates energy consumption, representing 45 percent of final energy use and about half of the building stock in the country is over 50 years old. The age of the building stock, combined with outdated construction practices that did not consider energy efficiency, decades of under-maintenance and chronic underinvestment, result in a need for massive investments to upgrade these facilities to meet modern requirements for safety, energy

efficiency and modern usage standards. Although energy consumption in public buildings represents only about 4 percent of the total consumption, energy savings and corresponding GHG reductions in this sector can have a catalytic effect by developing the market and leading by example, to help meet the above mentioned national strategies and targets.

93. The government's decision to cover 100 percent of the investments required for the rehabilitation of public buildings is unlikely to be sustainable over the long-term. However, addressing the critically aging public building stock and extreme energy waste is a high-level policy decision. Moreover, the Program is designed to specifically target the most dilapidated buildings in social service sectors, as most of their end users are vulnerable groups of population (children, patients and elderly or disabled people). It is unlikely that these buildings could be financed through revolving EE funds, credit lines or other more sustainable financing sources due to the significant structural investments required. Therefore, at present, the program would not undermine any longer-term sustainable financing scheme.

94. **Technical soundness.** The Program is timely, if not long overdue, given the state of the public building stock today as previously described. Demand from municipalities has been high, as evidenced by the large numbers of applications received to date. With the help of previous IFI/donor/government-sponsored renovation programs, the capacity of the market for energy audits, technical designs, renovation works, etc. has developed substantially over the last decade and as previously indicated the regulatory framework related to EE in buildings has been substantially aligned with the EU. Feedback from the participating municipalities has also been positive in terms of adopting the various roles required during the implementation of the Program and dealing with PIMO.

95. The Program is generally well designed to ensure that the activities funded will lead to the achievement of the program's stated outcomes. Proper structural and energy audits, good technical designs, and well-executed works should lead to energy savings and extend the lifetimes and safety of targeted buildings. Since the Program's launch, PIMO has introduced transparent public outreach, engagement with stakeholders and the Program's website¹⁴. During implementation, PIMO cooperates with a variety of entities to strengthen execution: MoF on financial issues, responsible Ministries for selection of buildings, SEIO on available EU donations, SCTM for participation and capacity building in Municipalities, IFIs for program financing and others. Despite these positive attributes, most of the Program procedures remain informal or in draft form only. Therefore, in discussions with the Bank team, PIMO has agreed to develop and adopt more formal procedures, in the form of a Program Operations Manual (POM), and ensure they are consistently followed. The POM will cover the full Program cycle—eligibility criteria and screening, methodology for the EE elaboration/technical designs to include economic screening of measures, technical and environmental standards, works procurement, construction supervision, commissioning, monitoring, reporting on energy savings, etc. as well as standard documentation per all Serbian regulations.

96. So far, the Program has demonstrated that there is a high demand from the municipalities, which is likely to lead to an extension of the Program (PIMO issued a second call for proposals in March 2017 and about 350 new public facilities have applied). However, as previously noted, it is expected that the government will not be able to cover 100 percent of the investments required to support all the estimated 1,500+ eligible buildings in all municipalities. The open-ended nature of the program could have substantial budget implications for the years ahead. Therefore, the Bank team recommended PIMO to refrain from further calls for proposals until it has significantly progressed on the initial 234 buildings and secured additional resources for more buildings. PIMO has agreed that the government should also develop a systematic approach and longer-term plan for supporting the refurbishment of the full public

¹⁴ See: <http://www.obnova.gov.rs>

building stock over the next decade. MME has agreed to develop a medium-term national plan for the renovation of public buildings, to outline how the government plans to transition to more market-based, sustainable schemes and include policy, technical, informational and behavioral aspects.

Program Expenditure Framework for Transport and Energy

97. *Transport component expenditure framework.* The government program will be financed through a government expenditure framework covering €997.45 million from 2018 to 2020. PERS is a public-sector enterprise and it operates under its own organization and legal entity. The corporate 2017 funding plan amounts to €294.7 million and shows that 24 percent of total annual funds available are provided by GoS. The main expense items in the plan are road maintenance and maintenance of supporting systems (44 percent of available funds), investment projects focused on rehabilitation and modernization of the network (20 percent), support for the Corridor X project (7 percent), and other corporate costs (8 percent). According to its staffing plan, PERS has 131 positions allocated for the road maintenance sector. As expected, the staff in the maintenance sector is responsible for operational activities related to maintenance – such as supervision and monitoring of maintenance work, monitoring of landslide remedial work and administrative support to the sector. Furthermore, the staffing plan suggests that 45 additional employees need to be recruited as the plan allocates 131 positions but the maintenance sector currently only has 86 employees.

Table 5. Transport Component Expenditure Framework (million euros)

| Expenditures | 2018 | 2019 | 2020 | Total |
|--|-----------------|-----------------|-----------------|-----------------|
| PERS costs allocated to road maintenance (labor, inputs, materials, energy, other) | € 11.7 | € 12.1 | € 12.4 | € 36.2 |
| Traditional maintenance highways | € 26.3 | € 26.3 | 0 | € 52.6 |
| Traditional maintenance major and regional roads | € 105.2 | € 109.2 | 0 | € 214.4 |
| PMBC major and regional roads | € 27 | € 27 | € 39.9 | € 66.9 |
| PBMC highways | 0 | 0 | € 127.6 | € 127.6 |
| Road maintenance total expenditures | € 170.2 | € 174.6 | € 179.9 | € 497.7 |
| PERS Revenues for Road Maintenance | | | | |
| PERS Tolls revenue | € 140 | € 145 | € 150 | € 435.00 |
| GoS Transfer | € 22.50 | € 22.50 | € 22.50 | € 68 |
| WB PforR | € 15 | € 20 | € 25 | € 60 |
| Total | € 177.50 | € 187.50 | € 197.50 | € 562.50 |

98. At this point, due to legal and policy restrictions, PERS is only able to commit funds for the next 3 fiscal years. This will require that the contract price for PBMC is split into “firm” and “conditional” tranches. Additionally, it is not possible to delineate the terms of PBMC at this point because these will be determined by the finalization of the SLA and the 3-year Performance Based Maintenance plan. However, the WB notes that in order for PBMC to have the required impact and to make contracts attractive to bidders, funding should be adequate to cover; 1) all annual routine maintenance and recurrent repair requirements; 2) winter and emergency maintenance needs; 3) clearance of routine maintenance backlog in the first months of the contracts; 4) pavement preservation works (e.g., asphalt resurfacing, surface dressing scheduled according to needs), and 5) priorities during the course of the contracts. Program expenditures have been estimated on the basis of the expenditure plans of PERS with some modifications of the WB. As can be seen above in Table 5, PERS will finance the implementation of PBMC in 3000 km using toll road revenues (€27 million).

99. *Energy component expenditure framework.* The total Program expenditures for 234 buildings are estimated to be around €81.1 million. It is estimated that €71.8 million of these expenditures relate to the reconstruction works; €5.9 million is estimated to cover the costs of technical services, such as energy

audits, technical designs, supervision and building certifications; and the remaining €3.4 million would cover PIMO and municipal staff. The Program would be financed through a mix of budget support to PIMO, municipal budgets, staffing and the World Bank PforR loan. For the three-year Program period (2017-19), PIMO received about €7 million in 2017; the budget funding for 2018-19 has been confirmed in a letter from the MoF to the Bank, dated May 4, 2017 (estimated at about €12.4 million each year). Therefore, the funding for the 234 buildings is reasonably secure and predictable. Program expenditure planning is based on periodic calls for proposals from municipalities which include prioritized lists of buildings along with indicative investment requirements. As the technical designs are revised and finalized, these investment costs are further refined and finalized after the competitive tendering of the renovation works contracts, ensuring efficiency of Program expenditures.

Economic Analyses for Transport and Energy

100. Economic analyses for the transport and energy components of the projects were carried out based on a sample of both segments of the road network and of public buildings. The samples are representative of the infrastructure that will be affected by this project. Furthermore, the methodologies and results for each of the sectors is briefly described below.

Table 6. Energy Component Expenditure Framework (million euros)

| Expenditures | 2017-18 | 2019 | 2020 | Total |
|--------------------------------|----------------|---------------|---------------|---------------|
| PIMO Total | | | | |
| Reconstruction works | € 35.9 | € 23.9 | € 12.0 | € 71.8 |
| Technical services | € 3.0 | € 2.0 | € 1.0 | € 5.9 |
| PIMO and Municipal Staff | € 1.7 | € 1.1 | € 0.6 | € 3.4 |
| Total | € 40.6 | € 27.0 | € 13.5 | € 81.1 |
| PIMO Sources of Funding | | | | |
| PIMO budgets and staffing | € 17.4 | € 9.9 | € 7.4 | € 34.7 |
| Municipal budgets and staffing | € 3.2 | € 2.1 | € 1.1 | € 6.4 |
| <i>WB PforR loan</i> | € 20.0 | € 15.0 | € 5.0 | € 40.0 |
| Total | € 40.6 | € 27.0 | € 13.5 | € 81.1 |

101. **Rationale underlying the economic analysis for the transport component.** Economic analysis covers the impact of periodic and routine maintenance over the Serbian national road network. The information presented in this section is an extract of the detailed analysis completed as part of the EU-funded TA work on the PBMC pilot project in Serbia in 2016. The results of this analysis are relevant because conditions in the network are rather uniform. Therefore, the current “strategic” level of assessment of the Program’s potential impact and the conclusions of the pilot network’ analysis are assumed to apply network-wide. The analysis particularly targeted two questions; (1) impact of periodic maintenance on PBMC and (2) impact of improved routine maintenance on PBMC. The quantified benefits stemming from the investments included in the Program are the savings to be made by road users on vehicle operating costs, PERS’ savings on road reconstruction costs and passenger and freight travel time. The economic impact also includes the following benefits:

- The distributional impact of the road rehabilitation is expected to be important as road users will benefit from better infrastructure quality, transport services quality and reliability. For a

wide network of taxpayers, better road conditions will facilitate better access to markets, education, health and other social services.

- Road infrastructure maintenance and rehabilitation are key enablers of inclusive growth, convergence to the EU, and major support to the growth of industries in Serbia.¹⁵
- Overall, the competitiveness of the national economy will increase through more reliable logistics chains.
- The Program is expected to have a positive impact on road safety, as better infrastructure is a key lever in addressing road safety issues. Reduced accidents will gradually lead to reduced insurance costs and other ancillary benefits.
- Additional benefits to road users are an improved driving experience and more riding comfort.

102. *Justification for public sector provision.* Public provision of road maintenance is necessary under the current institutional framework. However, the project will modify how the public and private sectors participate in the provision of road maintenance. As noted in Program Scope section, the SLA will clarify public support to PERS by providing a set of conditions upon PERS' adoption of commercial management principles. Therefore, while road maintenance will still be financially supported by the government, the support ensures a more open environment for private sector entities. Therefore, the program moves towards a more appropriate vehicle of provision while ensuring the public sector maintains a stake.

103. *Economic impact of the project.* The economic and road user effects of limited or no periodic maintenance are also assessed. The objective of this analysis is to assess what impact an improved PBMC routine maintenance regime will have on road conditions. The analysis compared the costs and benefits of the three routine maintenance strategies over a period of 20 years:

- Base case - current routine maintenance, as the base case;
- Improvement – I: Improved routine maintenance under PBMC, with patching operations and crack sealing at maximum intervals of 3 month;
- Improvement – II: Improved routine maintenance combined with the use of surface dressing on selected deteriorated sections to postpone more expensive structural works such as rehabilitation.

Table 7. Economic Impact of PBMC routine maintenance in million euros over 20 years

| Scenario | Present Value of Total Agency Costs (€ million) | Present value of Agency Capital Costs (€ million) | Increase in Agency Costs (€ million) | Decrease in User Costs (€ million) | Net Present Value (€ million) | NPV/Total Agency Cost Ratio (€ million) | NPV/Agency Capital Cost (€ million) |
|------------------|---|---|--------------------------------------|------------------------------------|-------------------------------|---|-------------------------------------|
| <i>Base case</i> | 329.4 | 274.8 | 0 | 0 | 0 | 0 | 0 |
| Improvement – I | 266.27 | 205.8 | -63.1 | 1,489 | 1,552 | 5.8 | 7.5 |
| Improvement - II | 219.4 | 160.8 | -109.9 | 1,559.1 | 1,669.1 | 7.6 | 10.4 |

104. The results of the analysis indicate that the overall cost to PERS is lower with the use of improved routine maintenance. Costs are lower with the use of surface dressings because this helps delaying more expensive periodic maintenance and rehabilitation. The benefits to the users are significant

¹⁵ The emerging agriculture sector in Serbia will be amongst the key beneficiaries

with improved daily road conditions. The benefits of using surface dressings are larger but even more regular routine repair make an important difference. The benefit/cost ratios are significant. Depending on scenario and analysis, for every euro spent, PERS would benefit the economy by 6 to 9 Euros in operating cost savings.

105. Climate co-benefits were estimate considering this PforR project will cover additional segments of the national road network maintained through PBMC, an average daily traffic of the project roads of around 2,500 vehicles per day growing at 4 percent per year over a 20-year evaluation period, the total CO₂ emissions without the project over the evaluation period are estimated to be 34.63 million tons, based on a current average network roughness of 3.5 IRI.¹⁶ With the project, the CO₂ emissions over the evaluation period are estimated to reduce to 34.50 million tons, based on an estimated average network roughness of 3.0 IRI after the conclusion of the road works. Therefore, the net CO₂ emissions over the evaluation period are -0.13 million tons, or -0.0067 million tons per year.

106. **Rationale underlying the economic analysis for the energy component.** Economic analyses were performed both on a sample of 28 buildings¹⁷ (12 percent of the total 234 buildings) that have already been contracted and on the Program as a whole (assuming all 234 buildings are renovated). Data from these buildings was provided by PIMO together with detailed energy audit reports for six buildings (four contracted, two approved for bidding). The average cost per building is about €0.31 million. Program costs were based on the Program budget of €81.1 million for all 234 buildings to be renovated. The economic analyses cover the following Program benefits: economic value of energy saved, CO₂ emission reductions, economic value of building improvements (increased building operating lifetime), and living conditions (comfort levels). The Program has several additional benefits that were not quantified for the purposes of the economic analyses, such as national benefits (enhanced energy security, reduced fiscal burden for fuel imports, job creation, better health), municipal benefits (urban renewal, improved social service quality) and other end users' benefits beyond comfort levels (safer, enhanced building conditions).

107. *Justification for public financing.* Public financing of the program is justified given that activities supported cannot be undertaken with private financing. Market failures described in para 21 have blocked progress on the implementation of large-scale renovations. Further, the focus on the most dilapidated buildings and inclusion of both energy efficiency and structural measures would not yield positive financial returns. The program would also have many broader socioeconomic benefits by demonstrating and measuring the benefits of a large-scale renovation program, further developing competencies in the construction and related market and helping to create a more sustainable strategy in future years.

108. *Economic impact of the program.* The economic analyses cover the following Program benefits: economic value of energy saved, CO₂ emission reductions, economic value of building improvements (increased building operating lifetime), and living conditions (comfort levels). The base case scenario of the economic analysis for the entire Program (assuming renovation of 234 buildings) resulted in a €5.108 million economic NPV and EIRR of 7.9 percent. The EIRR is lower than for the set of 28 buildings above, since the Program technical service costs and indirect expenditures (staff) are included. Sensitivity analyses were also conducted, with increases of 10 percent and 20 percent in investment costs and 10

¹⁶ Climate co-benefits were estimated under the assumption that an additional 4,750 kilometers would be improved through PBMC under this PforR. However, as noted in the program description section, the PforR will actually cover 5,000 kilometers. This means that climate co-benefits may be expected to be slightly higher than the benefits presented in paragraph 105.

¹⁷ The 28 buildings are located in the following municipalities: Ada, Bela Palanka, Velika Plana, Vlasotince (2 buildings), Vranje, Zabari, Ivanjica, Irig, Kosjeric, Leskovac, Majdanpek, Nis, Opovo, Pecinci, Pirot, Razanj (2 buildings), Svilajnac (2 buildings), Svrlijig, Senta, Smederevo (2 buildings), Temerin, Trgoviste, Coka and Sabac.

percent and 20 percent reductions in energy cost savings (Table 8). Under the worst-case scenario (investment cost +20 percent, energy savings -20 percent), the EIRR falls to 1.0 percent and the economic NPV becomes negative at -€16.550 million. With reference pricing in place, strong competition and technical oversight for energy savings, this scenario is unlikely.

Table 8. Sensitivity analysis for economic analysis of entire Program

| | Investment (€ million) | Energy savings (€ million) | NPV (€ million) | EIRR (%) | Payback (years) |
|---|---------------------------|----------------------------------|--------------------|-------------|--------------------|
| <i>Base case</i> | <i>81,163,369</i> | <i>2,494,393</i> | <i>5,107,784</i> | <i>7.9%</i> | <i>12</i> |
| Investment cost +10% | <i>89,279,706</i> | 2,494,393 | -1,919,235 | 5.4% | 13 |
| Investment cost +20% | <i>97,396,042</i> | 2,494,393 | -8,946,253 | 3.4% | 15 |
| Energy savings -10% | <i>81,163,369</i> | 2,244,953 | 1,306,068 | 6.5% | 12 |
| Energy savings -20% | <i>81,163,369</i> | 1,995,514 | -2,495,647 | 5.0% | 14 |
| Investment cost +10%, Energy savings -10% | <i>89,279,706</i> | 2,244,953 | -5,720,950 | 4.1% | 15 |
| Investment cost +20%, Energy savings -20% | <i>97,396,042</i> | 1,995,514 | -16,549,683 | 1.0% | 18 |

B. Fiduciary**Financial Management**

109. *Program's fiduciary systems provide reasonable assurance that the financing will be use for the intended purpose taking into consideration the system strengthening actions.* The Bank will rely on existing country systems for implementation of the fiduciary aspects of the Program. The financial management assessment of the Program verified that these systems are sufficient to use of Program funds reliably, with further development areas which will be addressed through the Program Action Plan.

110. PERS Serbia has adequate systems instituted and has a long track record of successful implementation of World Bank projects. The company uses reliable accounting and financial reporting systems. The legislation mandates that public enterprises deliver quarterly financial reports to the Ministry of Economy and those reports will be used to monitor program expenditures. System of internal controls within the company is assessed as reliable. Capacity of the company is sufficient, and the finance function is staffed by the team with appropriate skills and experience.

111. The State Audit Institution performs annual audit of the central government final account in which program expenditures related to energy efficiency make an integral part, the PERS is in the scope of audit of the SAI and is also obliged to have statutory audit annually. State Audit Institution due to capacity constraints does not audit all entities in its scope mandated by the law each year, but rather applies risk assessment principle in determining its annual audit plan. Nevertheless, central government's final account (annual financial statements) are audited annually. The financial statements include expenditures related to the energy part of the program and the Bank will rely on this audit. It will be discussed with the SAI that a separate note presenting the Program expenditures is included in the audit report. PERS are not audited by the SAI annually due to capacity constraints, however public enterprises are subject to mandatory statutory audit by commercial auditors and the Bank will use this audit findings in assessing the program expenditures. The company financial statements should be audited by auditors acceptable to the Bank.

112. Financial management functions for the energy efficiency part of the program will remain with PIMO, which is a direct budget beneficiary included in the overall system of the state budget preparation and execution. PIMO executes payments directly towards suppliers, however an option to transfer funds to municipalities for them to pay specific suppliers is retained. Such option has been used only in exceptional circumstances by PIMO so far, and the process is appropriately safeguarded with PIMO approving each specific payment and account statements evidencing payments are delivered to the PIMO by municipalities. In this sense, PIMO budget execution reports and financial statements will be used for monitoring Program expenditures. As a budget beneficiary, PIMO is preparing quarterly reports on

budget execution and delivers those to the Treasury. In case PIMO is using the option to transfer the funds to municipalities for payment, which should be used only in exceptional circumstances, PIMO reports should be accompanied by reconciliation of funds transferred versus expensed by municipalities. Since municipalities are conducting procurement process and ensuring the quality of work of selected contractors, systems of internal controls in municipalities are of importance to the Program and actions to strengthen procedures and control environment in municipalities are included in the program action plan, POM etc.

113. **Flow of funds.** The funds can flow either as reimbursement or an advance of up to 25 percent of the loan. The funds for the energy part will flow to government's foreign currency account at the National Bank of Serbia which the government indicates or Consolidated Treasury Account, while funds for the transport part will flow to PERS foreign currency account held at the National Bank of Serbia or acceptable commercial bank. Advances will be converted to disbursement upon verification of achievement of DLIs, thus freeing up space for new advances up to the limit.

114. The World Bank's Guidelines on Preventing and Combating Fraud and Corruption in Program for Results Financing will apply to the Program. If required, the Bank will have access to any information related to contracts under the Program (including those held by third parties/contractors) and the Bank will jointly with the government conduct a review to determine the existence or fraud and corruption within the Program.

Procurement

115. Procurement under the Program will follow the government procedures. For the transport sector, procurement will consist of performance based maintenance contracting, while for the energy sector, procurement will consist of technical elaborations and detailed designs of the buildings; construction works and design compliance reports and construction supervision. The program will not involve activities that involve procurement of works and services under high-value contracts that would require mandatory review by the Bank's Operations Procurement Review Committee (OPCR). In the PforR operation high-value procurement contracts are not envisioned in either roads or buildings energy. The roads works contracts are expected to be below US\$10 million and the building energy contracts are expected to be less than US \$1 million. No contracts will be permitted over US\$10 million for works, US\$5 million for goods and non-consulting services and US\$5 million for consulting services.

Procurement Legislative and regulatory framework

116. The Public Procurement Law (PPL) adopted in December 2012, amended in August 2015 represents a step towards conformity with EU procurement directives. The PPL applies to all procurement undertaken using government funds, i.e. procurement of goods, works and services purchased by state and local government authorities, state-owned enterprises and legal persons that use funds provided by the Government of Serbia or local self-governments.

117. The key organizations in Serbia's public procurement system are (i) the PPO, accountable directly to the Government. The PPO is responsible for drafting public procurement secondary legislation and for coordination and monitoring the public procurement system in general; (ii) the RC deals with complaints and protection of rights. It is an autonomous and independent entity established in 2010 and activated in April 2013. It reports to the National Assembly and (iii) The State Audit Institution – responsible for the audit of all public funds and reports systematically on public procurement.

Overall risk assessment

118. The procurement assessment concludes that there is reasonable assurance that Serbia's procurement systems for the Program (planning, bidding, evaluation, contract award and contract administration arrangements and practices, as well as complaint mechanism and management and

mitigation of fraud and corruption risk) will achieve intended results through its procurement processes and procedures.

Procurement Capacity

119. The implementing agencies will be the Public Enterprise “Roads of Serbia” (PERS) for the transport sector and Public Investment Management Office (PIMO) for the energy sector. There is a Department for Public Procurement and Contracts within Sector for Legal, Staff and Common Affairs responsible for public procurement in PERS. The entity has satisfactory capacity for public procurement with total of 7 certified public procurement officers supported by technical staff from various departments. Procurement plans are based on Business Plans prepared on a yearly basis, and adopted by the Government, published on the Public Procurement Portal and on PERS’ website. PERS adopted an internal act on public procurement control prescribed by the Law. PERS is responsible for implementation of Performance Based Maintenance Contracting which 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. Contract administration in general is conducted satisfactorily, there is a sufficient technical and financial capacity within PERS for contract management. Supervision for works financed by investments projects is commonly outsourced while supervision for maintenance of roads is conducted by technical staff within PERS and often supported by the externally contracted supervision engineer

120. The Program for Reconstruction and Improvement of State-Owned Public Facilities of April 2016, revised October 2016 is being implemented by recently designated PIMO. The program covers all public social buildings such as education, healthcare and social protection facilities in need of reconstruction. Works covered under the program include improvements of the building envelope, internal equipment as well as some non-EE measures. The government program is decentralized in its implementation. All tasks related to design, procurement and supervision are the responsibilities of local self-governments (LSGs), as defined in contracts signed between PIMO and respective LSGs. Further, contract defines that PIMO comments bidding documents prior to publication, appoints a member of Evaluation Committee, co-signs contracts for works between LSG and contractors, executes payments and review any modification of works’ contract. The contract serves as a legal base for update of municipal Procurement Plans prior to launching procurement procedure for works. In practice, PIMO reviews and provides its “approval” to each stage of public procurement, including supervision of possible clarifications of the bidding documents, response to complaints, reviews draft contract prior to signing and executes payments on renovation works contracts. LSGs use model tender document developed by PIMO. Currently within PIMO there is no filing system for procurement files nor any written internal procedures for handling public procurement requests and documents submitted by municipalities. There is no internal control for public procurement actions within the entity.

C. Environmental and Social Effects

121. The Environmental and Social Systems Assessment (ESSA) for the PforR concluded that there are no significant gaps between the core principles of the Program for Results and the Regulatory 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, implementation non-compliances reported by key stakeholders document gaps in implementation of the national Framework of Environmental Management System in Serbia – which poses substantial risk for implementation of environmental measures under the Program. The non-compliances identified for improvement under the Program include: (i) waste management practices, (ii) use of natural resources, and (iii) environmental and energy efficiency monitoring system. There is, in general, insufficiently effective inter-agency communication at all levels regarding the management of environmental issues as an integral part of program planning, development and coordination of technical designs, realization, and monitoring and assessment – all of which are crucially important to reduce potential negative

environmental impacts of the Program. Ten institutions dealing with the environmentally-related issues relevant to the Program have in most cases only minor insufficiencies in respect to a number of qualified staff, but are insufficient in respect to environmental impact monitoring and enforcement on the ground to allow full mitigation of the environmentally-related risks from the activities under the Program. To address these issues a range of actions have been designed to be implemented as a part of the Program Action Plan. The ESSA has been publicly disclosed in country on September 14, while the public consultation meeting was held on September 21, 2017.

122. **Program Benefits.** The Program will have significant direct and indirect environmental benefits, such as: (i) a reduction of greenhouse gas emissions, CO₂ in particular, which can contribute to slowing down climate change globally; (ii) improvement of ambient air quality of the municipalities affected by Program implementation; (iii) reduction of the amount of waste generated as a result of combustion of solid and liquid fuels; (iv) improvement of community connectivity (v) improved access to local and regional markets; (vi) improvement of road safety in municipalities affected by the Program; and (vii) creation of preconditions for quicker, more balanced and sustainable development of the affected municipalities.

123. **Assessment of Environmental and Social System.** Environmental aspects of the Program are regulated through two separate processes – environmental permitting and implementation of specific environmentally-related regulation. Any potential environmental risks are addressed and regulated by spatial and specific construction/technical legal acts as well as general environmental regulations and specific field-related acts. Being an EU candidate country, Serbian environmental regulation is advanced, well defined but only partially harmonized with the EU acquis. Processes of rehabilitation of the infrastructure that is subject of the Program, beside technical requirements standards and norms, are regulated by the requirements of the Law on Planning and Construction that, among others, regulates the conditions and manner of spatial planning, use of construction land and building of facilities; monitoring and inspection. The Law on planning and construction includes the field of energy efficiency in the building of facilities. General environmental and sustainability stipulations in Serbia related to conservation and use of environmental assets as well as the conditions and procedures of environmental impact assessments – are defined in the Law on Environmental Protection (LEP). The main objectives of LEP are sustainable management; preservation of the natural balance; integrity, diversity and quality of natural resources; and prevention, control, reduction and remediation of all forms of pollution to environment. Specific Program related environmental risks are addressed within the large number of laws, among which the most important are: the Law on Environmental Impact Assessment; the Law on Waste Management; the Law on Chemicals; the Law on Air Protection; the Law on Waters; the Law on Protection from Environmental Noise; the Rulebook on classification of motor vehicles and trailers, and their traffic technical specifications; and the Law on Occupational Health and Safety. The environmental risks are also regulated through a set of national strategies, rules, procedures and limits set forth in several national strategies and sub-legislation.

124. There is, in general, insufficiently effective inter-agency communication at all levels regarding the management of environmental issues as an integral part of program planning, development and coordination of technical designs, realization, and monitoring and assessment – all of which are crucially important to reduce potential negative environmental impacts of the Program. The institutions involved in application of relevant environmental legislation to Program activities, in addition to PERS, PIMO and local self-government bodies at municipal level, are the Ministry of Agriculture and Environmental Protection, Republic Directorate for Water, Serbian Environmental Protection Agency, the Ministry of Mining and Energy, the Ministry of Construction, Transport and Infrastructure, the Ministry of Public Administration and Local Self-Government. The evaluation found that capacities of the above institutions to deal with the environmentally-related issues are in most cases with only minor insufficiencies in respect to a number of qualified staff, but are insufficient in respect to environmental impact monitoring

and enforcement on the ground to allow effective and full mitigation of the environmentally-related risks from the activities under the Program.

125. **Identified risks.** The methodology used in the assessment of environmental impact risks was similar to those typically used in ISO 14001 standard implementation. Based on that, environmental risk assessments for impacts of the supported programs are assessed against impact severity, duration of exposure to impact, reversibility of impact, likelihood of occurrence and size of impacted area. The screening identified a range of potential negative environmental impacts, which are typical for the energy civil works and construction activities, that could potentially arise during the Program implementation. These impacts are related to Air quality; Water quality; Soils; Landscape; Mineral Resources and Raw Materials; Wastes (including toxic and hazardous ones); Hazardous substances; Noise and vibrations; Health and Safety. However, the main risks related to environmental impact of the Program are related to inadequate or insufficient identification and risk assessment, due to insufficient environmental impact monitoring and enforcement on the ground. The activities focused on strengthened environmental monitoring and enforcement are included in Program Action Plan.

126. **Mitigation measures.** Most of the rehabilitation works, that consist majority of the Program, currently do not require construction permits or EIAs according to national legislation. The environmental monitoring system in these situations relies on capacities of implementing agencies that are assessed as inadequate or strong in respect to application of policies, procedures and practices within the Program's implementing agencies. To address these issues, a set of mitigation measures is built in the PforR and targeted to PERS, PIMO and local municipalities that will participate in the Program. Mitigation measures in PERS are – (i) training of staff in environmental management tailored to Program's needs; (ii) ensuring there is a dedicated environmental manager position to work exclusively under the Program; (iii) design of the environmental management guidelines for environmental impact monitoring for PERS; (iv) preparing a standard environmental management and monitoring guidelines for PERS-engaged contractors on road rehabilitation works; (v) preparing a standard/generic Waste Management Plan for road rehabilitation activities; (vi) adopting a rule that writ-ten approval of the environmental compliance report is obligatory precondition for the execution of the final payment of contractors. In PIMO and local-self-governments the measures include – (i) employment of an environmental manager for the Program-related works; (ii) development of the internal environmental management and monitoring procedures within PIMO, applicable to Program-funded activities; (iii) executing environmental-risks related training to PIMO staff, supervising engineers and environmental manager to enable efficient and effective environmental supervision and compliance; (iv) preparing internal guidelines for the environmental management and monitoring of Program-related activities/projects - tailored for the needs of the environmental manager, site and supervising engineers; (v) preparing a standard environmental management and monitoring guidelines for contractors; (vi) preparing a standard/generic waste management plan for the contractors related to Program-funded activities; (vii) adopting a rule that written approval of the environmental compliance report is obligatory precondition for the execution of the final payment of contractors.

Social

127. The transport component will finance road maintenance activities. Maintenance in this context is defined as routine, periodic (minor repairs, limited resurfacing, limited reconstruction of drainage and pavement) that would be done in the existing Right of Way, hence expropriation of land is not anticipated. 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. In addition, there is neither 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 not an issue because the contractors use public land in most of the cases or rent pieces of land for storages. Because of the nature of the works – road maintenance whereby in different regions regional firms are providing the maintenance works and the retrofitting of the public buildings – the labor comes from the

locality or micro region and thus there is no need for establishment of the labor camps. So, there will be no issues with labor influx as well. PBMC will incorporate standard World Bank Environmental, Social, Health and Safety clauses requiring the contractors to apply the workers code of conduct. The social assessment looks at the possibility soliciting feedback by the users, to be disaggregated and further analyzed by gender variables to capture feedback and issues based on gender 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 for the maintenance.

128. 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. Rather, the program will have positive social impacts. It will lead to improved social development outcomes due to the upgrading of social buildings, extending their operating lifetimes and quality. The social assessment recommends that measures are taken to properly capture and document the social development outcomes so they can be further used by PIMO to support its program monitoring, reporting and evaluation functions. The recommended measures include activities such as: documenting and carrying periodic i.e. annual social surveys to measure user's satisfaction and assess the scale of beneficiaries disaggregated by gender; adopting the social design program as part of overall program M&E database that can be searched by different variables. In addition, it is recommended that this surveys are further analyzed by gender variables to capture feedback and issues based on gender that would be addressed as the program advances or with other programs as necessary. The possibilities to do social monitoring will allow to capture social impacts in Local Self-Government level as well in aggregate level and with this to strengthen even more the worthens and usefulness of the program beyond the energy cost savings.

129. Communities and individuals who believe that they are adversely affected as a result of a Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance redress mechanism or the Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Affected communities and individuals may submit their complaint to the Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

130. **Climate Co-benefits.** The climate co-benefits from the operation are about US\$47.3 million (40 percent of the World Bank loan) which are delivered from the reduction in GHG emissions as a result of the renovated, efficient buildings under the energy component. The overall 4-year operation is expected to lead to 19 million tonnes of CO₂ emissions reduction. While it is expected that the transport component of the project will result in a small reduction of CO₂ emissions due to improved road quality, road maintenance is not an eligible activity for climate mitigation finance under the Joint MDB Climate Finance methodology, and thus such benefits were not considered as climate co-benefits¹⁸.

Climate and Disaster Risk Screening

¹⁸ *Joint Report on Multilateral Development Banks' Climate Finance*. EBRD. 2016

131. A climate and disaster risk screening was conducted for this Program.¹⁹ Taking in consideration that the Program is located in Serbia (near complete coverage of all municipalities in the country), the following climate change and natural risks were identified as hazards to the project context: (a) extreme temperature; (b) extreme precipitation and flooding; (c) droughts; and (d) earthquakes. The impacts of these hazards to the Program were assessed based on the Program locations and subsectors (roads and energy efficiency in buildings). The hazards were determined to pose a medium or moderate risk to the Program due to the expected impacts of climate change in Serbia. Historic trends and future projections of average annual temperatures and average annual rainfall indicate that the country is exposed to a moderate hazard of extreme heat and moderate exposure to extreme rainfall days caused respectively by an increase in average annual temperatures and annual precipitations over the next 30 years. Regardless of the expected increase in average annual precipitation, the number of consecutive dry days is also forecasted to rise over the next 30 years. This poses a medium or moderate level of risk of drought in the country. In addition to the climate change risks, Serbia is in a medium to high seismic hazard area, which entails moderate exposure to earthquakes.

132. The climate and disaster hazards were determined to pose a low risk to the Program. The energy efficiency measures that will be implemented in Serbian public buildings under the Program are intended to result in more resilient buildings and structures. The impact of higher temperatures, increased precipitation or longer dry periods is considered to have a low impact on the anticipated energy efficiency measures. Only earthquakes were determined to result in a moderate risk for the energy efficiency measures adopted, as increased or more frequent seismic activity may result in potential damage to structures, insulation layers or electrical/heating equipment. To mitigate this risk, the Program includes coordination with PIMO for compliance with the latest standards adopted by the GoS regarding seismic activity. According to the legal framework in place, in the case of building reconstruction (i.e. works affecting stability and safety of the current building structure), calculations including resilience to seismic risks must be performed within the technical designs. In cases of building adaptation or building energy retrofit, the assessment of building stability is not mandatory. The classification of the works is the joint responsibility of the design company and the investor (municipality jointly with PIMO). It was also agreed that the Bank would provide capacity building under an ongoing Disaster Risk Management TA program to PIMO to help conduct a seismic vulnerability assessment of buildings likely to be most impacted by earthquakes and, then, either comply with the required detailed assessments or remove the building from the Program. Key non-physical components that could affect the risk posed by climate and geophysical hazards were also identified. These components are related to operations support, institutional strengthening and strategic energy planning for resilience and reliability of public buildings in Serbia. Overall, these components are considered to slightly reduce the impact of climate change and other natural hazards by increasing resilience. Finally, the broader development context of the project could reduce the impact of energy consumption in Serbia on the climate as the energy efficiency measures to be implemented are expected to reduce pollution, reduced impacts of disruptions in energy supply and energy consumption of end-users.

133. A good state of repair in the road system will ensure that the sector can better mitigate climate change risks. For example, clean and well-paved roads with sound structures may not suffer as extensive damage from heavy rains as otherwise poorly maintained roads. Also, due to the PBMC approach, roads can be maintained with a long-term perspective and taking factors such as climate and seismic activity. Therefore, this can help PERS or MCTI to take preemptive maintenance and mitigate risks. Similar to the energy efficiency component of this project, only seismic activity is likely to result into potential damages

¹⁹ To conduct the screening, the World Bank Group's Climate and Disaster Risk Screening Tool was used (www.climatescreeningtools.worldbank.org).

to roads under PBMC, while the Program is likely to mitigate an already existing risk. Key non-physical components for road maintenance are important and have considerable effect on capacity building, long-term strategic planning, and data gathering and information management systems. The three non-physical components of the Program significantly reduce the impact of climate change on the road sector. The capacity building and institutional strengthening activities closely overlap the successful completion of the DLIs, PAP and the operation. Establishing a long-term approach to road maintenance will ensure agencies assume a long-term strategic planning approach, ensuring road maintenance is done considering foreseeable climate and disaster risks. Finally, one of the conditions for PBMC to work well is a detailed understanding of the network conditions. This is achieved through a comprehensive road asset survey. Such survey/data collection allows to scope the necessary rehabilitation (undertaken outside the PBMC) and appropriate maintenance works. A better data gathering process under PBMC will likely ensure the sector can better respond to climate and disaster risks. *In conclusion, the assessment of the results obtained from the climate change and natural risk screening tool indicate that the overall risk for this project is low to medium.*

D. Risk Assessment

Table 9. Systematic Operations Risk-Rating Tool (SORT)

| Risk Category | Rating (H, S, M, L) |
|---|----------------------------|
| 1. Political and Governance | M |
| 2. Macroeconomic | M |
| 3. Sector Strategies and Policies | M |
| 4. Technical Design of Project or Program | S |
| 5. Institutional Capacity for Implementation and Sustainability | S |
| 6. Fiduciary | S |
| 7. Environment and Social | S |
| 8. Stakeholders | L |
| 9. Other | n.a. |
| OVERALL | S |

134. Overall, the Program’s implementation risk rating is Substantial. While the country and sector risks remain moderate, the multi-sectoral nature of the operation introduces several risks in the technical design and institutional capacities. The assessments of two sectoral programs with two implementing agencies, institutional governance of both implementing agencies, the decentralized nature of the energy component to municipalities, etc. introduce substantial risks during preparation and early implementation. However, the GoS commitment to the operation, combined with the strong past performance of PERS and PIMO and the agreed PAP, will help mitigate these risks. During implementation, this assessment will be reassessed, based on finalization and agreement on risk management measures.

135. The fiduciary risks are rated as Substantial. The program will rely on country systems for financial management. The country’s financial management system has been strengthened over the past several years across the public sector, yet there are areas for further improvement. Further reforms needed include controls over commitments and management of arrears; quality of financial information on non-financial assets and liabilities; management of assets; medium-term budgetary framework and program budgeting; improved monitoring of fiscal risks arising from SOE operations. The Law on Public Enterprises brought about improvements in corporate governance of public enterprises, but in some cases the implementation is lagging. Procurement under the Program will follow the government procedures. For the transport sector, procurement will consist of performance based maintenance contracting, while

for the energy sector, procurement will consist of technical elaborations and detailed designs of the buildings; construction works and design compliance reports and construction supervision. The program will not involve activities that involve procurement of works and services under high-value contracts that would require mandatory review by the Bank’s Operations Procurement Review Committee (OPCR).

136. Procurement risks are rated Substantial due to lack of internal controls in public procurement procedures, potential delays in payments during contracts’ implementation, lack of capacity in supervising public procurement procedures and fraud and corruption during public procurement and/or implementation of contracts under the program. There are notable risks associated with in PIMO (capacity and written internal procedures) which need to be addressed. Additionally, in PERS there is a lack of responsive bids for Performance Based Maintenance Contracting due to introduction of the new concept of contracting in transport sector in PERS. For these reasons the procurement component of the fiduciary risk is substantial. These risks will be mitigated by independent audits of procurement procedures on yearly basis, project reporting, strengthening capacity and the use of Anti-Corruption Guideline applicable to PforR operations dated February 1, 2012, and revised on July 10, 2015 and the use of World Bank debarment list of firms and individuals for the Program

137. The environmental and social aspects are rated as Substantial. The practical application of environmental management measures varies greatly due to uneven capacity for implementation at the implementing agencies, but is generally inadequate. In respect to transport component – environmental procedures for the road maintenance, although existing, are not fully developed nor initialized for implementation within PERS. In respect to energy efficiency program – the implementation agency, although involved in implementation of several rounds of grants to municipalities – do not have any policies nor procedures for the management and monitoring of environmental risks and impacts.

138. In the existing implementation set-up, there is no environmental management and monitoring procedures that could be applied under the P4R program. The above statement was verified during preparation of ESSA, where additional measures were proposed to address these shortcomings.

139. The risk category for the social aspects is rated Low. There is very limited and low likelihood that any social factor will undermine the achievement of the Developmental Objectives. Both components will improve the assets (i) Energy Efficiency component with the retrofitting program will contribute to improvement of the public services provided by the selected public institutions and (ii) through transport component selected road networks will benefit from the improved maintenance which will among others improve the public transport. In both components, there are no social safeguards risks as there will be no land impacts by the investments financed with this program.

140. However, given the environmental risk is higher than the social than the combined risk for category 7 (Environmental and Social) is determined by the environmental risk which is Substantial

141. The stakeholders risk is low. In both components, there are no stakeholders identified that would oppose the program. Most of the stakeholders relevant for the programs both components support the interventions. The program is also coordinated with other donors.

E. Program Action Plan

| Transport Component | | | |
|---|--|--------------------|---|
| Action | (First) Due Date | Responsible | Completion Measurement |
| Stage 1: Preparation | | | |
| Align legal framework To ensure compliance of PBMC scope to the national framework. | 06/2018 Start Bi-Annual Reporting for World | MCTI | MCTI will report to the World Bank on the amendments to the existing legal framework. |

| | | | |
|---|--|---------------|--|
| | Bank | | |
| Provide institutional support To develop robust road sector reform plans. | 06/2018 Start Bi-annual Reporting | PERS and MCTI | PERS and MCTI will provide progress reports to the World Bank on the SLA and supporting documentation (Performance Based Maintenance plan and asset management plan). |
| Road asset condition and data in support of PBMC To enable development of PBMC scope. | 06/2018 Start Bi-annual Reporting | PERS | PERS will provide progress reports to the World Bank on the status of road condition survey and other road asset information data assembled for the road asset management plan. |
| Stage 2: Procurement | | | |
| Develop attractive contract packages To enable successful competition at tender. | 08/2018 Start Bi-Annual Reporting | PERS | PERS will provide progress reports to the World Bank on the status of the PBMC procurement and contract strategy. |
| Stage 3: Delivery | | | |
| Develop capable supply chain and “buyer” To enable successful delivery of PBMC across the road network. | 01/2019 | PERS | PERS will provide progress reports to the World Bank on the status of the PBMC training to public and private sector |
| Stage 4: Monitoring and Evaluation | | | |
| Establish robust organizational arrangements for M&E PERS to assemble a PBMC Steering Committee and identify the PBMC Champion within its organization. | 03/2018 | PERS and MCTI | PERS and MCTI will provide progress reports to the World Bank on the status of the Program and its constituent parts. |
| Energy Component | | | |
| Appointment of environmental manager | October 15, 2017 | PIMO | Assign or recruit staff member in PIMO to serve as environmental manager, to support reviews of environmental compliance and preparation of guidelines for municipalities |
| State certification of PIMO procurement staff | October 31, 2017 | PIMO | Finalize certification of 2-3 PIMO procurement staff in public procurement |
| Establish Steering Committee | November 15, 2017 | MME | Adopt decree for Part 2 of Program. |
| Adopt Program Operations Manual | November 30, 2017 | PIMO | Develop and adopt POM with content agreed by the Bank, to include program procedures, reporting, financial management and procurement processes, grievance redress mechanism, standard documents and templates |
| Internal environmental management guidelines | December 15, 2017 | PIMO | Develop internal guidelines and training for PIMO engineers for environmental management (to be done |

| | | | |
|--|-------------------------------------|------|---|
| and training | | | by Environmental Manager) |
| Develop and administer annual social survey | December 29, 2017 and then annually | PIMO | Development and issuance of socioeconomic and satisfaction survey in a format agreed by the Bank |
| Provide annual training to municipalities and contractors on Program | December 29, 2017 and then annually | PIMO | Offering of annual training to ensure incorporation of lessons learned into Program implementation; training materials, agenda, and participant/invitee list to be agreed with the Bank |
| Contractor environmental management guidelines and waste management plan | December 31, 2017 | PIMO | Develop environmental guidelines and a waste management plan for construction works contractors (to be done by Environmental Manager) |

Annex 1: Detailed Program Description

1. *Transport Sector:* The government program is the routine and periodic maintenance²⁰ of 14,894 km of category 1 and 2 National roads under the management of Public Enterprise Roads of Serbia (PERS) annually. The government program is implemented under the government's Road Development and Maintenance Strategy, which is harmonized with the Strategy for Development of Railway, Road, Water, Air and Intermodal Transport in the Republic of Serbia.
2. The Bank's PforR operation supports the maintenance of a total of 8,000 km of the government program over the period 2017 to 2020. The aim of the PforR operation is to ensure system preservation and substantial implementation of modern maintenance approaches in Serbia, namely: the Performance Based Maintenance Contract (PBMC). The PforR operation will start by supporting 1000 km in the first year following the traditional (existing) contractual approaches to maintenance while ensuring that certain performance standards are observed. In the second year, the Bank operation will support 2000 km following an enhanced approach to maintenance contracts (traditional maintenance with performance standards). The PforR operation culminates in year 3 in with the beginning of the implementation of 3-year contracts covering 5000 km exclusively using PBMC. This will ensure gradual building-up of the required institutional capacity driven by key principles such as efficiency, accountability, and transparency. This will help PERS evolve as the sector evolves, in order to manage road assets under a results oriented environment focused on client satisfaction.
3. Under the PBMC approach to road maintenance, the contractor assumes responsibility for managing the condition of the road assets, typically for 3-5 years, to ensure that a pre-set level of performance is achieved. The PBMC approach shifts the planning and delivery risks from the road owner to the maintenance contractor. The road owner specifies what needs to be achieved rather than how to achieve it. This incentivizes the contractors to adopt measures that improve the condition of the road asset for the duration of the contract rather than ad-hoc repairs. In return for the delivery of an agreed level of performance, the contractor receives a schedule of payments. The PBMC approach provides a financial incentive for the contractor to focus on achieving the performance standards. It also incentivizes the contractor to be innovative and minimize waste because the payments are based on a set level of performance indicators rather on the value of inputs used. This approach and the longer-term contract duration will maximize private sector competition and introduce professional management practices, while providing a better customer experience to the travelling public.
4. The Bank's program as described in Table 1, does not include an additional 3000 km of network under PBMC, that is being prepared for tender under the auspices of EU Delegation to Serbia. The tendering of the 3000 km is a DLI under the Bank supported RRSP. The PforR operation builds on this initiative and seeks to institutionalize the PBMC practice in Serbia.

²⁰ Routine and periodic maintenance are defined as per article 58 and 59 of the Serbian Roads Act.

Table 10. Proposed Path towards Performance Based Maintenance Contracts in Serbia

| | | |
|-------------------|--|---|
| Year 1 2017-18 | Traditional Maintenance | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 1000 km using existing maintenance procedures. The contracts executed would ensure, as a minimum, that during the Project implementation period no potholes remains open, no edge break occurs between the pavement and the shoulders and that all horizontal marking and vertical signs are adequately restored, in order to comply with the most critical road safety requirements. The continuing maintenance will ensure system preservation and structural sustainability of the network’s state of repair. This will help change the mindset of PERS from a traditional approach based on payments for inputs to one that considers outcomes. |
| Year 2 2018-19 | Transition Year: Enhanced Maintenance (Traditional Maintenance + Performance standards) | <ul style="list-style-type: none"> ▶ Bank Support: Preparation and signature of the Service Level Agreement (SLA) to ensure long term financial predictability and sustainability to address maintenance needs in Serbia. ▶ Bank Support to PERS to maintain 2000 km of network using enhanced maintenance (Traditional maintenance + Performance Standards). The contracts executed will ensure a clear set of performance standards, that would result in increased efficiency in maintenance operations and a predictable state of repair to ensure enhanced motorist satisfaction. ▶ PBMC tendered and contracts awarded for an additional 5000 km.²¹ |
| Year 3 2019-20 | Substantial Implementation of the Performance Based Maintenance (PBMC) | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 5000 km of national network using PBMC. These contracts will be for a duration of three (3) years, where bank support will be limited to the first year of implementation (where the sustainability of future years funding will be defined by the Service Level Agreement signed between PERS and the MCTI). The quality and service levels will also be defined by the SLA. |

5. The progression to, and institutionalization of, a full-fledged performance-based maintenance program is founded upon three key elements – a Service Level Agreement (SLA) between MCTI and PERS, Rolling Performance Based Maintenance Plans and Asset Management Plans. These three components interlink to each other very closely and establish the terms of involvement for each of the agencies or organizations that have a role in road maintenance.

6. **Service Level Agreement.** A SLA will be a multi annual infrastructure contract between the GoS and PERS. The SLA will be the centerpiece for the GoS’ policy towards the sustainable financing of public road network. It will define the level of GoS’s support for the activities of maintenance,

²¹ PBMCs for 3,000 km are currently being tendered. The 5,000 km are in addition to the 3,000 km.

rehabilitation and upgrades of national roads. Under this long-term commercial agreement between MCTI and PERS, PERS will be given details about the level of fiscal support over a certain period (typically 3-5 years), the road performance level (i.e., quality) to which the infrastructure will have to be maintained, and the incentives for better performance. The SLA articulates these long-term commitments to ensure all agencies understand the terms of performance and produce the best outcome possible.

7. ***Rolling Performance Based Maintenance Plan.*** PERS will develop a Rolling Performance Based Maintenance Plan to address SLA commitments. The Performance Based Maintenance plan will be a key in-house planning and business management tool to help achieve the agreed SLA targets. The funding levels for the period 2018-2020 will be set by MCTI and the Ministry of Finance (MoF). In turn, PERS will be directly responsible for a number of key decisions that impact its operational and financial performance. PERS will adjust its maintenance activities to a level consistent with traffic levels. This approach will allow scarce funds to be used more optimally as prioritized roads receive the pertinent levels of maintenance. PERS' Performance Based Maintenance plan will be in line with SLA, once developed, and will articulate the commercial management strategy along the three primary objectives: (i) link infrastructure requirements to usage; (ii) minimize road maintenance cost; and (iii) establish core activities.

8. ***Asset Management Plan.*** An asset management plan will provide information about how PERS will integrate management, financial, economic and engineering practices to utilize its physical assets. The asset management plan will have the objective to provide the users with the optimal level of infrastructure service and in the most cost-effective manner. Asset management thinking will challenge managers to optimize output, by achieving the best or most appropriate trade-off between competing factors such as performance, cost, and risk. The key objectives of implementing asset management in PERS include: (i) cost-effectiveness in infrastructure construction, preservation, operation, and reinvestment; (ii) value-for-Money in the delivery of road infrastructure, that would include professional value engineering for large investments; and (iii) transparency and accountability.

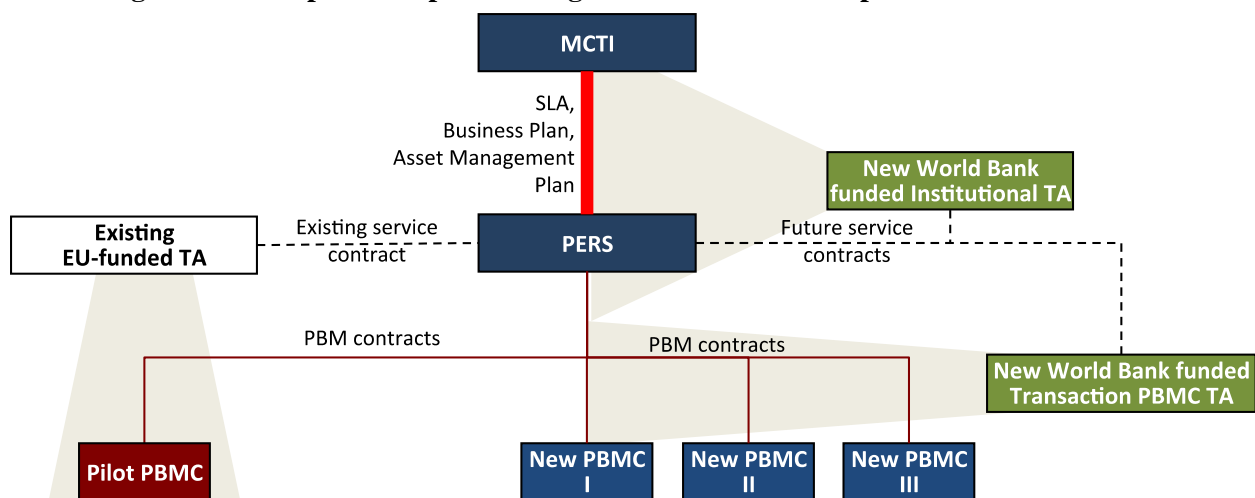
9. The elements delineated above will provide the right context for the management of PERS's activities on network development and PBMC contracts. From the start, when the SLA is established as the prime reference point and lever for future decision-making to the implementation when the key strategic message is conveyed across PERS, the three components need to be consistent and all organizations need to be aware that activities will rely more heavily on these documents, providing a clear target as it pertains to road maintenance performance and clarifying the role of each of the entities involved.

10. The main institutions involved and their roles are:

- **MCTI:** The Ministry, as the key driver of change in the road sector, is a co-implementing agency for the Program. In addition to its operational support with changes to legislation, MCTI will assume an overall oversight of the Program.
- **PERS:** PERS, as the other co-implementing agency for the Program, will lead the World Bank Program implementation and assume day-to-day leadership, coordination of all Program related activities and the overall monitoring of progress of PBMC roll-out. PERS will report to MCTI and the Bank on the progress of the Program and the short-term plans.
- **Institutional TA:** The World Bank funded TA will provide expert support to MCTI and PERS on the SLA, including the assessment of maintenance backlog and support with policy decisions related to separate CAPEX work needed to upgrade the network. For PERS, the TA will also provide direct support with the Performance Based Maintenance plan and the asset management plan. The ToR for this TA is currently being finalized.
- **Project Auditor Consultant:** The PAC will initially be financed by RRSP for six months and thereafter by PERS internal resources. It will provide expert support to PERS with PBMC design and procurement strategy, preparation and execution of tender, PBMC training of private and

public sector stakeholders and initial oversight of PBMC contract monitoring. Preparation of the terms of reference for this TA will commence shortly. This is key for PERS because PBMC is a new approach to road maintenance in Serbia. Therefore, this TA will make sure that PERS takes into consideration factors that are relevant to performance based maintenance. The PAC will also be procured to perform annual audits and results monitoring and evaluation. The PAC will review a random sample of about 20 percent of the PBM contracts and other activities under the project. Besides the random selection of contracts, the review may also include works or contracts believed to require special review as determined by the Bank. The PAC's activities will broadly include the following: (i) verification of contents of the PBMC contracts, (ii) verification that roads are rehabilitated in accordance with contract documents (DLI1, DLI2, and DLI3); and (iii) review and verification that the DLIs have been met. This could include actual field visits and reviews of PERS documents.

Figure 1. Transport Component Program Institutional Setup



11. The main program activities are; (1) the establishment of the enabling conditions for PBMC, (ii) the actual preparation of performance based contracts, and (iii) the delivery of PBMC.

12. There are three main *precursor conditions for PBMC*:

- Understanding of the network condition, based on a comprehensive road asset survey, so that the scope of the necessary rehabilitation²² and maintenance works can be identified, costed, and funding for it agreed by MCTI and PERS.
- Signed Service Level Agreement between MCTI and PERS, and backed-up by PERS' 3-year rolling Performance Based Maintenance plan, road asset management plan and PBMC contracts developed on a back-to-back basis with the SLA.
- Availability of funding for CAPEX works outside the scope of PBMC. This will reduce the need for major items of periodic maintenance to be merged with PBMC. It is important to mention that this one of the tasks that is affected by many of the components of the program. The level of CAPEX will be subject to the terms agreed between PERS and MCTI in the SLA and the ability

²² This is undertaken outside of PBMC

of GoS (through MCTI) to fund CAPEX.

13. During *preparation of PBMC*, MCTI and PERS will have make the necessary amendments to align the current frameworks with the PBMC needs. PERS will prepare and execute PBMC tenders for the whole network and contract with the private sector companies. Additionally, PERS will have to train and educate public stakeholders and the supply chain.

14. The *delivery of PBMC* activities:

- PERS will initially only be able to guarantee 3-year financing. Longer duration of the contract would necessitate legal changes. However, GoS has expressed the possibility to revisit legal changes if PBMC proves to be successful.
- PERS will provide training to and hire personnel on contract for PBMC Supervision and Monitoring. At present, PERS hires supervision personnel on contract from the Highways Institute to assist with supervision of the maintenance companies. Although the PBMC Project Managers should ideally be from the pool of PERS permanent staff, other support staff will need to be hired specifically for the contracts.
- The start, end and duration of maintenance contracts will be fixed per the winter season to ensure uninterrupted coverage for winter maintenance. In addition, new contracts will commence before the 15th of September to give contractors time to get established before the start of the winter season.
- To achieve required transparency and accountability PBMC lump-sum payment items should not dominate the contract. For transparency, each lump sum should be linked to a separate works activity. This was the arrangement used in the PBMC pilot project under TRP.
- PBMC monitoring and regulation should be based on an inspection regime which combines programmed “formal” inspections with “informal” site visits made by the PBMC Project Managers. The Contractors will maintain their own QA System to monitor performance and correct any deviations should they occur.

15. *Energy Sector*: 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 in Education, Healthcare and Social Protection Sectors (hereinafter referred to as the “government program”) in April 2016. The government designated Public Investment Management Office (PIMO) to implement the government program. The main aspects of the government program are summarized below:

- a. *Government program scope*. The government program is open-ended and covers all municipal-level social buildings (including education, healthcare and social protection facilities) in need of reconstruction. Works covered under the program include improvements of the building envelope (roof, windows, doors and wall insulation), internal equipment (lighting, fuel switching such as coal/oil to pellets/wood chips, solar hot water heaters) as well as some non-EE measures (structural reinforcement, sanitary repairs, rewiring, painting, etc.). According to PIMO estimates, 70-80 percent of the works to be undertaken can be categorized as EE improvement measures.
- b. *Implementation model*. The program is administered by PIMO. While the program relies largely on a decentralized implementation model with municipalities responsible for procurement and management, PIMO retains a critical role for final approvals and technical oversight. Municipalities select buildings from the education, healthcare and social protection sectors and prioritize them based on the urgency of the need for renovation and lack of access to financing from other programs. They are responsible for the costs associated with the technical designs, bidding documents, construction supervision and commissioning; the Program bears 100 percent of the costs for the renovation works.

- c. *Eligibility and selection.* A call for proposals was issued by PIMO in May 2016 to all municipalities requesting them to provide a list of priority buildings for participation in the government program, based on criteria set by PIMO. These include 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.
- d. *Technical aspects.* As required under current regulations, all buildings to be renovated must have technical designs including an EE elaboration to meet basic building code parameters (e.g., fire safety, operational permits). The government program seeks to reach Class C for all buildings, except those for which it is uneconomic or other constraints to do so (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 (e.g., from Class F to Class D).
- e. *Status.* To date, 234 buildings have been officially approved by the government for renovation under the government program, based on municipal priorities, satisfaction of the eligibility criteria set by PIMO, and review by a Working Group (WG) comprising representatives of key ministries. About 30 are already under construction or completed, 50 are in the works tendering phase and the rest are finalizing their designs.

16. Definition of World Bank Program. Because the government program is open-ended, the Bank has defined its Program for the purposes of its Program-for-Results loan as the first phase of the government program, namely the 234 buildings currently approved by the government from the initial call for proposals. There is no geographic boundary as these buildings are located throughout the country.

17. Under the Program, PIMO initiates periodic calls for proposals. The building managers apply to the Program through the municipalities. To qualify for the program, the municipalities must submit project proposals in compliance with eligibility criteria and present requested information regarding rehabilitation and reconstruction measures. When applying to the Program, PIMO advises the municipalities to define priorities based on the degree of the buildings dilapidation, number of users, and estimated investment. PIMO processes and systematizes received applications and submits the list of proposed projects for review to the WG formed by the government with representatives of key ministries. After review, the WG shortlists selected projects and submits the list through PIMO to the government for approval.

18. Under the Program, the rehabilitation and improvement of the public buildings should consider that all users and beneficiaries, children, disabled and elderly people, have unobstructed access, easy movement and appropriate working conditions in accordance with latest standards and technical requirements in their respective sectors. Issues related to energy efficiency, safety (structural and fire) and proper functioning (full lighting, heating, etc. per national norms) are also integral to the Program. After the first call for proposals issued in May 2016, PIMO received 523 applications and developed a shortlist of 234 eligible buildings after review by the WG; the list was subsequently approved by the government. The eligible buildings were spread amongst 109 municipalities (out of a total of 174).

19. The main institutions involved and their roles, are as follows:

- a. **PIMO** is responsible on behalf of GoS for overall Program design, management and coordination among the involved government entities. PIMO has developed draft methodological approach and brief guidelines that describe the Program's objectives, eligibility criteria, procedures and institutional responsibilities. PIMO has mobilized and manages financial resources for Program implementation and disburses funds in accordance with the Program guidelines. PIMO has established a Program website (www.obnova.gov.rs) with key information including legal and background documents, approved buildings, and the status of rehabilitation works. PIMO signs contracts (specifying mutual rights and responsibilities) with the municipalities for the

implementation and financing of the works and maintains a register of submitted applications and agreements. PIMO also acts as an oversight and payment agent, remunerating contractors based on its own inspections and invoices approved by the municipalities.

- b. **Municipalities** are assigned investor's rights on behalf of the GoS and are responsible for proposing lists of public buildings for renovation, developing the EE elaborations and technical designs for approved buildings, works procurement and supervision, construction supervision, and commissioning.
- c. **SCTM** maintains records on all applications to the Program and prepares reports as requested based on its database (SLAP IS). The database contains information such as municipal applications, descriptions of individual projects and expected results, estimated investment amounts, bidding documents, commissioning reports, energy performance certificates, fire protection approvals, usage permits and other documentation required for results monitoring and evaluation.
- d. The **WG** reviews and approves the list of buildings proposed by PIMO under the Program. The WG also coordinates between entities, ensuring there are no buildings that are receiving support from parallel renovation programs.
- e. MME will establish a **Program Steering Committee** to provide oversight and approve policies and procedures, including final approval of the Program Operations Manual, for the Program's future operations. The Steering Committee will also ensure coordination of the Program with relevant regulations in the area of building codes and energy efficiency standards and requirements. MME will also develop a medium-term national plan for the renovation of public buildings.

20. Municipalities select buildings from education, healthcare and social protection sectors and prioritize them based on the urgency of the need for renovation and lack of access to financing from other programs. In each municipality, PIMO approves one or two buildings from each subsector, where technical designs are already in place or can be developed within a short period. When the technical design is not yet developed, PIMO advises on the scope of the design and provides municipalities with written guidelines on the design preparation steps for PIMO approval (design brief, proof of ownership, cadaster plan, usage permit, preliminary design with detailed bill of quantities, design for construction with detailed technical specifications which will be included in the bidding documents). For those buildings with designs already prepared, PIMO visits them, reviews the draft technical designs and provides comments for their finalization. Once the application is approved, PIMO signs a contract with the municipality. The municipality must nominate a responsible person to represent the municipality during the implementation phase, liaising with PIMO and contractors. A schematic of the program is presented in Figure 2.

Program expenditures

21. The total Program expenditures for 234 buildings are estimated to be around €81.1 million, which includes €71.8 million (88.5 percent) of these expenditures relate to the reconstruction works; the remaining €9.3 million is estimated to cover the costs of technical services, such as energy audits, technical designs, construction supervision and building certifications. Program administrative and management costs (mainly municipalities and PIMO incremental costs) are taken as contributions from the Government to support program implementation. The Program would be financed through a mix of budget support and the World Bank PforR loan, which will be included in the 2017 budget. For the three-year Program period (2017-19), PIMO received about €7 million in 2017; the program budget funding for 2018-19 has been confirmed by MOF.

Program Result Chain

22. The key results for the Program to assess achievements of the PDO include: (i) energy savings; and (ii) the number of renovated buildings meeting the national building regulations and Class C energy

performance standards. The linkage between the Program activities and expected outcomes reflected in the PDO is described in the Program results chain (Figure 3).

Figure 2. Energy Component of the Program Institutional Set-up

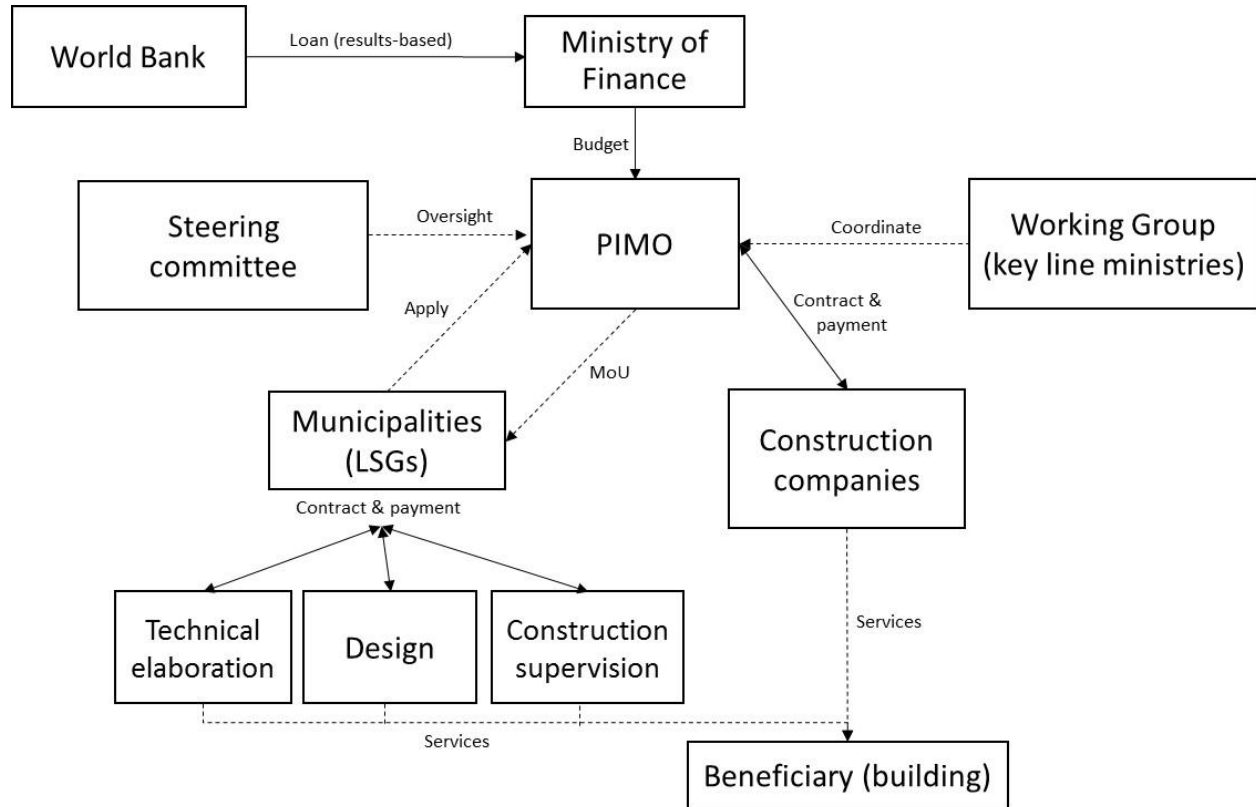
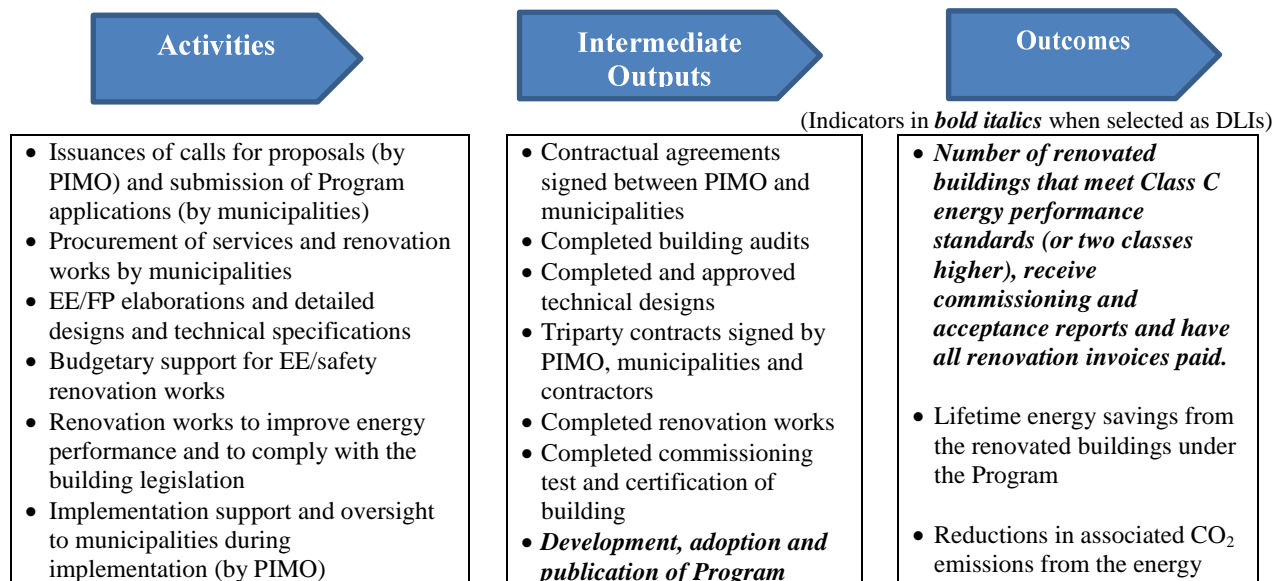


Figure 3. Program Results Chain



- Awareness raising and capacity building (including fiduciary and safeguards) of municipalities
- Training of construction firms
- Collection of data and information from stakeholders involved in program implementation
- Launch of an integrated monitoring and reporting system
- Introduction of evaluation mechanisms and feedback loops for additional training

Operations Manual (POM)

- Development and dissemination of standard bidding documents, designs, training, etc. (by PIMO)
- ***Government adoption of a medium-term national plan for the renovation of public buildings***
- ***Design and operationalization of a consolidated Program for monitoring and evaluation***
- Evaluation results integrated into Program implementation and disseminated to stakeholders

saved in the renovated buildings under the Program

- Municipal satisfaction and reported social co-benefits (e.g., improved building functionality, comfort, lower heating/maintenance costs, extended building operating life, etc.)

Annex 2: Results Framework and Monitoring Matrix

| Program Development Objective: to improve the management and sustainability of select public infrastructure by strengthening government capacity and systems, upgrading assets, and increasing expenditure efficiency. | | | | | | | | | | |
|---|------|-----|-----------------|--|--------------------------|--|----------------------|------------|--|------------------------------------|
| PDO Level Results Indicators | Core | DLI | Unit of Measure | Baseline By Nov 30 2017 | Cumulative Target Values | | | Frequency | Data Source/ Methodology | Responsibility for Data Collection |
| | | | | | By 2018 | By 2019 | 2020 | | | |
| PDO Indicator 1: Enhanced motorist satisfaction through better pavement condition | X | | IRI | TBD | | IRI < 2.5 (2000km) | IRI < 2.5 (7000 km) | Annual | PERS' Report to the Bank and Annual Reports | PERS |
| PDO Indicator 2: Implementation of the Service Level Agreement | | X | | | Yes | | | Biannually | PERS' Report to the Bank and Annual Reports | PERS |
| PDO Indicator 3: Projected lifetime energy savings (in renovated public buildings) | X | | MWh | 0 | 550,000 | 920,000 | 1,100,000 | Biannually | Pre- and post-renovation energy perf. certificates | PIMO |
| PDO Indicator 4: Renovated buildings that meet Class C (or 2 classes higher) energy performance certificate with final acceptance report | | X | No. | 39 | 117 | 195 | 234 | Biannually | Acceptance reports, energy perf. certs. | PIMO |
| Intermediate Results: | | | | | | | | | | |
| Intermediate Results (IR) Indicator 1 Length of national roads maintained | | X | km | TBD | 1000 | 2000 | 8000 | Biannually | | |
| Intermediate Results (IR) Indicator 2 Completion of road asset survey | | | Km | 3,755 | 14,894 | | | | PERS' Report to the Bank and Annual Reports | PERS |
| Intermediate Results (IR) Indicator 3 Completion of PERS' 3-year Performance Based Maintenance plan using SLA | | X | | No 3-year Performance Based Maintenance plan | | PERS' 3-year Performance Based Maintenance plan based on SLA adopted by PERS board | | Biannually | PERS' Report to the Bank and Annual Reports | PERS |
| IR Indicator 4: Completion of PERS' asset management (AM) plan | | X | | No AM plan | | | PERS AM plan adopted | Biannually | PERS' Report to the Bank and Annual Reports | PERS |

| | | | | | | | | | | |
|--|---|---|---------------------------|------------------|-------------------------------------|-----------------------------------|----------------------|------------|---|------|
| | | | | | | | and approved by MCTI | | | |
| IR Indicator 5: Road safety inspection carried out and safety measure implemented | X | | Km | TBD | | | 5000 | Annually | PERS' Report to the Bank and Annual Reports | PERS |
| IR Indicator 6: Reductions of associated CO ₂ emissions from energy saved in renovated buildings | | | Tonnes of CO ₂ | 0 | 9,000 | 15,000 | 19,000 | Biannually | EE elaboration reports | PIMO |
| IR Indicator 7: Estimated direct project beneficiaries, of which female ²³ | X | | No. | | 690,000 51 | 1,151,000 51 | 1,381,000 51 | Annually | Annual social and satisfaction survey | PIMO |
| IR Indicator 8: Completed and approved bidding documents, including technical designs | | | No. | 60 | 150 | 234 | 234 | Biannually | Municipalities | PIMO |
| IR Indicator 9: Government adoption of a medium-term national plan for the renovation of public buildings | | X | | No national plan | Medium-term national plan developed | Medium-term national plan adopted | | Annually | Official Gazette | MME |
| IR Indicator 10: Stakeholder satisfaction with program and reporting of positive socioeconomic benefits | | | % | NA | 90 | 97 | 98 | Annually | Annual social and satisfaction survey | PIMO |

²³ Number of beneficiaries is based on actual Program beneficiaries. Share of female beneficiaries will be calculated according to the data from the social satisfaction survey undertaken by PIMO.

Annex 3: Disbursement Linked Indicators, Disbursement Arrangements and Verification Protocols

| | <i>Total Financing Allocated to DLI (million €)</i> | <i>As % of Total Financing Amount</i> | <i>DLI Baseline</i> | <i>Indicative timeline for DLI achievement</i> | | | |
|--|---|---------------------------------------|---|--|--|--|---|
| | | | | 2017 | 2018 | 2019 | 2020-21 |
| DLI 1. PERS Completes maintenance of 1000 km of national road network | 15.0 | 15.0% | TBD | | By Dec 2018 PERS completes maintenance of 1000 km of its network. | | |
| DLI 2. Service Level Agreement (SLA) between PERS and MCTI is signed. PERS Adopts its 3-year Performance Based Maintenance Plan PERS Completes maintenance of 2000 km of national road network using enhanced road maintenance contract | 20.0 | 20.0% | No SLA in place. No long-term Performance Based Maintenance plan in place. | | PERS prepares the legal documents for the signature and adoption of SLA. | <ul style="list-style-type: none"> By Dec 2019 PERS completes maintenance of 2000km of its network using the enhanced maintenance contracts. PERS adopts the 3-year Performance Based Maintenance plan based on the SLA. | |
| DLI 3. Adoption of the asset management (AM) plan by PERS At least 5000 km of the national road network managed by PERS is maintained using PBMC. | 24.85 | 24.85% | PBMC is not deployed in Serbia. No AM plan in place. | | | <ul style="list-style-type: none"> PERS' contracted maintenance with PBMC covering a minimum of 5000 km of the Serbian national road network awarded. | <p>First year PBMC contract Implemented for the 5000km of national network</p> <p>AM Adopted by PERS and approved by MCTI</p> |

| | | | | | | | |
|---|-------|-------|----------------------------------|--------------------------------------|----------------------------------|----------------------------------|-----|
| DLI 4. Adoption and publication by PIMO Management of a Program Operations Manual ²⁴ | 3.0 | 3% | No documented program procedures | POM developed, adopted and published | | | |
| DLI 5. Issuance of a Government Decision on the Borrower's adoption of a medium-term national plan for the renovation of public buildings, and its publication in the Official Gazette | 4.9 | 4.9% | No strategy in place | | Strategy or program plan drafted | Strategy or program plan adopted | |
| DLI 6. Design and operationalization of consolidated program monitoring and evaluation system | 2.0 | 2.0% | No consolidated system | System, developed | System operational | | |
| DLI 7. Renovated buildings meeting national building regulations and C Class (number) <i>DLI 4.1 up to 39 buildings as a prior result</i> <i>DLI 4.2 up to an additional 195 buildings</i> | 30.0 | 30% | 0 | 39 | 117 | 195 | 234 |
| Front End Fee | 0.25 | 0.25% | | | | | |
| Total Financing Allocated: | 100.0 | 100% | | 23.0 ²⁵ | 39.5 | 32.5 | 5.0 |

²⁴ This would be a prior result.

²⁵ Include payments for prior results achieved between May 3, 2017 and the date of Loan Signing.

DLI Verification Protocol Table

| # | DLI | Definition/ Description of achievement | Scalability of Disbursements (Yes/No) | Protocol to evaluate achievement of the DLI and data/result verification | | |
|---|--|---|---|--|---|---|
| | | | | Data source/ agency | Verification Entity | Procedure |
| 1 | PERS Completes maintenance of 1000 km of national road network | PERS completes maintenance of 1000 km of the national road network | Yes | PERS | Independent Project Auditor Consultant (PAC)) | Verification will be done by the Independent Project Audit Consultant (PAC) based on the following: The evidence for completed maintenance by segment, location, km, and kind of work performed. |
| 2 | Service Level Agreement (SLA) between PERS and MCTI is signed. PERS Adopts its 3-year Performance Based Maintenance Plan PERS Completes maintenance of 2000 km of national road network using enhanced road maintenance contract | PERS completes the preparation of the SLA, and it is signed and adopted by MCTI. PERS adopts a 3-year Performance Based Maintenance plan as per the adopted SLA. PERS completes maintenance of 2000 km of the national road network using enhanced maintenance contracts | Yes | MCTI and PERS | Independent Project Auditor Consultant (PAC)) | PAC will verify that the SLA and the Performance Based Maintenance Plan has been signed and adopted by both PERS and MCTI Verification will be done by the Independent Project Audit Consultant (PAC) based on the following: The evidence for completed maintenance by segment, location, km, and kind of work performed. The performance standards are met as required by the enhanced maintenance contract provisions. |
| 3 | Adoption of the asset management (AM) plan by PERS At least 5000 km of the national road network managed by PERS is maintained using PBMC. | In support of the Performance Based Maintenance plan and long-term management of the road asset, PERS will develop their own asset management plan. "Adoption" means the asset management plan is adopted by PERS board and approved by MCTI. As a minimum, contracts concluded between PERS and the PBMC contractors cover 5000km of the national road network. | Yes | PERS | Independent Project Auditor Consultant (PAC)) | The PAC will review the PBMC tender documents and the bidding processes to certify that they were in accordance with PERS management decisions and status. The PAC will carry out field visits to sites under PBMC maintenance implementation to interview stakeholders including road users and contractors to evaluate results and certify DLI compliance. The PAC will verify that (1) a minimum of 5000km of the national road network is maintained under a PBMC arrangement (using a 20% network sample for verification as agreed with the bank) and (2) MCTI has approved PERS' AM plan. This will be done based on evidence of official adoption by PERS and subsequent |

| | | | | | | |
|---|---|--|-----|------|---------------------|---|
| | | | | | | MCTI approval. |
| 4 | Adoption and publication by PIMO Management of a Program Operations Manual | The development of a POM, acceptable to the Bank, which details the program scope and budget requirements, procedures, roles and responsibilities, template documents (e.g., call for proposals, municipal contracts, design TORs, etc.) and the full project cycle—eligibility criteria and screening, methodology for the EE elaboration/technical designs, technical and environmental standards, financial management and procurement, construction supervision, commissioning, monitoring, etc. Adoption means the POM has been approved by PIMO management. | No | PIMO | Independent auditor | Verification of this <i>prior result</i> will be done by an independent auditor to confirm that PIMO management has approved the POM. The evidence for this action will be provided by November 30, 2017. |
| 5 | Issuance of a Government Decision on the Borrower's adoption of a medium-term national plan for the renovation of public buildings, and its publication in the Official Gazette | A national plan for the renovation of public buildings acceptable to the Bank would be developed by the Ministry of Mining and Energy, adopted by a Government decision and publicized in the Official Gazette. This would include, at a minimum: market data, applicable laws and regulations (new and proposed), targets and indicators, funding sources and institutional arrangements to transition to more market-based, sustainable schemes. The strategy should include policy, technical, informational, operational, environmental, social and behavioral elements. | No | MME | Independent auditor | Verification of this DLI will be done by an independent auditor based on confirmation by MME that the National Plan has been approved by the Republic of Serbia through a Government decision and it has been published in its website. The evidence for this action will be provided by December 31, 2019. |
| 6 | Design and operationalization of consolidated program M&E system | Design of a detailed monitoring and evaluation (M&E) system by PIMO to track both physical and socioeconomic indicators and impacts of the program, to be collected from an annual social survey and acceptance and certification reports. Operationalization means that PIMO is collecting and reporting this information to the government and sharing lessons with program participants. | No | PIMO | Independent auditor | Verification of this DLI will be based on a report by an independent auditor that PIMO has developed and issued a report to the GoS by December 31, 2018, which includes the data and information collected under the system once it is fully operational. |
| 7 | Renovation of 234 public buildings that (a) have acceptance reports signed and issued, (b) have acceptance reports that show class C energy performance or are two classes higher than the class of the respective pre-renovated building, and (c) have all the renovation invoices paid. | The number of buildings renovated and commissioned under the Program that have obtained an acceptance report signed by PIMO, the beneficiary and municipality, specifying that (i) renovated buildings are fully compliant with the relevant Serbian construction regulations, and (ii) that the measures prescribed in designs have been implemented. The building should also have received a post-renovation energy performance certificate confirming that the building is at least a C Class energy performance standard or two classes higher than the pre-renovated building and all renovation invoices have been paid . | Yes | PIMO | Independent auditor | Verification of this DLI will be based on a report by an independent auditor that the acceptance reports and energy performance certificates have been signed by beneficiaries, municipalities and PIMO and that based on the completion protocols, all invoices have been paid by PIMO. Verification will be done on a sampling basis (10%) with on-site visits and review of documentation. |

World Bank Disbursement Table

| # | DLI | Bank Financing Allocated to the DLI | Of which Financing Available for Prior Result | Deadline for DLI Achievement | Minimum Value to be Achieved to Trigger Bank Disbursement | Maximum DLI Value Expected to be Achieved for Bank Disbursement | Determination of Financing Amount to be Disbursed against Achieved and Verified DLI Values |
|---|--|-------------------------------------|---|------------------------------|---|--|---|
| 1 | PERS Completes maintenance of 1000 km of national road network | €15.0 million | -- | Dec 31, 2018 | € 1.5 million (100km) | € 15.0 million (1000km) | a) Scalable amount (for no less than 100km) will be disbursed upon verification by the PAC based on the following: b) The evidence for completed maintenance by segment, location, km, and kind of work performed. (€15 million) |
| 2 | Service Level Agreement (SLA) between PERS and MCTI is signed. PERS Adopts its 3-year Performance Based Maintenance Plan PERS Completes maintenance of 2000 km of national road network using enhanced road maintenance contract | €20.0 million | -- | Dec 31, 2019 | €500,000 (100km) | €10.0 million (2000km) € 5 million (Adoption of SLA) € 5 million (Adoption of 3 year Performance Based Maintenance Plan) | a) Scalable amount (for no less than 100km) will be disbursed upon verification by the PAC based on the following: The evidence for completed maintenance by segment, location, km, and kind of work performed. The performance standards are met as required by the enhanced maintenance contract provisions. (€10million) b)100 percent of allocated amount will be disbursed upon verification by the PAC of signed SLA with the content acceptable to the Bank (€ 5 million) and c)PERS' 3-year Performance Based Maintenance plan approved by MCTI, with the content acceptable to the Bank (€5 million). |
| 3 | Adoption of the asset management (AM) plan by PERS At least 5000 km of the national road network managed by PERS is maintained using PBMC. | €24.85 million | -- | Dec 31, 2020 | €400,000 (100 km) | € 20.0 million (5000km) € 5 million (AM Plan) | Scalable amount (for no less than 100km) will be disbursed upon verification by the PAC on the implementation of the PBMC contract covering at least 5000 km of national network (€20 million) MCTI-approved AM plan issued to the World Bank, with the content acceptable to the Bank (€5 million) |
| 4 | Adoption and publication of Program Operations Manual | €3.0 million | €3.0 | November 30, 2017 | n/a | n/a | 100 percent of allocated amount will be disbursed upon verification by an independent auditor that PIMO management has formally approved the POM. |
| 5 | Adoption of a medium-term national plan for the renovation of public buildings | €4.9 million | -- | December 31, 2019 | n/a | n/a | 100 percent of allocated amount will be disbursed upon verification by an independent auditor of the approval of the strategy by GoS with its content acceptable to the Bank. |

| | | | | | | | |
|---|---|---------------|------|-------------------|-----|-----|--|
| 6 | Design and operationalization of consolidated program M&E system | €2.0 million | -- | December 31, 2018 | n/a | n/a | 100 percent of allocated amount will be disbursed upon verification by an independent auditor of a report developed and issued by PIMO, which includes the data and information collected under the system once it is fully operational. |
| 7 | Renovation of 234 public buildings that (a) have acceptance reports signed and issued, (b) have acceptance reports that show class C energy performance or are two classes higher than the class of the respective pre-renovated building, and (c) have all the renovation invoices paid. | €30.0 million | €5.0 | December 31, 2020 | 39 | 234 | This DLI would be scalable. The Bank would disburse €5.0 million for verification reports in batches of 39 buildings (with up to €5.0 million as a prior result) upon verification of a report by an independent auditor (licensed by MCTI) that the energy performance certifications at the appropriate levels have been issued registered with MCTI and acceptance reports have been signed by beneficiaries, municipalities and PIMO and, based on the completion protocols, all invoices have been paid by PIMO. Partial disbursements would be allowed if requested by PIMO on a proportional basis (e.g., €128,205 per building). |
| | Front End Fee | €0.25 million | | | | | |

Annex 4: Summary of the Technical Assessment

A. Program Strategic Relevance

Transport Infrastructure in Serbia – Institutional context for the Program

1. Infrastructure in Serbia remains largely outdated due to decades of underinvestment. The quality of infrastructure facilitates a substantial loss of economic productivity, reduced safety and, often, higher budgetary outlays. The GoS recognized this and has requested support from the World Bank to address enhanced maintenance systems in the roads sector. At the policy level, the GoS identified closing critical infrastructure gaps and enhanced energy efficiency as strategic goals supporting the country's integration into the EU.

Road sector improvement plan

2. Following the reclassification of the national road network in 2012, PERS is responsible for managing the State Roads²⁶ as the Public Roads Law places PERS in charge of operation, maintenance, protection, development and management of state roads categories I and II in the Republic of Serbia. PERS have three key priorities – (1) prevent acceleration of road degradation, (2) preserve invested capital, and (3) improve the state of the network. In absence of a formalized maintenance strategy, these priorities are set top down, and based on the affordability of the annual Budget.

3. The current road network under full management of PERS totals 14,894²⁷ km and is classified into two groups of roads with the broad classification as follows:

- Category I: These are state wide roads, linking the territory of the country with the European road network or constituting a segment of the European road network, linking the territory of the country with the territories of the neighboring states, linking all segments of the territory of the country and interconnecting economically significant conurbations in the territory of the country.
- Category II: These are national roads that link the territories of two or more districts or segments within the territory of one district.

Table 11. Road network breakdown

| Category | Road Status | | Total (km) | % network |
|----------|-------------|--------------|------------|-----------|
| | Built (km) | Planned (km) | | |
| 1A | 747 | 216 | 963 | 6 |
| 1B | 3,855 | 35 | 3,890 | 26 |
| 2A | 6,923 | 123 | 7,046 | 47 |
| 2B | 2,741 | 254 | 2,995 | 20 |
| Total | 14,266 | 628 | 14,894 | 100 |

4. Although Serbia's road network accounts for 90% of passenger transport and 80% of freight transport, its condition remains poor. Fiscal restrictions and outdated road management institutional arrangements contribute to the unsatisfactory outcomes in the sector - high vehicle operating costs and inadequate road safety and drive Serbia's low level of overall trade competitiveness.

²⁶ The remaining roads in the national road network are managed by the municipalities.

²⁷ The remaining 1,969 km of the network is located in AP Kosovo and Metohija as per resolution 1244 of the UN's Security Council.

5. The GoS now wishes to 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. The GoS recognized the scale of the “connectivity challenge” and articulated its goals to rehabilitate 900km of roads and deploy Performance Based Maintenance Contracts (PBMC) across its road network by the end of 2019²⁸. The effort to bring better planning, contracting and fiscal discipline in PERS requires a concerted set of actions:

- (1) *addressing the maintenance backlog*: the GoS embarked on an IFI-supported National Road Rehabilitation and Safety Program, the first phase of which covered 1,125 kilometers of roads, with the financial support of several IFIs over the 5-year period at an estimated cost of EUR 400 million, and includes IBRD financing of EUR73.8 million
- (2) *modernizing maintenance management*: Privately owned maintenance companies operate in the same “regions” for which they were responsible prior to privatization in mid-2000s, through annual extensions of their contract with PERS. The contract model was developed in 1992 and is still in use based on the unit rates set by PERS. In order to improve upon this and increase efficiency of the road sector operations, the GoS requested assistance from the EU and the Bank with the following results. This led to successful implementation of the pilot PBMC contracts in Macva and Kolubara, which enabled the Bank to support the RRSP linked disbursements for road rehabilitation to progress with the implementation of PBMC in line with MCTI plans. The EU also provided financing for the preparation and execution of a pilot PBMC for an additional 3,000 kilometers of the national road network. The tender documentation has been released in mid-May 2017.
- (3) *strengthening the institutional arrangements for the road sector*: the Program builds upon the Bank-funded road reform plan prepared under the Corridor X Highway project. The plan supports two key GoS’ aspirations for the reform of the road sector:
 - improved governance based on more transparent and efficient management of public assets, and better use of funds intended for road maintenance requires an efficient road industry and output-driven road sector in the future:
 - The GoS and the MCTI, are the asset owners. MCTI, in its policy maker’s role, elaborates the road sector strategic and midterm objectives, develop mechanisms for ensuring that the industry works towards achieving the objectives, and implement means of measuring and driving the performance of the industry against the same objectives.
 - PERS, as the road asset manager and administrator, is responsible for setting its own objectives and responsibly utilizing the GoS’ funding to work towards achieving the GoS’ overall objectives for the sector. Given the goal to roll out PBMC across the whole network, PERS will cease to be a technical body in charge of costs only, and will become a “real asset manager” whose scope of responsibility will include decision making on a variety of issues, including revenue, expenditure programs and cost, resulting in a full responsibility for its own Profit and Loss account.
 - Road maintenance and other works and service providers deliver the specific outputs, that they are contracted for by PERS.
 - contribution to EU integration with the implementation of international best practices and EU standards in order to promote socio-economic development.

²⁸ The minimum compliant response would be 70% of the network on condition that the remaining part of the network is covered by an ongoing tender for PBMC

B. Detailed Program Definition

6. The Program builds upon the Bank’s prior involvement in the road sector in Serbia. A Bank-funded road reform plan prepared under the Corridor X Highway project identified areas for institutional reform. The Bank is supporting the implementation of the reform plan through the Development Policy Loan series for Public Expenditure and Public Utilities and through the ongoing transport investment projects in Serbia.

7. International experience, including the lesson learned from a successful pilot project in Serbia²⁹, has shown that the PBMC approach is an efficient vehicle for procuring maintenance. The approach would help PERS achieve its maintenance policy objectives and encourage competition based on market principles and prevention of monopoly in the sector. Application of PBMC to the Serbian road network could be acceptable to the Bank providing availability of three key components – enabling conditions, preparation of PBMC approach and robust delivery of PBMC

Enabling conditions for PBMC

“Hard” enablers

8. PERS first need to demonstrate detailed understanding of its network’s condition, based on a comprehensive road asset survey, so that the scope of the necessary rehabilitation and maintenance works can be identified, costed, and funding for it agreed by MCTI and PERS.

9. Reformed governance of the sector also requires provision of ring-fenced funds for rehabilitation works undertaken outside of PBMC and a signed Service Level Agreement between MCTI and PERS, and backed-up by PERS’ 3-year rolling Performance Based Maintenance plan, road asset management plan and PBMC contracts developed on a back-to-back basis with the SLA.

10. The Service Level Agreement (SLA) will be the centerpiece for the GoS’ policy towards public road network will define the level of GoS’ support for the activities of maintenance, renewals and upgrades of public roads. The SLA is the contractual tool by which the GoS provides PERS with mid-term financing consistent with its functions, the size of the infrastructure and financial requirements. The SLA “forces” MCTI and PERS to adopt a long-term view on the road asset and agree on targets to be delivered through PERS’ Performance Based Maintenance plan that is based on future service demand.

11. In response to the commitments PERS took over under the SLA, a Rolling Performance Based Maintenance Plan will need to be developed as the key in-house planning and business management tool to steer achievement of the agreed outputs under the SLA. Whilst the boundary conditions for the period 2017-2019 will be set by the MCTI and the MoF, PERS will be directly responsible for a number of key decisions that impact its own operational and financial performance. In addition of PERS’ Performance Based Maintenance plan being in line with SLA, it will also be consistent with PERS’ Medium-Term Plan for 2017-2021, and updated annually as part of the PERS annual business plan. PERS Long-Term and Medium-Term Business Strategy and Development Plan 2017-2027 is adopted by PERS’s Supervisory Board and approved by Government Decision, all pursuant to the Law on Public Enterprises. Also, PERS’ annual business plan is the annual business plan, adopted by PERS’s Supervisory Board on an annual basis, that is harmonized with PERS’s long-term and medium-term plans of business strategy and development and approved by Government Decision, all pursuant to the Law on Public Enterprises.

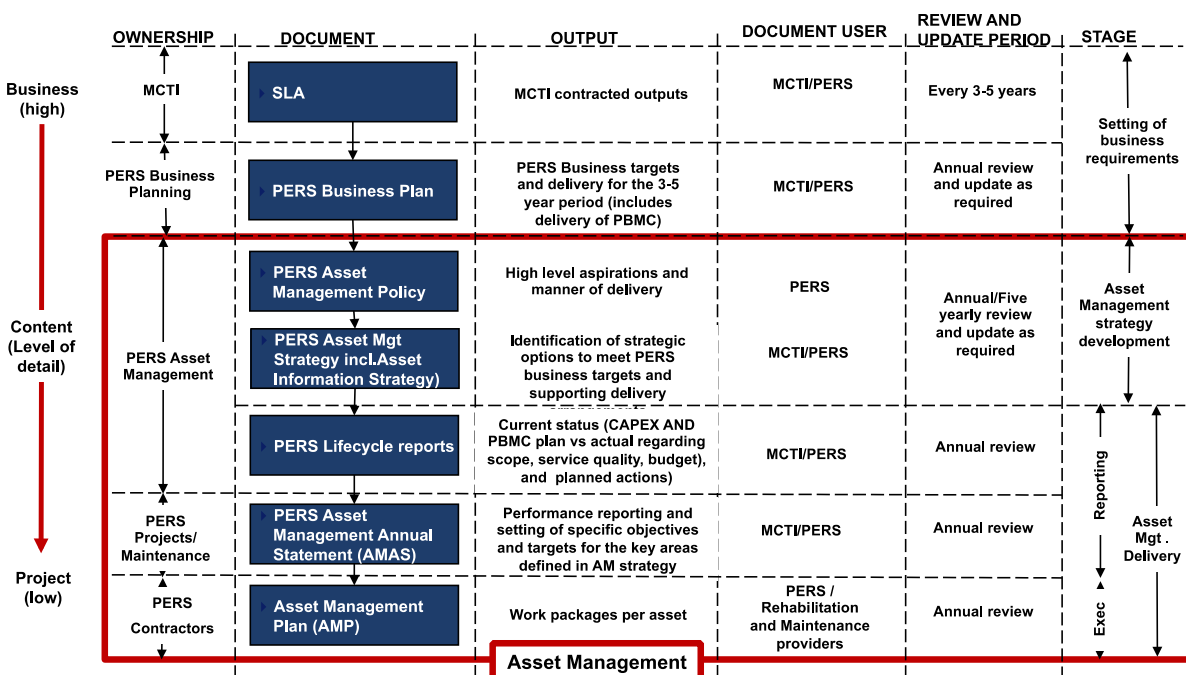
12. PERS do not have a corporate asset management strategy and supporting plan. Implementing an asset management hierarchy in the sector will enable the company to (1) build, preserve, operate, and reinvest in facilities more cost effectively and with improved performance, (2) deliver to its customers the best value for the public tax funds spent, and (3) enhance its credibility and accountability towards MCTI and other legislative bodies.

“Soft” enablers

13. Two Technical Assistance (TA) components will inform and deliver the targeted reform of the sector and deployment of PBMC:

- The Institutional TA will provide groundwork for the PBMC roll-out.
- The Bank/PERS will need to procure an additional Project Auditor Consultant (PBMC Transaction Advisor). PERS will not be able to roll out PBMC on their own. In addition, rolling out of network-wide PBMC raises the question of contract and procurement strategies that could attract the big players. This is a policy question and will need MCTI’s guidance. The PBMC Transaction PM TA will also need to provide education and training to public and private stakeholders.

Figure 2. Asset management suite of documents underpinning the SLA and PERS' Performance Based Maintenance plan



14. The proposed reform of the sector and the PBCM will inevitably lead to efficiency reviews and labor retrenchment. At the supply side, opening up the competition for road maintenance should be able to generate more informed and more efficient delivery of maintenance. This requires PERS to demonstrate significant commitment to change.

Preparation of PBMC approach

15. Preparation of a network-wide PBMC approach needs to (1) confirm the necessary amendments to align the current frameworks with the PBMC needs, (2) ensure efficient preparation and execution of tenders for PBMC for the whole network and contracting with the private sector companies, and (3) provide suitable training and education of public stakeholders and the supply chain.

Delivery of PBMC

16. Successful delivery of PBMC builds upon the following elements:

- Longer contract duration is needed to attract investments. Although a five-year duration for PBMC is preferred for longer laying-off of high investment costs, budgetary restrictions impose that PERS will initially only be able to guarantee 3-year financing. Longer duration of the contract would necessitate legal changes.
- PERS will provide training to and hire personnel on contract for PBMC Supervision and Monitoring. At present, PERS hires supervision personnel on contract from the Highways Institute to assist with supervision of the maintenance companies. Although the PBMC Project Managers should ideally be from the pool of PERS permanent staff, other support staff will need to be hired specifically for the contracts.
- The start, end and duration of maintenance contracts will be fixed per the winter season to ensure uninterrupted coverage for winter maintenance. In addition, new contracts will commence before the 15th of September to give contractors time to get established before the start of the winter season.
- To achieve required transparency and accountability PBMC lump-sum payment items should not dominate the contract. For transparency, each lump sum should be linked to a separate works activity.
- PBMC monitoring and regulation should be based on an inspection regime which combines programmed “formal” inspections with “informal” site visits made by the PBMC Project Managers. The Contractors will maintain their own Quality Assurance Systems to monitor performance and correct any deviations should they occur.

Program boundaries

17. The Program consists of the following elements:

- Improvement in the road sector governance based on the SLA between MCTI as the representative of the asset owner and PERS as the asset manager;
- Preparation of tender documents in support of procurement of contractors and roll out PBMC across the network;
- Provision of PBMC Transactional PM TA to support PERS in procuring the PBMC contractors.

18. Whilst PERS is the implementing agency for the Program, the activities are located throughout the national territory of Serbia³⁰.

Program Duration

19. Analytical work undertaken as part of the technical assessment supports the view that full PBMC Program could be implemented during the period July 2017 – April 2020³¹. This also enables the Program to fit with the 3-year budget period 2017-2019.

Program Expenditure Framework

20. The government program will be financed through a government expenditure framework covering €997.45 million from 2018 to 2020. PERS is a public-sector enterprise and it operates under its own organization and legal entity. The corporate 2017 funding plan amounts to €294.7 million and shows that 24 percent of total annual funds available are provided by GoS. The main expense items in the

³⁰ Excluding Kosovo and Metohija

³¹ 70% of network under PBMC by the end of 2019 should be seen as a minimum acceptable achievement

plan are road maintenance and maintenance of supporting systems (44 percent of available funds), investment projects focused on rehabilitation and modernization of the network (20 percent), support for the Corridor X project (7 percent), and other corporate costs (8 percent). According to its staffing plan, PERS has 131 positions allocated for the road maintenance sector. As expected, the staff in the maintenance sector is responsible for operational activities related to maintenance – such as supervision and monitoring of maintenance work, monitoring of landslide remedial work and administrative support to the sector. Furthermore, the staffing plan suggests that 45 additional employees need to be recruited as the plan allocates 131 positions but the maintenance sector currently only has 86 employees.

21. At this point, due to legal and policy restrictions, PERS is only able to commit funds for the next 3 fiscal years. This will require that the contract price for PBMC is split into “firm” and “conditional” tranches. Additionally, it is not possible to delineate the terms of PBMC at this point because these will be determined by the finalization of the SLA and the 3-year Performance Based Maintenance plan. However, the WB notes that in order for PBMC to have the required impact and to make contracts attractive to bidders, funding should be adequate to cover; 1) all annual routine maintenance and recurrent repair requirements; 2) winter and emergency maintenance needs; 3) clearance of routine maintenance backlog in the first months of the contracts; 4) pavement preservation works (e.g., asphalt resurfacing, surface dressing scheduled according to needs), and 5) priorities during the course of the contracts. Program expenditures have been estimated on the basis of the expenditure plans of PERS with some modifications of the WB. As can be seen above in Table 5, PERS will finance the implementation of PBMC in 3000 km using toll road revenues (€27 million).

Table 12. Program Expenditure Framework 2017-2019 (million euros)

| Expenditures | 2018 | 2019 | 2020 | Total |
|--|-----------------|-----------------|-----------------|-----------------|
| PERS costs allocated to road maintenance (labor, inputs, materials, energy, other) | € 11.7 | € 12.1 | € 12.4 | € 36.2 |
| Traditional maintenance highways | € 26.3 | € 26.3 | 0 | € 52.6 |
| Traditional maintenance major and regional roads | € 105.2 | € 109.2 | 0 | € 214.4 |
| PMBC major and regional roads | € 27 | € 27 | € 39.9 | € 66.9 |
| PBMC highways | 0 | 0 | € 127.6 | € 127.6 |
| Road maintenance total expenditures | € 170.2 | € 174.6 | € 179.9 | € 497.7 |
| PERS Revenues for Road Maintenance | | | | |
| PERS Tolls revenue | € 140 | € 145 | € 150 | € 435.00 |
| GoS Transfer | € 22.50 | € 22.50 | € 22.50 | € 68 |
| <i>WB PforR</i> | € 15 | € 20 | € 25 | € 60 |
| Total | € 177.50 | € 187.50 | € 197.50 | € 562.50 |

C. Technical Soundness

Prior experience of PBMC in Serbia

22. Under the PBMC approach the contractor assumes responsibility for managing the condition of the road assets to ensure the contractually agreed performance standards are achieved. The approach shifts the planning and delivery risks from the owner to the contractor as the owner’s specifications focus on what is to be achieved rather than how to achieve it. This incentivizes the contractors to adopt measures that improve the condition of the road asset for the duration of the contract rather than ad-hoc repairs. In return for the delivery of an agreed level of performance, the contractor receives a schedule of payments. The PBMC approach provides a financial incentive for the contractor to focus on achieving the performance standards. It also incentivizes the contractor to be innovative and minimize waste because the payments are based on a set level of performance rather on the value of inputs used.

Benefits of PBMC

23. Experience has shown that transition to PBCM offers several advantages over input-based road maintenance, the main one being more cost-effective maintenance.

24. This was confirmed on the PBMC pilot contracts in Macva and Kolubara where, on average, cost savings of 24% were achieved. Recent EU-funded work on the application of PBMC on the pilot network in central/south Serbia supports the view that improvement of road conditions will only come from significant periodic maintenance, since a large proportion of the pilot network is overdue for resurfacing and rehabilitation.

Table 13. PBMC driven cost-savings (Source: P. Pakkala cited World Bank TN-27)

| Country | Cost savings, % |
|--------------------------|--|
| Norway | About 20-40% |
| Sweden | About 30% |
| Finland | About 30-35%; about 50% less cost/km |
| Holland | About 30-40% |
| Estonia | 20-40% |
| England | 10% minimum |
| Australia | 10-40% |
| New Zealand | About 20-30% |
| USA | 10-15% |
| Ontario, Canada | About 10% |
| Alberta, Canada | About 20% |
| British Columbia, Canada | Some, but might be in the order of 10% |

25. On balance, PBMC provides asset owners, asset managers and asset users with a better balance of challenges and benefits. The ancillary benefits include the following:

- greater expenditure certainty for the road agency;
- better allocation of delivery risk as the contractor is now responsible for (1) predicting tear and wear of the managed asset, (2) selecting an appropriate design and maintenance scope to be deployed, (3) scheduling of maintenance efforts and (4) estimating of quantities;
- ability to manage the road network with fewer staff;
- reduction in contract administration due to reduced measurement of inputs.
- better customer satisfaction with road service and conditions; and
- stable and predictable multi-year financing of maintenance.

26. Introduction of PBMC offers the maintenance companies possibilities to improve their capacity by (1) investing in new equipment and optimizing utilization, (2) improving productivity and (3) offering new opportunities and new working methods. Introduction of PBMC and the move to competitive outsourcing of maintenance should also lead to a more flexible operational framework enabling (1) “just-in-time” maintenance, carried out when needed and (2) easier introduction of modern work methods and procedures, with updated rules and regulations for road maintenance.

27. The World Bank’s own comprehensive research on the subject of PBCM³² established that “many of the benefits of implementing a PBC are directly aligned to the benefits associated with good asset management.”

Introduction of network-wide PBMC in Serbia

Preconditions

28. Introduction of network-wide PBMC onto the network in Serbia requires a series of “functional” preconditions in order for the Program to achieve the efficiency (“value-for-money”) gains over the traditional contracts. These include the following:

- GoS commitment, affordability and a stable multi-year funding stream;
- Alignment of legal and technical frameworks with the PBMC needs;
- Allocation of risks, which promotes efficiency gains and appropriate treatment of liabilities and indemnities in case of incidents, accidents, emergencies, and force majeure-type events.
- Contract scope which enables economies of scale for the Owner and the Contractor;
- Contract length long enough to (1) transfer life-cycle risks to the contractor and (2) enable contractor to generate return on investment
- Appropriate business and asset management skills, contract management and monitoring capability in MCTI and PERS; and
- Contracting skills and expertise within the supply chain.

Maintenance backlog and PBMC scope

29. PERS traditionally develops its maintenance and capital expenditure plans to suit the GoS’ affordability. As a result, PERS’ annual maintenance plans submitted to MCTI for approval, only address the question of “what can be done with the budgeted amount”. Given the annual budgeting cycle, it is unsurprising that the question of “the level of funding actually needed for the maintenance backlog” is rarely addressed. However, in 2014, PERS’ experts estimated the maintenance backlog at EUR 282 million per annum. The Bank’s own estimate totaled EUR 260 million.

30. In absence of comprehensive network-wide asset condition information, the pilot PBMC project network³³ is used as a proxy. As part of preparation of the tender pack, the road network in six maintenance territories was surveyed twice. A “quick” evaluation in August 2015 was followed-up with a “detailed” evaluation comprising of visual drive-through surveys and field surveys. The surveys found that only 27% of the surveyed part of the network is in good condition where routine maintenance could be executed. The remaining part of the network was assessed as “fair” (33%) and “poor” (40%).

31. The EU-funded Consultant also had to estimate the required maintenance scope and concluded the following:

- 56% of the pilot network could be maintained with standard routine maintenance and repair.
- 44% was assessed as overdue for periodic maintenance, with 36% needing full rehabilitation. As a result, resurfacing alone would be appropriate for 8% of the network.

32. Although the EU Consultant observed that “close attention is paid to road safety in PERS”, and “routine maintenance was assessed as particularly good”, there is an extensive backlog of routine

³² World Bank: Review of PBC in the Road Sector – Phase 1, Transport Paper TP-42A (2014)

³³ 3,000km of the network in southeast Serbia (around Vranje, Nis, Krusevac, and Knjazevac)

maintenance, mostly on the Category IIB roads. The backlog covers vegetation control, especially trimming of trees, and drainage maintenance that has been reduced to a minimum on these lower priority roads. Periodic maintenance would be the preferred solution but budget restrictions explain this non-optimal maintenance.

33. In summary, a large proportion of the surveyed pilot network's condition is assessed as "poor" with only 30% of roads assessed as suitable for a full PBMC regime covering pavement as well as off-carriageway routine maintenance works. However, this would require about 50 km of initial periodic maintenance. The remaining roads would require extensive periodic maintenance before they could be considered under PBMC for pavement maintenance. As result of the assessed condition, the Consultant recommended a "hybrid" solution to the PBMC on the pilot network. The quality of the road asset does not permit charging for services only³⁴ because of the considerable scope of the required repairs, being the consequence of maintenance backlog. Similarly, this is most likely to be established as the case at the network level. Hence, the need to secure funds for repair and grace period to undertake the repairs - to enable a shift towards procuring maintenance as services rather than works.

34. Finally, the EU-funded work established that in order to minimize the risk of contractor defaulting soon after contract start, the following is required:

- the size of backlog maintenance works should be quantified during PBMC tender preparation following detailed survey of all roads.
- measured works should be scheduled in a separate bill of quantity.
- A 'ramp-up' period should be granted for carrying out these works along with clearing the inherited backlog for lump-sum maintenance activities, such as vegetation clearance or drain clearing. Depending on the scope, application of a fixed date a few months into the contract is preferred for the start of full performance-based maintenance giving reasonable time for contractors to clear outstanding works.

Legal and regulatory frameworks relating to Technical Functions

35. The Program does not have its own PBMC-specific legislative act but operates within the framework defined by the existing key legal acts. This technical assessment identified several areas where the existing legal framework needs to be further aligned with the PBMC approach. The identified actions are incorporated in the Program Action Plan and the Bank's task team will monitor whether the legal adjustments have been completed on time to enable successful execution of the Program.

D. Institutional Arrangements

Overview

36. Two key stakeholders in the road sector in Serbia are the Ministry of Construction, Transport and Infrastructure (MCTI), responsible for policy and funding, and the Public Enterprise "Roads of Serbia" (PERS), who is responsible for construction, maintenance, operation and management of the national roads.

37. The sectoral context 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 the Law on Ministries, MCTI has overall responsibility for the sector. At present, the sectoral goals and financing are

³⁴ In this context service cover the mechanistic and predictable element of maintenance work

defined through annual operating plans, showing lump sums on expenditure and revenue sides rather than performance targets and their achievements.

38. As the road asset manager and administrator, PERS is responsible for construction, maintenance, operation and management of the primary and secondary roads. In doing so, PERS maintains and rehabilitates the National Road network (about 15,000 km) and highways (600 km). The main revenue source for these activities comes from a closed tolling system on national highways. This is supplemented by discretionary financial support from the general budget and loans from IFIs. Prior to 2012, PERS used to receive 20 percent of the excise tax on fuel and did not receive any additional budgetary support. The current discretionary budgetary support is however lower than what PERS used to receive from the excise tax.

39. PERS' budget has been insufficient to meet the annual needs resulting in a large maintenance backlog. In 2008, the level of expenditures for maintenance were about €315 million, dropped to €194 million in 2010 and to €168 million in 2011. Expenditures for maintenance were reduced further and were stable in the past 3 years at the level of slightly more than €150 million. In 2011, the World Bank estimated that annual routine, periodic and backlog maintenance should be over EUR 500 million, out of which a total of EUR 260 is estimated for maintenance backlog.

Assessment of maintenance practices in PERS

40. The current maintenance system follows a traditional pattern:

- PERS assesses routine and periodic maintenance needs at the end of each summer season, which is used to formulate a budget estimate for the network in each maintenance area.
- PERS consolidates the estimates and submits to MCTI.
- Budget allocations are a fraction of the estimated needs and have been decreasing over the past years. Once the actual budget allocations are confirmed, PERS defines a program of works for the following season.
- At present, maintenance is prioritized based on road category and traffic levels, with a big backlog of repair works, especially on drainage structures and bridges.
- PERS also prepares a winter maintenance plan each year, which is approved by the Ministry and implemented by the maintenance companies according to specified priorities and intervention criteria.
- All works are carried out by the maintenance companies, and on the basis of open agreements that are in place since 1992 - fixed rates for measured inputs (materials, equipment and labor) under a traditional reporting system. All payments to the companies are on fixed rates defined by PERS.
- Periodic maintenance is tendered, but very few contracts are awarded each year due to the limited budget. Each contract has to be completed within a single budget year. The budget for periodic maintenance has been steadily reduced. In 2014 it was only 1% of the total maintenance budget. In 2013 it was 9%.

41. The EU-funded TA for the pilot PBMC scheme concluded that the current system, although outdated and unsustainable (due to procurement regulations) is achieving good results. Poor road conditions can be attributed to inadequate budget allocations rather than shortcomings in maintenance practice. Finally, the practice of direct contracting is not aligned with the Public Procurement Law and PERS' procurement policy. In consequence, the current situation will be phased out, with or without PBMC as a contract strategy. The key challenge will be to achieve comparable or better results using PBMC for similar budget allocations.

PERS' organizational reform needs

42. Commercial pressures require road asset managers to have a clear focus on the end user. This requires that the Performance Based Maintenance planning process begins with the end user, identifying his service requirements and needs. PERS will need to plan to resource and provide availability of road infrastructure which customers demand in the most efficient and cost effective manner. The Performance Based Maintenance plan for the company, containing qualitative and quantitative targets for the outputs, resources, financial goals, and special issues, will need to be developed to be consistent with (and integrated with) the corporate strategy and targets. These strategic challenges and institutional and PERS' organizational development needs have been timely recognized by the Bank. In support, the Bank provided funding for the Road Sector Reform TA³⁵ and the ongoing RRSP and Corridor X investments.

Governance arrangements

Management and coordination of the Program

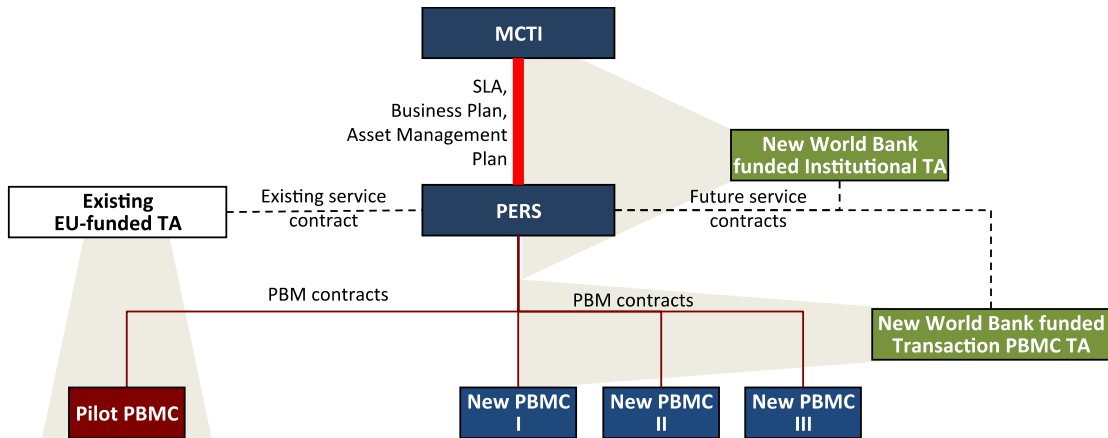
43. The individual parties' roles and responsibilities defined under the Program³⁶ are as follows:

- **MCTI:** The Ministry, as the key driver of change in the road sector, is a co-implementing agency for the Program. In addition to its operational support with changes to legislation, MCTI will assume an overall oversight of the Program.
- **PERS:** PERS, as the other co-implementing agency for the Program, will lead the World Bank Program implementation and assume day-to-day leadership, coordination of all Program related activities and the overall monitoring of progress of PBMC roll-out.
- **Institutional TA:** The World Bank funded TA will provide expert support to MCTI and PERS on the SLA. For PERS, the TA will also provide direct support with the Performance Based Maintenance plan and the asset management plan.
- **Project Auditor Consultant (Under the Transaction PBMC TA):** The World Bank funded TA will provide expert support to PERS with PBMC contract and procurement strategy, preparation and execution of tender, PBMC training and initial oversight of PBMC contract monitoring. The PAC will be procured to perform annual audits and results monitoring and evaluation. The PAC will review a random sample of about 20 percent of the PBM contracts and other activities under the project. Besides the random selection of contracts, the review may also include works or contracts believed to require special review as determined by the Bank. The PAC's activities will broadly include the following: (i) verification of contents of the PBMC contracts, (ii) verification that roads are rehabilitated in accordance with contract documents (DLI1, DLI2, and DLI3); and (iii) review and verification that the DLIs have been met. This could include actual field visits and reviews of PERS documents.

³⁵ The TA "Preparation of Reform Action Plan for PERS" was completed in 2011.

³⁶ The EU-funded TA will provide support to PERS up until the 6 pilot PBM contracts are signed.

Figure 3. Schematic overview of the governance arrangements for the Program



(for simplicity of presentation only, future PBMC scope is shown as consisting of 3 lots)

Functional Program roles

44. As with any public-sector investment in Serbia, audit and compliance of the Program will be subject to a review by the National Audit's Institute (NAI). The review will ascertain compliance of the Program with the national legislation as well as the value-for-money achieved. The novelty of PBM contracting mandates that the NAI's representatives are also included in the pool of PBMC trainees.

DLI verification

45. The Project Auditor Consultant (PBMC transaction advisor) will assume the key role in verifying Disbursement-Linked Indicators and reviewing contracts. This will also be the first step in progressing the GoS towards results-based monitoring and evaluation for Program management. As a result, it is essential that MCTI staff (1) assume a major role on World Bank-funded institutional TA project and (2) its staff are amongst the first recipients of PBMC training.

E. Program Expenditure Framework

Sources of funding

46. During the period 2008-2017 PERS' main sources of funding included the following:

- Contributions from the GoS (Budget, subsidy, MoF, National Investment Plan, MCTI, fuel excise tax and other) will amount to 33 percent of total funds.
- PERS revenue (includes tolling, charges levied on foreign freight vehicles, user charges for commercial facilities along the network, transport charges levied on one-off transports, sale of license plates and other revenue) will amount about 49 percent of total funds.
- IFI loans will contribute 18 percent of total funds.

47. Analysis of PERS' expenditure profile for the period 2008-2017 shows that the level of expenditure decreased by 83 percent, from €400 million to €219 million. Over the 10-year period, regular maintenance accounted for 52 percent of all expenditures. This was followed by periodic maintenance (16 percent), PERS-funded CAPEX projects (19 percent) and IFI-funded CAPEX projects (14 percent). As a result, regular maintenance in the 2008-2012 period remained at the level of €150-160 million, while rehabilitation work decreased from €249 million in 2009 to €20 million in 2014.

48. As shown by the numbers above, PERS achieved expense reduction by underinvestment in various road projects such as renewals, reconstruction, and/or rehabilitation projects. These projects were necessary to keep road assets at a good state of repair. This trend has been reversing since 2014 and there has been an increase in rehabilitation expenditure. Rehabilitation increased to €133 million in 2014.

Program Expenditure framework

49. The program will be financed through a government expenditure framework covering €461.5 million from FY2017 to FY2019. PERS is a public-sector enterprise and it operates under its own organization and legal entity. The corporate 2017 funding plan amounts to €294.7 million (RSD 35.454 billion) and shows that 24 percent of total annual funds available are provided by GoS. The main expense items in the plan are road maintenance and maintenance of supporting systems (44 percent of available funds), investment projects focused on rehabilitation and modernization of the network (20 percent), support for the Corridor X project (7 percent), and other corporate costs (8 percent). According to its staffing plan, PERS has 131 positions allocated for the road maintenance sector. As expected, the staff in the maintenance sector is responsible for operational activities related to maintenance – such as supervision and monitoring of maintenance work, monitoring of landslide remedial work and administrative support to the sector. Furthermore, the staffing plan suggests that 45 additional employees need to be recruited as the plan allocates 131 positions but the maintenance sector currently only has 86 employees.

50. At this point, due to legal and policy restrictions, PERS is only able to commit funds for the next 3 fiscal years. This will require that the contract price for PBMC is split into “firm” and “conditional” tranches. Additionally, it is not possible to delineate the terms of PBMC at this point because these will be determined by the finalization of the SLA and the 3-year Performance Based Maintenance plan. However, the WB notes that in order for PBMC to have the required impact and to make contracts attractive to bidders, funding should be adequate to cover; 1) all annual routine maintenance and recurrent repair requirements; 2) winter and emergency maintenance needs; 3) clearance of routine maintenance backlog in the first months of the contracts; 4) pavement preservation works (e.g., asphalt resurfacing, surface dressing scheduled according to needs), and 5) priorities during the course of the contracts. Program expenditures have been estimated on the basis of the expenditure plans of PERS with some modifications of the WB.

Table 14. Program Expenditure Framework (million euros)

| | 2017 | 2018 | 2019 |
|-------------------------------------|--------|---------|--------|
| PERS Total Expenditure | €294.7 | €313.25 | €389.5 |
| Cost of inputs | €0.37 | €0.41 | €0.42 |
| Wages and on-costs | €19.47 | €21.72 | €22.34 |
| Cost of materials and energy | €4.03 | €4.5 | €4.63 |
| Road maintenance total | €131.5 | €162.5 | €167.5 |
| Road maintenance traditional method | €131.5 | €135.5 | €0 |
| Road maintenance PBMC | €0 | €27 | €167 |

F. Results Framework and Monitoring and Evaluation

Program Development Objective

51. **The Project Development Objective** is to improve the management and sustainability of select public infrastructure by strengthening government capacity and systems, upgrading assets, and increasing expenditure efficiency. The proposed path towards full deployment of PBMC in Serbia is shown below.

Table 15. Proposed path towards PBMC in the road sector in Serbia

| | | |
|-------------------|---|---|
| Year 1 2017-18 | Traditional Maintenance | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 1000 km using existing maintenance procedures. The contracts executed would ensure, as a minimum, that during the Project implementation period no potholes remains open, no edge break occurs between the pavement and the shoulders and that all horizontal marking and vertical signs are adequately restored, in order to comply with the most critical road safety requirements. The continuing maintenance will ensure system preservation and structural sustainability of the network’s state of repair. This will help change the mindset of PERS from a traditional approach based on payments for inputs to one that considers outcomes. |
| Year 2 2018-19 | Transition Year: Enhanced Maintenance (Traditional Maintenance + Performance standards) | <ul style="list-style-type: none"> ▶ Bank Support: Preparation and signature of the Service Level Agreement (SLA) to ensure long term financial predictability and sustainability to address maintenance needs in Serbia. ▶ Bank Support to PERS to maintain 2000 km of network using enhanced maintenance (Traditional maintenance + Performance Standards). The contracts executed will ensure a clear set of performance standards, that would result in increased efficiency in maintenance operations and a predictable state of repair to ensure enhanced motorist satisfaction. ▶ PBMC tendered and contracts awarded for an additional 5000 km.³⁷ |
| Year 3 2019-20 | Substantial Implementation of the Performance Based Maintenance (PBMC) | <ul style="list-style-type: none"> ▶ Bank Support: Maintenance of 5000 km of national network using PBMC. These contracts will be for a duration of three (3) years, where bank support will be limited to the first year of implementation (where the sustainability of future years funding will be defined by the Service Level Agreement signed between PERS and the MCTI). The quality and service levels will also be defined by the SLA. |

52. The Program also includes one Key Program Results Indicator, which requires that pilot PBMC contractors on the 3,000km network are in place by November 2017.

Capacity for Monitoring and Evaluation

53. The assessment identified several development needs for PERS and MCTI:

- the appropriate skills and experience need to be deployed in support of the Program and its key outputs – maintenance backlog, rehabilitation CAPEX component, SLA, PERS’ 3-year rolling Performance Based Maintenance plan, asset management plan, and PBMC roll-out.
- all the stakeholders have yet to fully understand the Program and the issues involved.
- ongoing assurance and checks that the Program is able to progress to the next stage of development need to be based on (1) the commitment of stakeholders and (2) hands-on knowledge of “what happens next” and (3) organisational and institutional readiness for the “next step”.
- appropriate TA in place to ensure that procurement of PBMC is well managed to secure “value-for-money and support the roll-out

Monitoring and Evaluation Capacity

54. Whilst the existing organizational capability in PERS does need to be enhanced to meet PERS’ obligations under the SLA, including PBM contract monitoring needs, the current reporting systems are deemed able to provide satisfactory monitoring of Program activities and results. This is so, because

³⁷ PBMCs for 3,000 km are currently being tendered. The 5,000 km are in addition to the 3,000 km.

PERS has long-term experience of working with the IFIs and reporting on the status of its institutional and investment projects and programs.

G. Economic Evaluation

Rationale for public provision and financing

55. Maintenance of the national road network is one of the core responsibilities of the MCTI.³⁸ Given the inherent need for public support in providing transport infrastructure, public provision and financing of the Program are appropriate and efforts of the Bank are now required to help the GoS with introducing the PBMC, because:

- 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.
- Technical (Pilot project) work to mainstreaming PBMC has already been undertaken under the Transport Rehabilitation Project, and the RRSP.
- EU provided financing for the preparation of the Pilot PBMC for 3,000 km of road network.

56. Public sector financing along with the Bank's financial support and involvement is also expected to attract and support more private sector involvement in the future.

Program's economic impact

57. The Program will support GoS to implement and modernize road maintenance practices. The quantified benefits stemming from the investments included in the Program are the savings to be made by road users on vehicle operating costs, PERS' savings on road reconstruction costs and passenger and freight travel time. In addition, the improvement of the National Road Network under the RRSP and its maintenance under this Program, complement the ongoing reform efforts under the Corridor X Highway Project and will support capturing of several other benefits:

- The road users will benefit from better infrastructure quality, transport services quality and reliability. For a wide network of taxpayers, better road conditions will facilitate better access to markets, education, health and other social services.
- Road infrastructure maintenance and rehabilitation are the key enablers of inclusive growth, convergence to the EU, and major support to the growth of industries.
- Overall, the competitiveness of the national economy will increase through more reliable logistics chains.
- The Program is expected to have some positive impact on road safety, as better infrastructure is a key lever in addressing road safety issues. Additional benefits to road users, include reduced accidents (which will gradually lead to reduced insurance costs), and improved driving and riding comfort.

World Bank Added Value

58. The unique added value of World Bank support to the Program is two-fold:

1. Bank financing contributes to increasing financing as 66% of the maintenance budget will be provided by the Bank. This will allow more rehabilitation to be undertaken upfront.

³⁸ Currently delegated to PERS

2. Implementation of the Program Action Plan will progressively assist implementation of the road sector reform thus creating additional potential for efficiency gains.

59. A Program for Results (PforR) loan is proposed as a suitable instrument to support the GoS's efforts because: (i) it is an ongoing program implemented using national standards and systems, (ii) it has tangible and measurable results which are fully aligned with the GoS' target to commercialize road maintenance practices, and (iii) the Bank can add value to improve the overall efficiency and effectiveness of Program implementation.

Results of economic evaluation

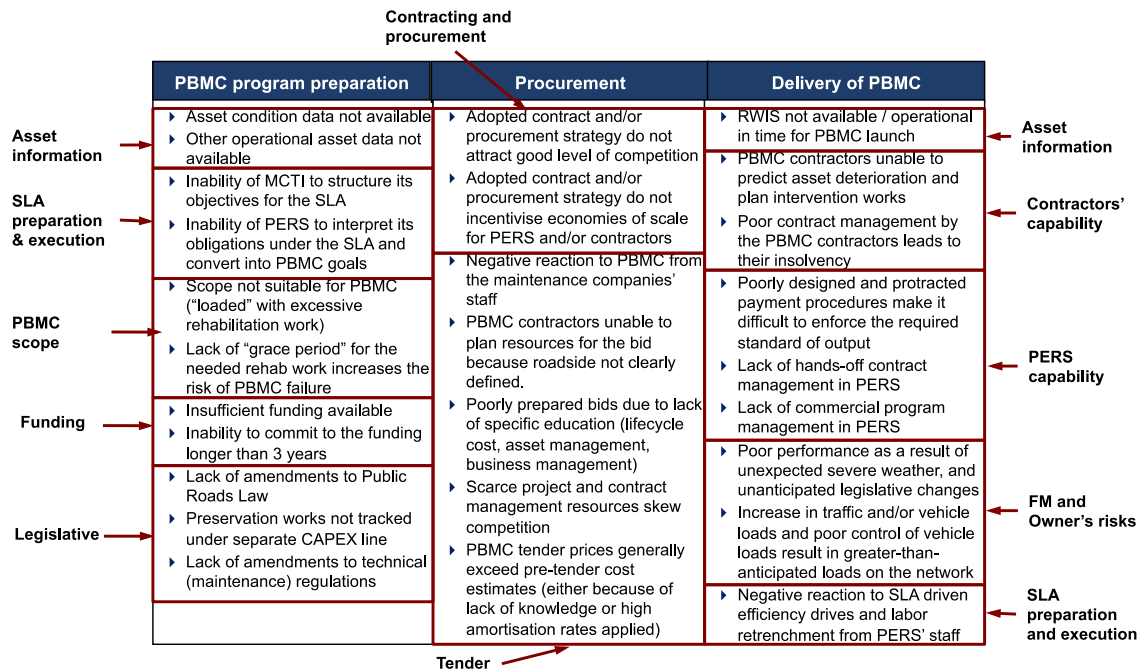
60. Detailed analysis completed as part of the EU-funded TA work on the PBMC pilot project in Serbia in 2016. Although the analysis addressed the pilot network only, the rather uniform (poor) condition of the road network in Serbia, and the current "strategic" level of assessment of the Program's potential impact, the conclusions of the pilot network' analysis are assumed to apply network-wide. The analysis particularly targeted two questions (1) impact of periodic maintenance on PBMC and (2) impact of improved routine maintenance on PBMC.

61. The analysis supports the case that improvement of road conditions will only come from significant periodic maintenance, since a large proportion of the project network is overdue for resurfacing and rehabilitation. The analysis concluded that the poor state of road assets requires that improvement in road conditions are sought through significant periodic maintenance. Whatever can be spent on periodic maintenance will lead to important savings in the future, to limit increase in the backlog. If the supporting funding is not available, it is suggested that PBMC, with quicker and more frequent and comprehensive interventions will result in less deterioration.

H. Technical Risk Rating

62. Introduction of network-wide PBMC involves 10 categories of risk grouped, under three Program phases – PBMC Program preparation, procurement and delivery. The mitigation measures for each risk group of risks are identified and presented in the report.

Figure 4. Program risk profile



63. Based on the overall assessment presented, and the fundamental changes that the road sector is going to be exposed to, the technical risk associated with the network-wide deployment of PBMC in the road sector in Serbia is assessed as substantial.

I. Inputs to Program Action Plan

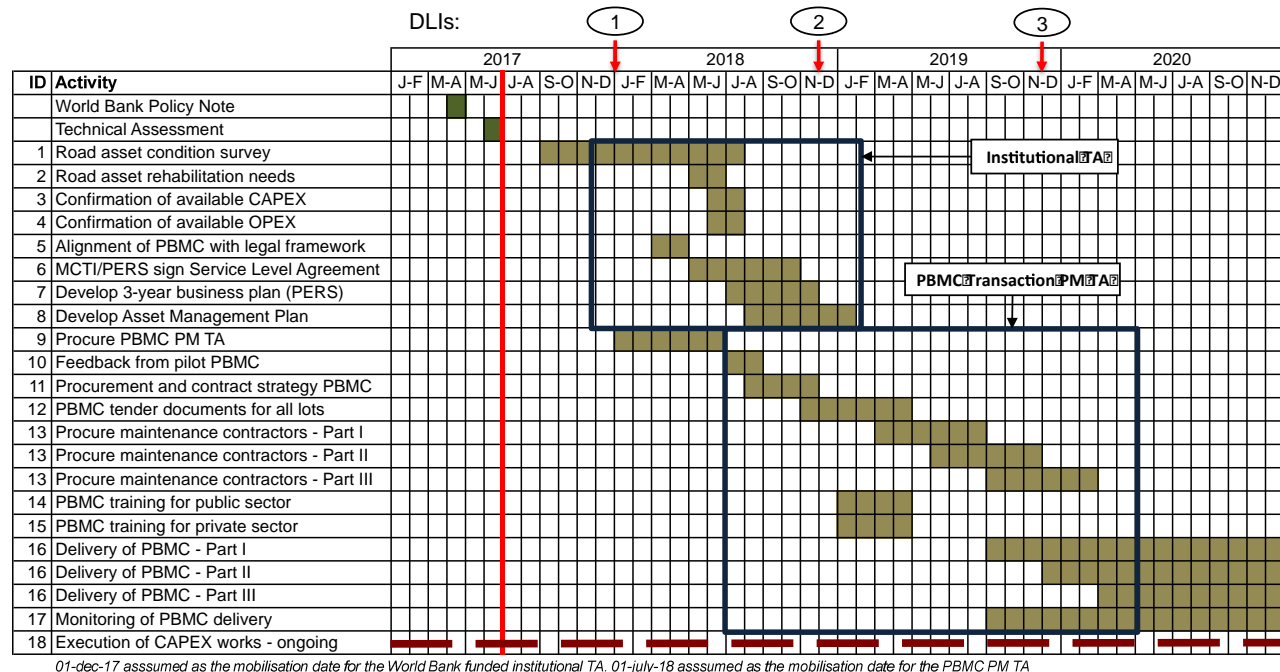
Program roadmap

64. The proposed set of institutional and corporate changes, as anticipated by the Program for Results, will support MCTI on its “journey” towards an improved allocation of roles, robust governance of the road sector, and more efficient PERS’ operations. The target institutional and contract setup envisages the following hierarchy:

- Through the SLA signed with PERS, MCTI drives achievement of its on objectives for the road sector in Serbia.
- Through 3-year rolling Performance Based Maintenance plan and supporting asset management documents, PERS provides details of how it aims to efficiently discharge its asset manager’s obligations under the SLA.
- In support of its Performance Based Maintenance plan, and through CAPEX contracts for rehabilitation and/or new build, and a multitude of PBMC arrangements with contractors, PERS procures availability of the improved quality road network.

65. The program of change of this magnitude requires a comprehensive series of steps in support. Individual steps are presented in detail within the body of the report. Review of the project roadmap, “lessons learned” from prior procurement efforts, and consideration of the current capability in PERS, MCTI and the supply side, suggest that full deployment of PBMC is unlikely to complete before mid-2020. The schedule assumes rapid appointment of the new TA and completion of the necessary preparatory work.

Figure 5. Schedule for the PBMC Program



Inputs to Program Action Plan

66. Inputs to the Program Action Plan (PAP) focus on three key stages of the Program – preparation, procurement and delivery. The suggested actions have been prioritized and the critical ones incorporated in the PAP or the Results Framework, as DLIs. All inputs to the Program are classified and assessed under four functional areas (1) funding and sustainability, (2) delivery quality, (3) cross-cutting functions, and (4) program fraud and corruption.

K. Inputs to the Program Implementation Support Plan

67. The Bank will provide two-fold support to MCTI and PERS in implementing the Program:
- Support with monitoring of Program delivery and performance, through engagement with the stakeholders and a proactive identification and collaborative resolution of emerging issues with a potentially adverse effect on the performance of the Program.
 - Support the institutional strengthening of the road sector institutions, through implementation of the Program Action Plan, institutional dialogue, two separate technical assistance projects and tailored training for the public-sector institutions and the private sector contractors.
68. Each type of support is qualified in terms of focus and expertise required and quantified in terms of required resources.

Energy Efficiency in Serbia – Institutional context for the Program

69. Serbia’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. Serbia is well interconnected with the SEE electricity market through 22 high voltage lines with 8 neighboring countries. 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.

70. As a result, Serbia remains an energy and carbon intensive country. While the energy intensity has declined by 19.2 percent since 2005, it remains four times higher than the average for EU-28 countries (486.1 vs. 120.4 kgoe/€1,000).³⁹ Further, the energy consumption per capita is 38.4 percent lower than the EU-28 countries’ average (4.27 vs. 5.91 MWh). Thus, its energy intensity is likely to rise further as incomes increase. Serbia is also carbon intensive, with carbon intensity more than 2.5 times that of the EU-28 average (0.46 kg CO₂/US\$ 2010 PPP vs. 0.18).

71. While total final energy consumption was 8.2 Mtoe in 2015, down from its peak of 8.4 Mtoe in 2008, the building sector (residential, public and commercial) dominates energy consumption, representing 45 percent of final energy use (Table 16). The industrial and transport sectors together represent about 53 percent. The remaining 2 percent are accounted for by agriculture and forestry.

Table 16. Energy consumption by sector in 2015

| Sector | Energy Consumption (ktoe) | Percentage (%) |
|-------------------------------|----------------------------------|-----------------------|
| Industry | 2,304.7 | 28.2 |
| Transport | 2,038.5 | 25.0 |
| Residential | 2,832.1 | 34.7 |
| Service Sector (incl. public) | 839.6 | 10.3 |
| Agriculture and Forestry | 152.4 | 1.9 |

³⁹ Eurostat, <http://ec.europa.eu/eurostat/data/database>

| | | |
|-------|---------|-------|
| Total | 8,167.2 | 100.0 |
|-------|---------|-------|

Source: Eurostat, <http://ec.europa.eu/eurostat/data/database>

72. With some 245 million square meters (m²) of gross floor area, comprising an estimated 2.2 million residential buildings and 15,000 public facilities⁴⁰, Serbia's building stock is large. About 15 percent of this stock was built between 1918 and 1941 or earlier, and about 32 percent was constructed between 1945 and 1970—making about half of the building stock over 50 years old⁴¹. The age of the building stock, combined with outdated construction practices that did not consider energy efficiency, decades of under-maintenance and chronic underinvestment, result in a need for massive investments to upgrade these facilities to meet modern requirements for safety, energy efficiency and modern usage standards.

73. Current planning documents in education, healthcare and social protection sectors usually do not include statistics on age and physical condition of the facilities and adherent infrastructure, nor do they make any assessment of financial resources needed for reconstruction or regular maintenance. Although managers and directors of the facilities make plans for annual budget allocations, budgetary constraints allow only for relatively modest reconstructions and improvements of public facilities and minor maintenance works. To date, annual budget allocations at federal and municipal level have been grossly insufficient to address the backlog of required investments.

74. Since 2004, the Ministry of Mining and Energy (MME) has implemented several energy efficiency (EE) public building renovation programs funded by different donors such as the World Bank, European Commission (EC), KfW and others. The previous World Bank-financed Serbia Energy Efficiency Project or SEEP (2004-13) included the renovation of 82 public buildings. While the project was largely considered a success, it was not able to achieve significant scale (renovating less than 1 percent of the public building stock) and ultimately was not sustainable, as no further government funding was made available to maintain the project implementation unit or support new investments. Before the project's closure, the World Bank team discussed options with the government for a more sustainable approach which included the introduction of an EE Revolving Fund. However, at the time, the Ministry of Finance expressed concern about establishing a new public institution for this purpose.

75. The government and several donors are active in the area of EE. MME operates a Budgetary Fund for Energy Efficiency since 2014 (with about €1.5 million per year) which has cofinanced 39 projects in municipalities to date. KfW, through the Ministry of Education, has an ongoing €15 million investment program to renovate about 30 schools. EBRD has an ongoing regional program, the Western Balkans Sustainable Energy Financing Facility (WeBSEFF), which provides credit lines to Serbian banks to support on-lending to private companies and municipalities for EE and renewable energy investments. However, to date, no municipal investments have been approved. The investment projects are complemented by several ongoing technical assistance (TA) activities, including TA coordinated by GIZ (public building typology), IFC (support to Belgrade on district heating and setting-up of a municipal EE fund), and UNDP (municipal energy efficient procurement, energy management systems).

⁴⁰ 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 Statistical Office of the Republic of Serbia (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.

⁴¹ *The Typology of the Residential Building Stock in Serbia and Modelling its Low Carbon Transformation*. Regional Environmental Center of Central and Eastern Europe (commissioned by the Austrian Development Cooperation, December 2015).

76. The main barriers that prevent the scale-up of investments for EE in public buildings are related to energy prices, as well as financing, institutional, implementing and informational impediments. These include:

- (a) *Energy prices.* While electricity prices are generally cost-reflective, they are 10-20 percent below regional costs, reflecting the lower cost generation mix in Serbia. District heating prices are set by municipalities based on supply costs, although despite this, many of the utilities remain under financial distress due to systemic problems. Other fuels (gas, fuel oil, wood, coal, pellets) are generally based on market prices, although they often do not include environmental externalities.
- (b) *Financing.* Despite the large energy savings potential, the lack of appropriate financing is a main barrier to energy efficiency investments for public buildings. The investments are often limited due to restrictions on public and municipal borrowings, poor creditworthiness or even lack of borrowing history, inability to collateralize loans and an unclear ownership of energy cost savings. In addition, low technical capacity, a lack of standardized documents and small projects lead to high transaction costs.
- (c) *Institutions and regulatory framework.* Institutional and implementation mechanisms for energy efficiency remain weak. The Ministry of Mining and Energy (MME) is in-charge of EE policy development, implementation and monitoring and has an Energy Efficiency Department with few staff. The government does not have a separate document that clearly articulates a strategy to renovate its full public building stock. Other areas also lack regulatory clarity, such as public procurement and budgeting, although adherence to the EU energy policy has improved the situation. The public sector also suffers from a range of procedural barriers, from budgeting to procurement, which tend to be rigid in nature and prevent many energy efficiency improvements from being made.
- (d) *Data.* A lack of proper building data, energy consumption and baseline data, savings potential and general awareness on EE benefits altogether diminish interest and investment in energy efficiency. Potential project sponsors and public entities, who often lack the capacity to develop high quality bankable energy efficiency investment proposals, are skeptical of the baseline energy consumption, or have lower baselines (comfort levels or heating below standards).

Government Program Description and Scope

77. To address the above-mentioned issues, the Government of Serbia launched the Program for Reconstruction and Improvement of State-Owned Public Facilities in Education, Healthcare and Social Protection Sectors (hereinafter “Government Program” or “**the Program**”) in 2016. The program was established by the Government Decree 05 No. 351-3817/2016 dated April 8, 2016 and revised by Decree 05 No. 351-9644/2016 dated on October 11, 2016.

78. By a Government Decree (Official Gazette of the Republic of Serbia, No. 95/15) the Public Investment Management Office (hereinafter “PIMO”) has been set up to provide an institutional framework for expert, administrative and operational activities to serve Government needs related to reconstruction and improvement projects for public facilities within the responsibilities of the Republic of Serbia, Autonomous Province of Vojvodina and Local Self-Government units (hereinafter “Municipalities”)⁴². PIMO’s main responsibility was to manage reconstruction projects related to the 2014 flood, but their mandate has recently been expanded to include other programs.

79. The main aspects of the government program are summarized below:

⁴² PIMO is the legal successor of the Flood Affected Areas Assistance and Rehabilitation Office that had the mandate for reconstruction after the 2014 floods. In 2015, PIMO was established and their mandate has since been expanded to include other functions, such as this program. It is a government agency that reports directly to the Prime Minister’s Office.

- a) *Government program scope.* The government program is open-ended and covers all municipal-level social buildings (including education, healthcare and social protection facilities) in need of reconstruction. Works covered under the program include improvements of the building envelope (roof, windows, doors and wall insulation), internal equipment (lighting, fuel switching such as coal/oil to pellets/wood chips, solar hot water heaters) as well as some non-EE measures (structural reinforcement, sanitary repairs, rewiring, painting, etc.). According to PIMO estimates, 70-80 percent of the works undertaken can be categorized as EE improvement measures.
- b) *Implementation model.* The program is administered by PIMO. While the program relies largely on a decentralized implementation model with municipalities responsible for procurement and management, PIMO retains a critical role for final approvals and technical oversight. Municipalities select buildings from the education, healthcare and social protection sectors and prioritize them based on the urgency of the need for renovation and lack of access to financing from other programs. They are responsible for the costs associated with technical designs, bidding documents, construction supervision and commissioning; the Program bears 100 percent of the costs for the renovation works.
- c) *Eligibility and selection.* A call for proposals was issued by PIMO in May 2016 to all municipalities requesting them to provide a list of priority buildings for participation in the government program, based on criteria set by PIMO. These include 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.
- d) *Technical aspects.* As required under current regulations, all buildings to be renovated must have technical designs including an EE elaboration to meet basic building code parameters (e.g., fire safety, operational permits). The government program seeks to reach Class C for all buildings, except those for which it is uneconomic or other constraints to do so exist (e.g., restrictions on façade work due to cultural heritage preservation), in which case it is committed to achieving at least two classes higher than the baseline (e.g., from Class F to Class D).⁴³
- e) *Status.* To date, 234 buildings have been officially approved by the government for renovation under the government program, based on municipal priorities, satisfaction of the eligibility criteria set by PIMO, and review by a Working Group (WG) comprising representatives of key ministries. About 30 are already under construction or completed, 50 are in the works tendering phase and the rest are finalizing their designs.

80. Definition of World Bank Program. Because the government program is open-ended, the Bank has defined its Program for the purposes of its Program-for-Results loan as the first phase of the government program, namely the 234 buildings currently approved by the government from the initial call for proposals. There is no geographic boundary as these buildings are located throughout the country.

Program Implementing Agency

81. Under the provisions of the above-mentioned decree No. 95/15, PIMO is designated to perform administrative and operational coordination activities for the implementation of public building projects in the social sectors. Amongst other tasks, PIMO is responsible for data collection of current and planned reconstruction works for public facilities, feasibility assessments of proposed projects, priority identification, coordination of public procurement procedures, follow up on works contracts and

⁴³ The EU Energy Performance in Building Directive (EPBD) includes certification of buildings based on energy consumption per unit of heated area, from Class G (least efficient) to Class A+ (most efficient). In Serbia, the transposed EPBC defines typical buildings with Class A under 25 kWh/m² and Class G over 250 kWh/m². For existing educational buildings, Class C is defined to be 39-75 kWh/m², while health and social protection facilities are 61-120 kWh/m².

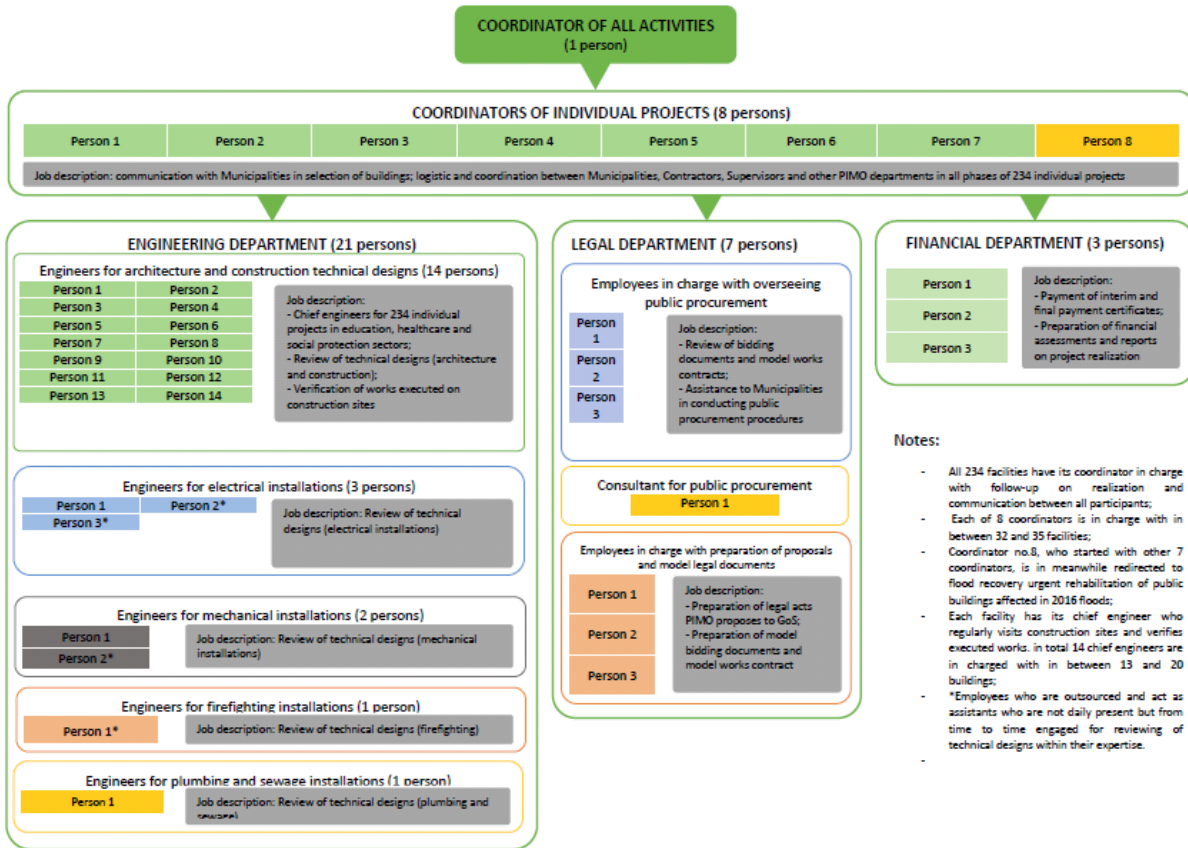
payments, and other activities which might be required by relevant Laws or government decisions. PIMO is also in charge of monitoring and evaluation, as well as reporting the implementation results of each investment.

82. Currently PIMO operates with 40 people entirely dedicated to the Program on a full-time basis and per its organizational chart (Figure 8):

- The engineering department has 21 engineers of various disciplines. A total of 14 chief engineers review the technical designs for architecture and constructions of the 234 buildings and supervise the construction in the field. The chief engineers are supported by three electrical engineers, two mechanical engineers, one plumbing and sewage engineer and one fire protection engineer during the review of the technical designs. Each chief engineer is charged with 13-20 buildings, regularly visiting the construction sites and verifying executed works.
- The legal department is responsible for public procurement and legal issues associated with the Program. Three employees and one consultant oversee the development of public procurement procedures and processes. They review bidding documents prepared by the municipalities and assist municipalities in the bidding process. They are also responsible for preparing the model bidding documents and contracts for the construction works. Three additional employees prepare legal documents for government approval, such as the calls for proposals and final building lists.
- The financial department has a staff of three, who are in charge of payment of interim and final payment certificates of invoices and preparation of financial assessments and reports.

83. Under the Program, PIMO initiates periodic calls for proposals. The building managers apply to the Program through the municipalities. To qualify for the program, the municipalities must submit project proposals in compliance with eligibility criteria and present requested information regarding rehabilitation and reconstruction measures. When applying to the Program, PIMO advises the municipalities to define priorities based on the degree of the buildings dilapidation, number of users, and estimated investment. PIMO processes and systematizes received applications and submits the list of proposed projects for review to the WG formed by the government with representatives of key ministries. After review, the WG shortlists selected projects and submits the list through PIMO to the government for approval.

Figure 6. Organization of PIMO Staff



84. After the first call for proposals issued in May 2016, PIMO received 523 applications and developed a shortlist of 234 eligible buildings after review by the WG; the list was subsequently approved by the government. The eligible buildings were spread amongst 109 municipalities (out of a total of 174). Almost every municipality that applied had at least one building selected (109 municipalities received approval out of 111 municipalities that applied). For those that did not apply, some were not aware of the Program, some did not have any eligible buildings and others were skeptical that the Program would cover the renovation costs despite outreach efforts by PIMO.

85. Under the Program, the rehabilitation and improvement of the public buildings should consider that all users and beneficiaries, children, disabled and elderly people, have unobstructed access, easy movement and appropriate working conditions in accordance with latest standards and technical requirements in their respective sectors. Issues related to energy efficiency, safety (structural and fire) and proper functioning (full lighting, heating, etc. per national norms) are also integral to the Program.

86. This technical assessment is based on the current design of the Program, taking into consideration adjustments that have been made since its launch in April 2016. It is based on documents and data shared by PIMO, additional government documents and regulations, interviews with staff from a sample of 11 municipalities visited⁴⁴ and interviews with other stakeholders (SCTM, MME, MCTI, construction

⁴⁴ Sampling was done out of the 109 participating municipalities and included five small municipalities (Pecinci, Secanj, Cicevac, Aleksandrovac, Svilajnac), three medium-sized ones (Jagodina, Pancevo, Sabac) and three large ones (Novi Sad, Subotica, Krusevac).

association, etc.). The adequacy of Program arrangements and their performance has been assessed in the following areas: strategic relevance, technical soundness, institutional arrangements, expenditure framework, results framework and monitoring and evaluation capacity, and economic evaluation. This technical assessment also identifies possible improvements to ensure Program sustainability and maximal positive impacts on the energy, climate, social and other sector strategies.

A. Program's Strategic Relevance

87. Although the Program aims at enhancing infrastructure of old public buildings, which have experienced a deficit of maintenance and structural repairs over the past few decades, the Program deeply interconnects with the energy sector as EE measures are one of main implementation principles of the rehabilitation activities. The Program tackles critical issues of energy security, such as high energy consumption, and contributes to address the country's energy and climate commitments including the EU 20-20-20 targets and local and global air pollution policies. The Program is also expected to have a tangible impact on the renewal of dilapidated and unsafe public buildings, extend their lifetime, and improve the comfort of end users. Further, it is intended to help stimulate economic activity in the construction and industry sectors. Therefore, the Program has a high potential to significantly contribute to multiple national strategies as well as to Serbia's sustainable economic development.

88. Energy efficiency is a priority in Serbia's energy strategy. The Government of Serbia adopted the Law on Efficient Use of Energy in 2013, which is the legal basis for energy efficiency measures under its National Energy Efficiency Action Plan (NEEAP). In compliance with the EU Directive (2006/32/EC), the GoS adopted the 3rd NEEAP (2016-2018) with the target to reduce final energy consumption by 9 percent by 2018 (based on 2008 consumption levels). Serbia is also a signatory of the Paris Agreement and submitted its 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. Table 17 presents relevant national strategies in the energy sector and other fields related to energy demand, as listed in the 3rd NEEAP.

Table 17. Relevant National Strategies

| Name of Strategy (year of latest update) | Targets Relevant to Energy Efficiency | Targeted Sectors |
|--|---|---|
| Energy Sector Development Strategy of the Republic of Serbia until 2025 with projections up to 2030 (Official Gazette no 101/2015) | Primary concern is the rational use of quality energy resources and increase of energy efficiency in production, distribution and use of energy by end users by 2025. | All sectors of production, transformation, transmission and final consumption |
| National Sustainable Development Strategy (Official Gazette no 57/08) | Ensuring security of energy supply through increase of efficiency of energy companies and energy efficiency of the economy | All sectors |
| Strategy and Policy of Industrial Development of the Republic of Serbia from 2011 to 2020 (Official Gazette no 55/11) | Ensuring security of energy supply through increase of efficiency of energy companies and energy efficiency of the economy in the period 2011-2020 | Economic sector |
| Public Procurement Development Strategy of the Republic of Serbia for the Period 2014-2018 (Official Gazette no 122/2014) | "Green" criteria in public procurement | Public Sector |

89. The first NEEAP (covering 2010-2012) achieved a midterm reduction of 102.3 ktoe (18.4 percent lower than the targeted 125.4 ktoe) while the second NEEAP (2013-2015) saw an accelerated implementation rate with 370 ktoe in savings, only 7 percent lower than the 2015 target (Table 18). A

majority of the savings have been in the buildings sector, due to more efficient construction practices⁴⁵ 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 thus accelerating Serbia's implementation progress to help it achieve the remaining 51 percent of its 2018 target.

Table 18. Overview of planned and actual savings according to the NEEAPs (ktoe)

| Sector | 1 st and 2 nd NEEAPs | | 2 nd and 3 rd 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 |

90. MME is responsible for EE policy development, implementation and monitoring and overall coordination for the execution of measures set out in the NEEAP. MME is also operating the Budgetary Fund for EE and Energy Management Systems (EMS), which obligates designated organizations to prepare 3-year programs and 1-year plans to save 1 percent of their primary energy consumption on an annual basis. MME has also aligned its legal and regulatory framework with relevant EE EU Directives and established a suitable institutional framework to support the development of necessary secondary legislation, programming and the NEEAP implementation. MME has adopted more than 20 secondary pieces of legislation, which are available at: <http://www.mre.gov.rs/dokumenta-efikasnost-izvori.php>. MME is also heading a working group for the development of a registry of central government buildings which will be finalized by the end of 2017.

91. The Ministry of Construction, Transport and Infrastructure (MCTI) adopted the Law on Planning and Construction in 2009, with amendments in 2011 and 2014. This law regulates the requirements and methodology for spatial planning, the use of construction land and buildings construction, the supervision of compliance with the Law and inspection. The Law serves as basis for the adoption of regulations on EE and energy performance certificates of buildings, prescribed by the Energy Performance in Buildings Directive or EPBD. Relevant by-laws (rulebooks) created based on this Law include:

- The Rulebook on Energy Efficiency of Buildings (Official Gazette of the RS, No. 61/2011), which prescribes the energy characteristics which are used when calculating thermal properties of buildings. It also includes energy requirements for new and existing buildings.
- The Rulebook on the Conditions, Content and Manner of Issuance of Certificates of Energy Performance of Buildings (Official Gazette of the RS, No. 69/2012), which prescribes the methodology for issuance for energy performance certifications in buildings. A certificate is a document that includes calculated consumption values for certain categories of buildings, the energy class of buildings and recommendations for improvement of energy characteristics in buildings.

92. 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 square meters (m²) of gross floor area, out of which about 12 percent (about 30 million m² or 15.000 buildings) represent public facilities. Although energy

⁴⁵ More than 1,800,000 m² of new building floor area per year are constructed in the household, public and commercial sectors.

consumption in public buildings represents only about 4 percent of the total consumption, energy savings and corresponding GHG reductions in this sector can have a catalytic effect by developing the market and leading by example, to help meet the above mentioned national strategies and achieve the targets set in the 3rd NEEAP.

93. In the education sector, the average age of school buildings is about 50 years, with most built after 1945. PIMO has estimated that there are around 5,500 buildings of primary and secondary schools a with total surface area close to 5 million m². Only 1-2 percent of the total floor area was constructed within the last 10 years. A lack of adequate school space is particularly noticeable in secondary education facilities, mostly in bigger urban centers. Several of these institutions do not meet the national teaching and learning technical standards, in terms of buildings size and functionality of the premises, and fall below requirements for safety and hygienic requirements.

94. The situation is similar in the social protection sector, with an aging building stock and substantial deferred investment. PIMO estimates that 50 percent of the overall investment needs in the sector relate to reconstruction of the facilities. While 20 percent are in adequate condition, they often still require replacement of outdated equipment. Around 70 percent of these facilities do not meet spatial requirements, which are a prerequisite for the institution to be licensed to provide social services. With the deadline for licensing having expired in 2016, some are now operating without proper legal authorization.

95. The buildings in the health sector also experience average ages of about 50 years, with decades of insufficient maintenance and very limited physical investments. Full renovation of the building structures, upgrading them to meet current safety and functionality requirements and making them more energy efficient are all priorities for the Program.⁴⁶

96. Most public buildings were constructed before 1990 when basic EE measures, such as thermal insulation of walls and roofs, were often not applied. Construction techniques did not support EE performance, with thermal leakage around windows and doors. In addition, inadequate plans were put in place for periodic maintenance and little or no budget provisions were made for basic repairs. As a result, the buildings are often in very poor condition—structurally unsound (leaking roofs, damaged façades with fallen plaster, windows which cannot be opened or properly closed), energy inefficient and accompanied by low functionality (old, broken equipment and lighting, significant underheating). The energy consumption of such buildings is on average at least twice as high (Class E, F or G) as newly constructed buildings, which according to current standards must be Class C or higher.⁴⁷

97. The government's decision to cover 100 percent of the investments required for the rehabilitation of public buildings is unlikely to be sustainable over the long-term. However, addressing the critically important aging public building stock and extreme energy waste has been a high-level policy decision. Moreover, the Program is designed to specifically target the most dilapidated buildings in social service sectors, as most of their end users are vulnerable groups of population (children, patients and elderly or disabled people). It is unlikely that these buildings could be financed through revolving EE funds, credit lines or other more sustainable financing sources due to the significant structural investments required. Therefore, at present, the program would not undermine any longer-term sustainable financing scheme.

B. Technical Soundness

⁴⁶ Investments and maintenance of hospitals and other tertiary healthcare facilities fall under the responsibility of MoH.

⁴⁷ The Serbian transposition of the European Energy Performance in Buildings Directive (EPBD) stipulates that the energy consumption of Class C for existing buildings should be 39-75 kWh/m² in the education sector and 61-120 kWh/m² in the healthcare and social protection sectors.

98. *Program stakeholders*: The main Program stakeholders are the following:
- The Government of Serbia (GoS) through PIMO, who is assigned overall management of the Program;
 - The municipalities, who are responsible for the eligible buildings and are the de facto implementing agencies; and,
 - The Standing Conference of Towns and Municipalities (SCTM), who administers SLAP IS.
99. GoS also appointed a Working Group (WG) that approves the selection of buildings. The WG is composed of 15 members representing 10 entities including:
- PIMO, 3 representatives
 - Ministry of State Administration and Local Self-government (MSALSG), 1 representative
 - Ministry of Finance (MoF), 1 representative
 - Ministry of Labor, Employment, Veterans' and Social Affairs (MLEVSA), 1 representative
 - Ministry of Health (MoH), 1 representative
 - Ministry of Education, Science and Technical Development (MESTD), 1 representative
 - MME, 2 representatives
 - MCTI, 1 representative
 - The Serbian European Integration Office (SEIO), 1 representative
 - SCTM, 3 representatives
100. The main institutions involved and their roles, are as follows:
- a) **PIMO** is responsible on behalf of GoS for overall Program design, management and coordination among the involved government entities. PIMO has developed draft methodological approach and brief guidelines that describe the Program's objectives, eligibility criteria, procedures and institutional responsibilities. PIMO has mobilized and manages financial resources for Program implementation and disburses funds in accordance with the Program guidelines. PIMO has established a Program website (www.obnova.gov.rs) with key information including legal and background documents, approved buildings, and the status of rehabilitation works. PIMO signs contracts (specifying mutual rights and responsibilities) with the municipalities for the implementation and financing of the works and maintains a register of submitted applications and agreements. PIMO also acts as an oversight and payment agent, remunerating contractors based on its own inspections and invoices approved by the municipalities.
 - b) **Municipalities** are assigned investor's rights on behalf of the GoS and are responsible for proposing lists of public buildings for renovation, developing the EE elaborations and technical designs for approved buildings, works procurement and supervision, construction supervision, and commissioning.
 - c) **SCTM** maintains records on all applications to the Program and prepares reports as requested based on its database (SLAP IS). The database contains information such as municipal applications, descriptions of individual projects and expected results, estimated investment amounts, bidding documents, commissioning reports, energy performance certificates, fire protection approvals, usage permits and other documentation required for results monitoring and evaluation.
 - d) The **WG** reviews and approves the list of buildings proposed by PIMO under the Program. The WG also coordinates between entities, ensuring there are no buildings that are receiving support from parallel renovation programs.
101. The Program is timely, if not long overdue, given the state of the public building stock today as previously described. Demand from municipalities has been high, as evidenced by the large numbers of applications received to date. With the help of previous IFI/donor/government-sponsored renovation programs, the capacity of the market for energy audits, technical designs, renovation works, etc. has developed substantially over the last decade and, as previously indicated, the regulatory framework

related to EE in buildings has been substantially aligned with the EU. Feedback from the participating municipalities has also been positive in terms of adopting the various roles required during the implementation of the Program and dealing with PIMO.

102. Given the approval for continuation through 2016 and beyond, the Program appears to have strong political support. PIMO is the designated lead agency for the overall Program design and coordination. Most participating institutions are sufficiently incentivized to operate the Program in an efficient and effective manner. PIMO seeks to ensure that as many municipalities as possible can participate in the Program, while ensuring that all renovations are done based on technically sound energy and structural audits, and that renovation works comply with national standards and meet the agreed performance levels (this means, energy Class C or at least two classes better than current class). PIMO, together with participating municipalities, must ensure that all public facilities meet the eligibility criteria, procurement follows the Public Procurement Law and that only eligible expenditures are included in the invoices submitted to PIMO.

103. While there is no systematic process for feedback, municipalities have provided feedback from time-to-time which has led to several positive changes by PIMO. These adjustments have included, for example, the development of new guidelines by PIMO on the steps to be followed by the municipalities when participating in the Program, a requirement for municipalities to submit progress reports every six months, and the development of additional templates for PIMO's internal use (e.g., technical design reviews, interim reports for site supervisors, approval notifications to municipalities on building selection). *While PIMO's willingness to adjust the Program based on stakeholder feedback and lessons learned shows an openness to incorporate lessons into future building renovations, there is a need for a more systematic approach to collect feedback, evaluate early investments and document lessons learned, and disseminate those lessons to relevant stakeholders.*

104. As stipulated in the Program draft procedures prepared by PIMO⁴⁸, municipalities are involved in the full project cycle—from nomination of the buildings through commissioning—and receive most of the benefits from the Program. Large municipalities can hire additional staff, mainly from their public utilities, or assign qualified personnel to undertake the responsibilities required under the Program as needed. Also, over the past decade, many municipalities have implemented some building renovation programs (largely in the public sector), so the regulatory obligations, technical parameters and other procedures are reasonably well-known to them. Some of the smaller municipalities may lack resources to hire staff and may have no alternative but to assign these additional responsibilities to existing staff, some of whom may lack the technical and administrative skills for the Program, such as approval of the EE elaborations and technical designs, works supervision and commissioning. PIMO has noted some capacity shortfalls in these areas and, thus, has prepared and supplied some standard documents and templates (standard bidding documents, contracts, commissioning protocols, etc.) to assist municipalities during implementation.

105. Municipalities select buildings from education, healthcare and social protection sectors and prioritize them based on the urgency of the need for renovation and lack of access to financing from other programs. So far, major physical or functional problems with nominated buildings have included leaking roofs, cracked façades, damaged windows/doors, improperly functioning heating/lighting systems, outdated and unsafe electrical installations. In each municipality, PIMO approves one or two buildings from each subsector, where technical designs are already in place or can be developed within a short period. When the technical design is not yet developed, PIMO advises on the scope of the design and provides municipalities with written guidelines on the design preparation steps for PIMO approval

⁴⁸ See: <http://www.obnova.gov.rs>

(design brief, proof of ownership, cadaster plan, usage permit, preliminary design with detailed bill of quantities, design for construction with detailed technical specifications which will be included in the bidding documents). For those buildings with designs already prepared, PIMO visits them, reviews the draft technical designs and provides comments for their finalization. Once the application is approved, PIMO signs a contract with the municipality, authorizing them to implement the project on PIMO's behalf. The municipality must nominate a responsible person to represent the municipality during the implementation phase, liaising with PIMO and contractors.

106. The current Program design is an evolution of the activities initiated under the World Bank SEEP, designed more than a decade ago. First, and perhaps most importantly, this program was the initiative of the government on its own. Second, the proceeds of the Bank loan will not support the creation of a project implementation unit or its staff, as PIMO is already an established and fully staffed entity. Thus, the institutional sustainability is more assured. Third, the program does not rely on a centralized implementation model, which can limit the pace and scale of implementation, but employs a hybrid model, with decentralized procurement and implementation with central oversight. Consequently, there is potential for accelerated investment and implementation at scale. Also, by requiring greater participation and responsibilities by the municipalities, the Program is creating awareness, increased demand for EE and institutional capacity. Finally, while the GoS only provided about 4 percent of the total Project costs under SEEP, the GoS is committed to provide about 50 percent of the cost of the initial phase of this Program.

107. The Program is generally well designed to ensure that the activities funded will lead to the achievement of its stated outcomes. Proper structural and energy audits, good technical designs, and well-executed works should lead to energy savings and extend the lifetimes and safety of targeted buildings. Since the Program's launch, PIMO has strengthened its public outreach, guidelines and documentation, engagement with stakeholders and program website⁴⁹. *Despite these positive attributes, most of the Program procedures remain informal or in draft form only. There is a need to adopt more formal procedures, in the form of a Program Operations Manual (POM), and ensure they are consistently followed as the scope of the Program potentially increases. The procedures should cover the full Program cycle—eligibility criteria and screening, methodology for the EE elaboration/technical designs to include economic screening of measures, financial management and procurement, construction supervision, commissioning, monitoring, etc. as well as standard documents (e.g., call for proposals, municipal-PIMO contracts, technical design TORs, etc.). The POM should also cover areas deemed deficient in other aspects of the assessments, including technical and economic standards and guidelines, grievance redress mechanisms, environmental oversight and monitoring, monitoring and evaluation including on social aspects, training and capacity building.*

Program planning and design

108. The program was initiated with the issuance of a publicly available program plan and open call for proposals. The program design was also informed by previous GoS programs and IFI investment schemes in the public building space. *It would have been advisable for PIMO to have conducted a market assessment prior to the launch of the Program, so the number of eligible buildings, investment requirements, potential impacts, etc. could have been known in advance and better planned for under the Program. The Program should also have been reflected in the government's related programs (3rd NEEAP, NDC) to account for the various program impacts (e.g., energy savings, CO2 emission reduction).*

⁴⁹ See: <http://www.obnova.gov.rs>

109. So far, the Program has demonstrated that there is high demand from the municipalities, which is likely to lead to an extension of the Program (PIMO issued a second call for proposals in March 2017 and about 350 new public facilities have applied). These efforts will help further develop the EE market. However, it is expected that the government will not be able to cover 100 percent of the investments required to support all the estimated 1,500+ eligible buildings in all municipalities. *The open-ended nature of the program could have substantial budget implications for the years ahead. It is advised that PIMO refrain from further calls for proposals until it has significantly progressed on the initial 234 buildings and secured additional resources for more buildings. The Program WG and its members should be upgraded to include the functions of a Program Steering Committee, so that key decisions (approval of the POM, approval of lists of selected buildings, technical standards, etc.) can be better vetted, aligned with ongoing regulatory changes and ownership of the Program increased across relevant agencies.*

110. *The government should also develop a systematic approach and longer-term plan for supporting the refurbishment of the full public building stock over the next decade, with market data, targets and indicators, funding sources and institutional arrangements. This would be in the form of a medium-term national plan for the renovation of public buildings which would include applicable laws and regulations (new and proposed) to transition to more market-based, sustainable schemes by, for example, by, for example, revolving funds or increasing leverage of private funding through commercial banks or energy service company or ESCO financing. The national plan should also include technical aspects (e.g., building codes and material/equipment standards, heating controls/TRVs/metering, heating, ventilation and cooling, renewable energy applications, improved designs including passive buildings), policy and regulatory measures (e.g., changes in public procurement to allow for longer-term ESCO contracting, budgeting to allow for retention of energy cost savings), information (e.g., database of public buildings with energy consumption, training, outreach), and operations and behavior (energy management systems, improved maintenance practices). Such a national plan will be an important element in increasing the predictability to the broader EE market (auditors, design and construction companies, material and equipment producers, banks) for further implementation of EE renovation programs in the public buildings and related sectors.*

Execution of Program activities

111. Initiation of the Program activities. PIMO issued invitations for applications for the Program, by mail and electronically, to all Serbian municipalities in April and October 2016. In the invitation, PIMO stipulated the eligibility criteria for the public buildings under the Program and the required information to be submitted with the application. In response to the two invitations, 111 municipalities submitted applications, many with 2-3 buildings each, for a total of 523 buildings. After screening, 234 buildings from 109 municipalities were deemed eligible by PIMO and included in the first phase of the program. (A schematic overview of program activities is presented in Figure 9.)

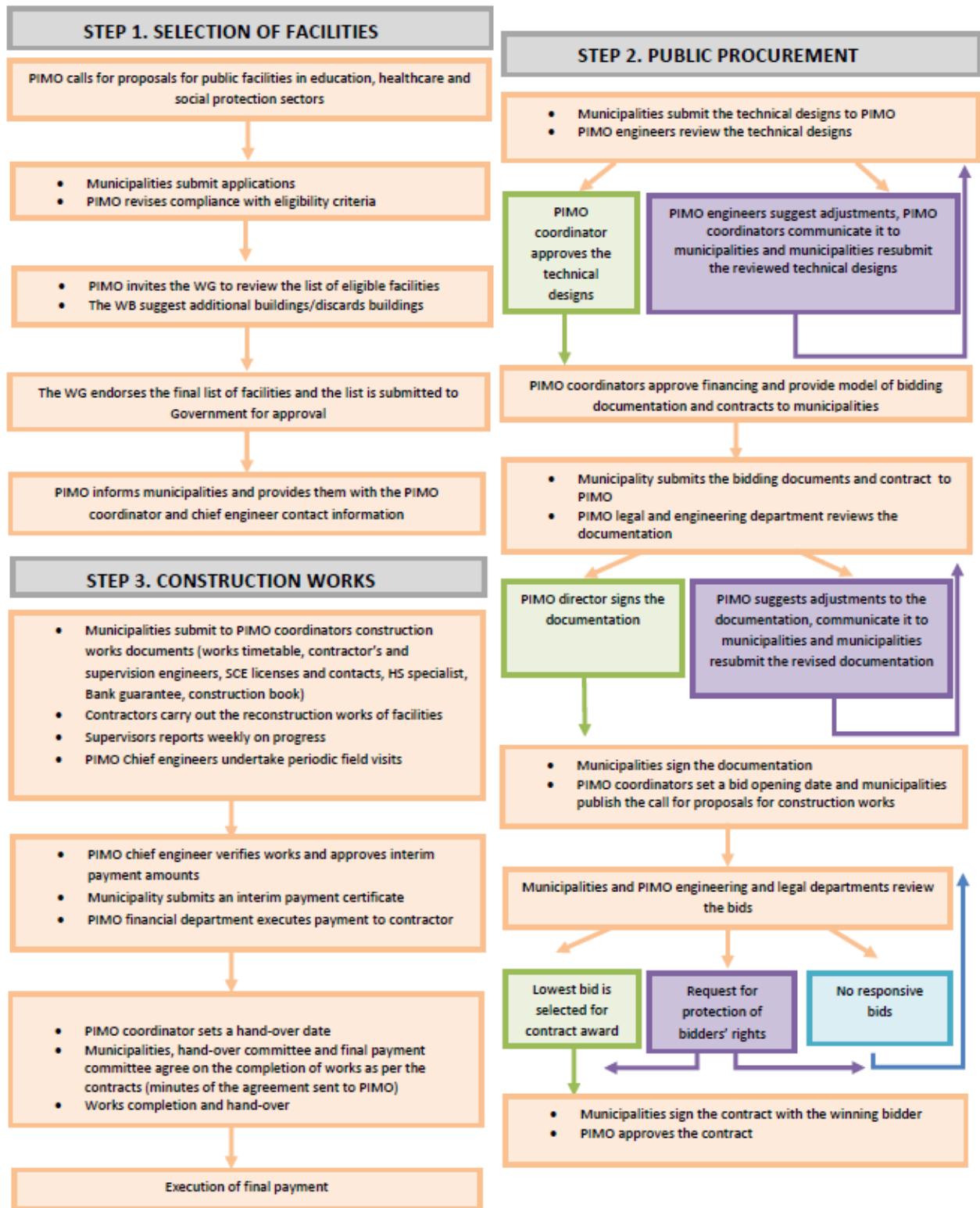
112. About 65 percent of 174 eligible municipalities submitted applications, showing a high rate of participation overall. There was a strong response from larger municipalities (population over 100,000) since they generally had a larger number of eligible buildings. Large municipalities account for about 37 percent of the Program's total estimated investment. However, small- (population under 20,000) and medium-sized (20,000-100,000) municipalities also showed strong participation rates (78 percent of approved buildings, 63 percent of Program budget) despite their more limited building stock. No regional, sectoral or other biases were observed.

113. Selection of buildings. PIMO used the following eligibility criteria, as announced in their program plan and call for proposals, to screen the applications received from the municipalities: (i) the current state of the building and urgency for reconstruction, (ii) estimation of economic viability of investment (iii) readiness for realization, based on whether the technical designs are already prepared or can be prepared in a short period of time, (iv) whether the technical designs address all rehabilitation measures needed for proper functioning of the facility, including improvement of comfort, energy

efficiency and fire protection and safety standards, (v) number of users, (vi) regional distribution and economic development of the municipalities, and (vii) absence of financing from other sources.

114. It is the municipalities' decision to establish their own priority list of buildings which they assess to be eligible under the Program. However, PIMO advised municipalities to propose a maximum of two buildings from each subsector and give priority to facilities that: (i) are the most dilapidated, (ii) have a high number of beneficiaries, and (iii) have technical documentation already in place. Once the applications are screened by PIMO, the final list is shared with the WG for review, and approved by the government. *While the selection process was generally determined to be fair and transparent, the use of seven criteria as noted earlier may lead to potential disputes in the future, as resources become more limited. It is recommended that PIMO consider reducing the number of criteria, introduce a point system and make the final ranking publicly available, to enhance transparency of the selection process. Sharing of information for how many buildings were selected in each municipality along with the rationale is also recommended.*

Figure 7. Program Implementation Schematic



115. Within the 234 buildings, the largest share of the buildings nominated (47 percent) are from the education subsector, including kindergartens, primary and secondary schools and dormitories (109 facilities, ~200,000 m², ~150,000 beneficiaries). The next 30 percent of buildings were health centers and

clinics (70 facilities, ~150,000 m², ~1 million beneficiaries). The final 23 percent of buildings selected were from the social protection sector and included 55 buildings (~70,000 m², ~15,000 beneficiaries) such as retirement homes, orphanages and homes for handicapped/mentally disabled children and adolescents, for which investments and maintenance responsibilities are under MLEVSA.

116. Submission of the applications. The application must be submitted to: (i) PIMO electronically and in hardcopy using an Excel form created by PIMO; and (ii) SCTM through the SLAP IS using application forms which are publicly available on SCTM's website. The application includes a brief description of the works, an estimation of the investment costs and a designated municipal representative (technical or administrative staff) to liaise with PIMO in further process of the application approval. In this phase, PIMO assigns its staff (currently eight coordinators with 21 engineers of various specialties) to review the applications and, after the approval process, review and approve the technical designs, oversee the renovation works and participate in the building commissioning.

117. Evaluation/approval of applications. Once the municipalities' applications are received, PIMO verifies the submitted documents, assesses their completeness and confirms their general eligibility in writing. This is done through several rounds of consultations with the municipalities in the event of missing information, documents or adjustments needed in the designs. To be accepted, the technical documentation must be in place either at the time of applying or within a few months. The technical documentation must contain, among other files requested by Law on Planning and Construction, an Elaboration on Energy Efficiency (EE Elaboration) and an Elaboration on Fire Protection (FP Elaboration). The EE Elaboration is an assessment of the current energy class of the building with the proposed EE measures to be implemented, and prospects of the future energy class after implementation of the measures. This class should be preferably Class C or, at least, two classes better than the current one after the renovation. The FP Elaboration is an assessment of the status of fire protection issues and a proposal of measures to meet the latest fire protection standards and regulations.

118. Municipal contract. Once the buildings and technical designs are approved, PIMO signs a contract with the municipality, which authorizes the municipality to act on behalf of PIMO as financier of the works. This contract specifies all the duties the municipality will assume in terms of contracting and executing the works for the renovation of each selected building. The allocation of responsibilities between the Municipality and PIMO are specified as follows:

- a. *Municipal obligations:* submission to PIMO of final revised technical documentation for the works for each building (containing EE and FP Elaborations), signing of contract with PIMO, preparation of bidding documentation for all the works based on PIMO template, implementation of procurement process (bid document issuance, questions from bidders, receipt and evaluation, signing of contracts, contract administration), supervision of the works, review and approval of invoices for submission to PIMO for payment, overall control of the performance of contractor and supervision, provisional acceptance of the works, and final commissioning and energy performance certification.
- b. *PIMO obligations:* verification and approval of the proposed technical, EE and FP measures from respective technical designs, monitoring of each step of the municipal procurement process (bid preparation, evaluation, contract award/signing), periodic site visits to monitor execution of the works and works commissioning, participation in provisional acceptance/commissioning of the works, and executing all approved payment certificates.

119. Energy efficiency elaboration. The municipality is required to provide an EE elaboration report as part of the technical documentation at approval, which establishes an energy consumption baseline, lists a variety of EE measures for energy savings and recommends a full package of measures and their expected impacts. In Serbia, EE elaborations are regulated under a bylaw to the Law on Planning and Construction (Rulebook on Energy Efficiency Performance of Buildings for certification and assessment of energy savings in buildings). In accordance with this Rulebook, the EE elaboration report must list all applicable

EE measures with corresponding aggregate environmental impact regarding reduction of CO₂ emissions. Under the Program, the EE elaboration must determine the full package of energy saving measures for the building to meet an energy performance of Class C or at least two classes better than current state⁵⁰. Currently, in Serbia, there is no standard software for energy audits or EE elaborations to assist with baseline development, energy savings calculations, cost effectiveness assessments, etc.

120. *A detailed review of six EE elaboration reports shows that the reports follow a similar structure and methodology using ISO 13790 “Energy performance of buildings - Calculation of energy use for space heating and cooling.” However, the reports do not present the cost estimates of proposed EE measures and their economic feasibility. As such, ensuring the economic efficiency of the EE measures is not a consistent part of this process. As the EE elaboration is a mandatory part of the technical designs, the Bill of Quantities (BoQ) within the technical design do define the cost of EE measures, so the economic parameters can be calculated separately using BoQ prices and energy/CO₂ financial savings. However, because of the large volume of EE elaboration reports that will be undertaken during the implementation of the Program, ensuring consistent quality and inclusion of cost-effective EE measures only is likely to become a challenge. The review of the above-mentioned reports also revealed some technical issues which need further attention: (i) only one package of EE measures was presented, without alternatives, to achieving the desired Class C/two class improvement in energy performance; (ii) in three cases, expensive specifications for glass packages filled with krypton or xenon gases were specified rather than the typical argon-filled windows which are about half the cost; and (iii) the energy/environmental saving estimates are given without prices in the reports. The introduction of reference pricing, or maintenance of a database of unit prices by PIMO, would help improve the consistency of the cost estimates (both for the EE elaborations and BoQs). Standardized technical specifications for building envelope elements (windows, facades, roofs) would also help ensure more consistent quality of materials and works.*

121. Technical designs. The municipality procures consultancy services (selects qualified firms who have licensed engineers employed for each specialization/trade⁵¹) using the Public Procurement Law for preparation of technical design and pays for all required design documents. Among other requirements, the design must address any structural issues, elaborate EE of current state and improved case and identify fire protection deficiencies compared to the latest regulations alongside proposals for overcoming such deficiencies to comply with fire protection codes. Any designs that call for works that may impact the structural stability and integrity of the building must include seismic calculations to ensure the building’s resilience to earthquakes. The technical designs are also required to include a detailed BoQ with unit prices. PIMO must approve these designs before the municipality can proceed to the tendering phase. In several cases, PIMO required more rehabilitation measures than initially proposed by the municipalities to ensure the renovated building met all the national norms and was comprehensive. *While the technical designs are generally of good quality, the Program would benefit from a more consistent set of standards, use of the best available and cost effective technologies, improved warranties for equipment and materials, and mandatory measures for controls and metering devices (e.g., thermostatic radiator valves, heat meters, variable flow pumps). It was also noted that the Bank would provide capacity building under an ongoing Disaster Risk Management TA program to PIMO to help conduct a seismic vulnerability assessment of buildings likely to be most impacted by earthquakes and, then, either comply with the required detailed assessments or remove the building from the Program.*

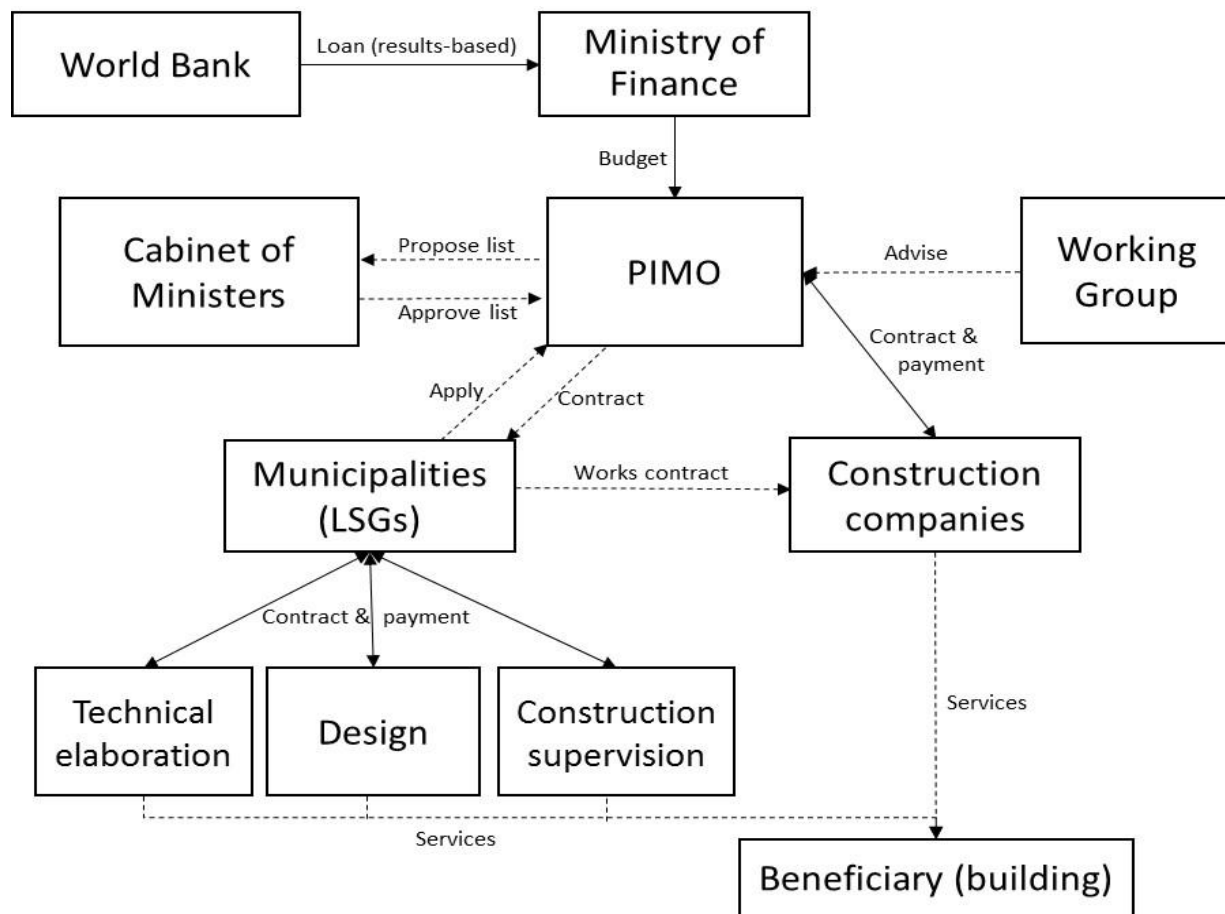
⁵⁰ The rulebook requires a renovated building to be only one class higher than the current state, thus the Program’s requirement for two classes higher is above the national norms.

⁵¹ Engineers are licensed by Serbian Chamber of Engineers which is authorized for licensing in accordance with the Law on Planning and Construction. More information can be found on the Chamber’s website www.ingkomora.org.rs.

122. Procurement of works. PIMO provides template bidding documents and must approve the bidding documents before they are issued by the municipality. The introduction of standard bidding documents has substantially improved the consistency across the Program and facilitates PIMO’s reviews and preparation of bids. PIMO also assigns one of its staff to each municipal Evaluation Committee. The municipality prepares an Evaluation Report based on bids received, which PIMO must approve before the contract can be signed. As a secondary goal of the Program was to support smaller, local construction firms, some of the qualification criteria for bidders were set at modest levels (e.g., annual turnover requirement is limited to the value of the proposed works, only general construction experience is required {i.e., no specific experience for building renovations or EE is needed}, licensing is only a requirement for key staff, no specific experience or management skills are specified, no requirements for pre-certifying equipment or materials). *As the Program expands and a substantial number of buildings are under renovation, these qualification requirements may have an adverse impact on the quality of works and, if many buildings are under renovation concurrently, it may limit the number of available companies to bid given their limited capacities. To date, the number of bids has not been an issue (average of 5-6 bids per building), but PIMO should monitor Program costs and quality of works to ensure such risks are properly mitigated.*

123. Implementation of works. The execution of works for upgrading of buildings is carried out in accordance with the Law on Planning and Construction. The works can begin after the issuance of a building renovation permit by the municipality; the permit is based on the detailed technical design approved by PIMO. (A schematic summary of the program institutional set-up is presented in Figure 10.)

Figure 10. Program Institutional Set-up



124. Construction supervision. In accordance with the Law on Planning and Construction, municipalities are required to procure services for construction supervision. The supervision of works should be performed by a specialist in the type of works (a firm's employee or an independent consultant) licensed by the Serbian Chamber of Engineers⁵². Contractors are obliged to guarantee the proper implementation of the renovation works in accordance with the approved technical design, comply with the architectural, technical and construction rules and regulations and prepare the commissioning documentation once the works are completed. The supervision entity performs: (i) scrutiny of the technical design and construction process, including control of quantity, quality and compliance of performed works and certifications for all building materials; and (ii) signing of the protocols for technical acceptance, site transfer, suitability for use of the site, and receipt of the completed quantities. PIMO assigns technical staff to oversee the works, conduct periodic spot checks and review progress reports.

125. Commissioning certificate/Provisional acceptance of works. The provisional acceptance of works is organized by the municipality and PIMO. A joint committee must sign-off that the building meets the relevant regulations (technical, safety, fire protection). The municipality, together with the building administrator, the PIMO representative and the construction supervisor must verify that the works were fully completed as per the technical design and contract. They prepare and sign the Minutes of handover and final account of the commissioned works. The municipality must also engage a licensed company to verify the new energy performance of the building and issue an appropriate certificate.

126. Building Usage permit. The municipality then forms an independent committee for technical inspection of the works for the Usage permit to be issued. This committee gather all attests and certificates for equipment and materials installed, acceptance certificates from the utilities, fire protection department, as built designs, etc., and issues its recommendation. Usage permits are issued by the municipal department that issued the building construction permit for the works to be initiated.

127. Building Completion Protocol. Based on the commissioning certificate and the issued building usage permit, a completion protocol is signed by the PIMO and the municipality certifying that all necessary requirements have been fulfilled as per the Program requirements. This protocol is the basis for final invoice payment by PIMO. *It is recommended that the contract between the municipality and PIMO include a stronger requirement for the post-renovation building certificate and for proper operations and maintenance of the building and equipment installed under the Program. The latter may include provisions in the works contract for specific trainings of the operator on O&M best practices, extended warrantees and/or long-term maintenance contracts.*

128. Municipal staff interviewed from a sample of 11 municipalities visited⁵³, were assessed to have sufficient technical expertise to ensure the integrity of the selection process, manage contracts and contractors efficiently and transparently, resolve disputes, and ensure that the contracts are executed on time and within budget. They have also been able to request and receive support from other departments such as the public procurement agency and PIMO engineers. PIMO has had to increase its support to some of the smaller municipalities on the technical side, but no execution issues have been observed to date. The PIMO staff, standard documents and protocols have until now helped ensure that municipal staff have sufficient information on the Program criteria, eligible works and procedures. Given the staff and resource constraints in some of the small municipalities, there is a risk that some of these

⁵² Engineers are licensed by Serbian Chamber of Engineers which is authorized for licensing in accordance with the Law on Planning and Construction. More information can be found on the Chamber's website www.ingkomora.org.rs.

⁵³ Sampling was done out of the 109 participating municipalities and included five small municipalities (Pecinci, Secanj, Cicevac, Aleksandrovac, Svilajnac), three medium-sized ones (Jagodina, Pancevo, Sabac) and three large ones (Novi Sad, Subotica, Krusevac).

municipalities may lack proper administrative and technical capacity to carry out all of the functions required under the Program, which may result in the need for additional technical and administrative support from PIMO. If the Program expands, PIMO may need additional staff to properly administer the Program.

129. As implementation progresses, it will be important to ensure that the lessons learned during the renovation of the first set of selected buildings are disseminated so the quality of works/design in the next set of selected buildings can be improved. Three buildings were visited in June 2017, one completed and two under construction. The works performed in the buildings were of satisfactory quality in general. However, the completed building's facade contained polystyrene, which could be problematic for complying with the FP elaboration. The two buildings under construction did not include provisions for thermal insulation on the facade. For one building, the facade cladding was too expensive to be replaced. In the other building, there was a thin layer of insulation between the wall and facade which does not allow for additional layers to be installed. Such issues can ultimately reduce the final energy performance of the buildings and may prohibit them from meeting the Class C target. Such deficiencies, while minor, can provide useful lessons learned for the renovation of similar subsequent buildings.

C. Program Expenditure Framework

130. Program budget structure and classification. The total Program expenditures for 234 buildings are estimated to be around €77.8 million (Table 19). It is estimated that €71.8 million of these expenditures relate to the reconstruction works; the remaining €5.9 million is estimated to cover the costs of technical services, such as energy audits, technical designs, supervision and building certifications. Program administrative and management costs (mainly municipalities and PIMO incremental costs) were estimated at €3.4 million based on PIMO staff salaries and municipal incremental costs. These expenditures are financed with the budgets of PIMO and the municipalities for staff and are thus not included or accounted for in the government's program.

Table 19. List of Program Expenditures

| No. | Program Direct Expenditures | Expenditure (€) |
|----------|---|-------------------|
| 1 | <i>Technical services</i> | <i>5,948,865</i> |
| 1.1 | - energy audits and energy passports | 920,673 |
| 1.2 | - technical/detail designs | 2,873,286 |
| 1.3 | - technical supervision of construction works | 1,436,526 |
| 1.4 | - technical acceptance of works and usage permits | 718,380 |
| 2 | <i>Construction works</i> | <i>71,828,362</i> |
| | Estimated total direct program costs | 77,777,227 |
| No. | Program Indirect Expenditures | Expenditure (€) |
| 3 | <i>Program management, control</i> | <i>3,386,142</i> |
| 1.1 | - PIMO | 2,880,000 |
| 1.2 | - Municipalities | 506,142 |
| | Estimated program indirect costs | 3,386,142 |

Notes: Technical services expenditure estimate is based on the average investment (€306,959) and area (2,163 m²) per building derived from a sample of 28 buildings. Line item 1.1 was estimated using an average cost for both the energy audit and energy certificate of €1.50 per m² of building or €3,934.50 per building, or €920,673 for all 234 buildings. Line items 1.2-1.4 were estimated as percentage of the average investment for one building (4 percent or €12,279 for the detailed designs, 2 percent or €6,139 for the technical supervision of construction works, and 1 percent or €3,070 for the technical acceptance and commissioning of the works). Program management and control expenditures: line item 3.1 was estimated using an average salary of €2,000 per person-month for PIMO staff (40 people, 3-year program); line item 3.2 was estimated using a value of €2,163 per building (based on an average administrative cost of €1/m²) for the additional incremental costs of municipal staff.

131. Past PIMO budgeting and performance. Since its creation in 2014, PIMO has showed strong performance in recent years with budgetary resources of: (i) RSD 8,810,000 (€80,000) in 2014, (ii) RSD

23,937,000 (€200,000) in 2015; (iii) RSD 28,155,000 (€230,000) in 2016; and (iv) RSD 1,194,086,000 (€10 million) in 2017 so far. Overall management of the budgets has been satisfactory, with no cost overruns, no delayed disbursements, no higher than anticipated administrative costs, etc. However, in three fiscal years (2014, 2016, 2017), PIMO requested supplemental budgetary resources to cover increases in its scope (e.g., additional compensation for injuries or damages from the 2014 floods, increased transfers to municipalities, additional infrastructure assets to be rehabilitated) or budget line items that were not fully funded by MoF in the initial allocation. In two fiscal years (2015, 2016) PIMO also had to request reallocations between budget line items due to unforeseen expenditures (e.g., travel expenses, contractor fees).

132. Program financial sustainability and funding predictability. The Program would be financed through a mix of budget support and the World Bank PforR loan, which will be included in the 2017 budget. For the three-year Program period (2017-19), PIMO received about €7 million in 2017; the budget funding for 2018-19 has been confirmed in a letter from the MoF to the Bank, dated May 4, 2017 (about €12.4 million per year). Therefore, the funding for the 234 buildings is reasonably secure and predictable. However, PIMO has already initiated a second call for proposals without securing additional funding, creating a risk that the Program overcommits its resources in the medium-term. Going forward, the development and adoption of a medium-term public building renovation strategy would be important an important way for the government to formalize its longer-term commitment to the sector, articulate its expected funding sources and present its budgetary and institutional commitments to the Program.

133. Efficiency of Program Planning and Expenditures. Program expenditure planning is based on periodic calls for proposals from municipalities which include prioritized lists of buildings along with indicative investment requirements. As the technical designs are revised and finalized, these investment costs are further refined. During the bidding process, bids must be below the government cost estimates or the tender must be cancelled. However, as noted earlier, the EE elaborations do not include alternative designs or cost-benefit analyses, which may result in uneconomic measures being included in the final works. On the whole, the Program expenditure estimates appear to be reasonable with a very low risk of exceeding the available budget provisions.

134. Efficiency and cost-effectiveness are the main principles considered in the application for public facilities rehabilitation, i.e., the potential to achieve the best outcomes at the lowest cost. In that regard, EE measures are integral to the technical designs. In addition to the economic savings due to reduced energy consumption leading to lower government energy bills and extending the building operating life, EE measures have significant additional benefits, in terms of energy security, reduced investment requirements in new energy supply and environmental benefits associated from reductions in local and global emissions. *However, because the Program does not require any financial contribution from the municipalities or public facilities, they are less likely to be concerned by the overall renovation costs.*

D. Monitoring and Evaluation

135. At the central level, PIMO performs monitoring of all Program activities. PIMO keeps records on the number of received and approved applications and maintains a register of the received and eligible applications, signed contracts, and amounts committed and disbursed under the Program. Energy efficiency certificates issued under the Program are registered in the database administered by MCTI, which collects information for reporting under the NEEAP. PIMO is also obliged under the Program to submit interim and annual progress reports to the government for approval and to the WG for information; however, no reports have been prepared to date. *While PIMO retains substantial data, and prepares monitoring reports, the Program would benefit from a more comprehensive and systematic monitoring and evaluation (M&E) framework. Such a system should capture an agreed set of Program indicators (e.g., energy and CO₂ savings, # and area of buildings renovated, # of beneficiaries, # of renovated buildings in each energy performance class, energy cost savings) along with social statistics (number of beneficiaries broken out by gender, municipality, income level, etc.), program data (€/m² of*

investment, unit costs for key measures, # of bidders) and other program impacts and benefits (improved comfort levels, building lifecycle extension, enhanced safety, job creation). It is recommended that PIMO administer a social and satisfaction survey annually to program beneficiaries to help capture some of this data. SCTM may be able to support some of this data collection, analysis and reporting. MME developed an Energy Management System (EMS) and its implementation in municipalities began in early 2017, which could also assist with some of the data collection.

136. In addition to Program indicators and impacts, the Program would also benefit from enhanced process evaluation efforts, to document reasons for low satisfaction (if any), technical issues related to design and renovation works, commissioning, etc. so the processes and capacities can be improved over time. This is particularly relevant since the Program seeks to promote smaller construction firms whose capacities and skills may be low. Lessons learned from early investments, technical challenges, work order variations, etc. should be properly documented so they can be shared with municipalities, technical consultants and firms to avoid their replication. The Program could then provide periodic training to municipalities and interested firms on Program requirements and procedures, share standard documents and technical requirements, lessons learned, best practices, etc.

E. Program Economic Evaluation

137. Economic analyses were performed both on a sample of 28 buildings⁵⁴ (12 percent of the total 234 buildings) that have already been contracted and on the Program as a whole (assuming all 234 buildings are renovated). Data from these buildings was provided by PIMO together with detailed energy audit reports for six buildings (four contracted, two approved for bidding). For the 28 buildings, the average building heated area is 2,195 m².

138. Program and investment costs. The total investment requirement for renovation of the 28 buildings, covering both structural and EE measures, is estimated to be €8.6 million. This cost estimate does not include the cost of services (energy audits, design, supervision, certification), which are borne by the municipalities. The average cost per building is about €0.31 million. Program costs were based on the Program budget of €81.1 million for all 234 buildings to be renovated.

139. Benefits of the Program. The economic analyses cover the following Program benefits: economic value of energy saved, CO₂ emission reductions, economic value of building improvements (increased building operating lifetime), and living conditions (comfort levels). For the 28-building sample, PIMO took data on pre- and post-project energy savings and CO₂ emission reductions from the energy audits. As noted earlier, the Program has a number of additional benefits that were not quantified for the purposes of the economic analyses. These include national benefits (enhanced energy security, reduced fiscal burden for fuel imports, job creation, better health), municipal benefits (urban renewal, improved social service quality) and other end users' benefits beyond comfort levels (safer, enhanced building conditions).

140. Other assumptions used to carry out these economic analyses include:

- *Discount rate.* 6 percent, based on the World Bank's guidance for economic analyses.
- *Period of assessment.* The analyses are calculated over a 20-year period, based on the useful life of the measures proposed (insulation of walls and roofs, roof and floors repair/replacement, replacement of windows, boilers, electrical and heating installations).

⁵⁴ The 28 buildings are located in the following municipalities: Ada, Bela Palanka, Velika Plana, Vlasotince (2 buildings), Vranje, Zabari, Ivanjica, Irig, Kosjeric, Leskovac, Majdanpek, Nis, Opovo, Pecinci, Pirot, Razanj (2 buildings), Svilajnac (2 buildings), Svrlijig, Senta, Smederevo (2 buildings), Temerin, Trgoviste, Coka and Sabac.

- *Building improvements.* Existing literature on monetizing improvements in comfort levels and structural safety is sparse. A recent Bank report⁵⁵ covering Bulgaria, Croatia, Poland and Romania estimated building improvement value to be 40 percent from expected energy cost savings, which is very conservative but was used for these analyses.
- *Exchange rate.* Analyses were done in Euro based on an exchange rate of €1 = RSD 124.
- *Economic energy price.* Energy and fuel prices for public building consumers generally reflect supply costs and are thus prevailing market prices. No analyses were available to assess district heating prices, which can significantly differ (even double) from one municipality to the next. However, the share of electricity and district heating in the sampled buildings for heat supply is low; the prevailing fuels are coal, light fuel oil, gas and wood. Therefore, market energy prices were used as the economic energy costs in this analysis.
- *Inflation.* A 1.5 percent annual inflation was used, based on the inflation rate projection 2 percent \pm 1.5 percent for Serbia for 2017.
- *CO₂ value.* For CO₂, an economic value of €25/ton was used, based on the Bank’s guidance on using a minimum social value of carbon of US\$30.
- *Building life extension.* To account for the extended operating lifetime of the building as a result of the renovation, it was assumed that had the building not been renovated, it would have to be replaced in the near future. To be conservative, it was assumed that the renovation would extend the building life by at least 10 years (or delay the replacement by 10 years), which was assumed to be about 12 percent of the estimated cost to completely rebuild the property and prepare the location (estimated to be about €500/m² for new construction).

141. **Justification for public financing.** Public financing of the program is justified given that activities supported cannot be undertaken with private financing. Market failures described in para 76 have blocked progress on the implementation of large-scale renovations. Further, the focus on the most dilapidated buildings and inclusion of both energy efficiency and structural measures would not yield positive financial returns. The program would also have a number of broader socioeconomic benefits by demonstrating and measuring the benefits of a large-scale renovation program, further developing competencies in the construction and related market and helping to create a more sustainable strategy in future years.

142. **Economic analysis for 28 buildings.** The base case scenario of the economic analysis for the sample of 28 buildings resulted in a €1.408 million economic net present value (NPV) and economic internal rate of return (EIRR) of 9.34 percent. Sensitivity analyses were also conducted, with increases of 10 percent and 20 percent in investment costs and 10 percent and 20 percent reductions in energy cost savings (Table 20). Under the worst-case scenario (investment cost +20 percent, energy savings -20 percent), the EIRR falls to 4.1 percent and the economic NPV becomes negative at -€0.951 million. Since these 28 buildings have already been contracted, such cost overruns are highly unlikely.

Table 20. Sensitivity analysis for economic analysis of 28 buildings

| | Investment (€ million) | Energy savings (€ million) | NPV (€ million) | EIRR (%) | Payback (years) |
|--|---------------------------|----------------------------------|--------------------|-------------|--------------------|
| | | | | | |

⁵⁵ World Bank, 2017 (forthcoming). “Scaling up Thermal Retrofit of Residential and Public Buildings in Europe and Central Asia.” Washington, D.C.: World Bank.

| | | | | | |
|---|-------------------|----------------|------------------|-------------|----------|
| <i>Base case</i> | <i>8,594,847</i> | <i>298,474</i> | <i>1,407,799</i> | <i>9.3%</i> | <i>8</i> |
| Investment cost +10% | <i>9,454,331</i> | 298,474 | 596,965 | 7.3% | 10 |
| Investment cost +20% | <i>10,313,816</i> | 298,474 | -213,870 | 5.6% | 11 |
| Energy savings -10% | <i>8,594,847</i> | 268,627 | 1,039,386 | 8.5% | 8 |
| Energy savings -20% | <i>8,594,847</i> | 238,779 | 670,973 | 7.7% | 9 |
| Investment cost +10%, Energy savings -10% | <i>9,454,331</i> | 268,627 | 228,551 | 6.5% | 10 |
| Investment cost +20%, Energy savings -20% | <i>10,313,816</i> | 238,779 | -950,696 | 4.1% | 13 |

143. **Economic analysis for entire Program.** The base case scenario of the economic analysis for the entire Program (assuming renovation of 234 buildings) resulted in a €5.108 million economic NPV and EIRR of 7.9 percent. The EIRR is lower than for the set of 28 buildings above, since the Program technical service costs and indirect expenditures (staff) are included. Sensitivity analyses were also conducted, with increases of 10 percent and 20 percent in investment costs and 10 percent and 20 percent reductions in energy cost savings (Table 21). Under the worst-case scenario (investment cost +20 percent, energy savings -20 percent), the EIRR falls to 1.0 percent and the economic NPV becomes negative at -€16.550 million. With reference pricing in place, strong competition and technical oversight for energy savings, this scenario is unlikely.

Table 21. Sensitivity analysis for economic analysis of entire Program

| | Investment (€ million) | Energy savings (€ million) | NPV (€ million) | EIRR (%) | Payback (years) |
|---|-----------------------------------|---|----------------------------|---------------------|----------------------------|
| <i>Base case</i> | <i>81,163,369</i> | <i>2,494,393</i> | <i>5,107,784</i> | <i>7.9%</i> | <i>12</i> |
| Investment cost +10% | <i>89,279,706</i> | 2,494,393 | -1,919,235 | 5.4% | 13 |
| Investment cost +20% | <i>97,396,042</i> | 2,494,393 | -8,946,253 | 3.4% | 15 |
| Energy savings -10% | <i>81,163,369</i> | 2,244,953 | 1,306,068 | 6.5% | 12 |
| Energy savings -20% | <i>81,163,369</i> | 1,995,514 | -2,495,647 | 5.0% | 14 |
| Investment cost +10%, Energy savings -10% | <i>89,279,706</i> | 2,244,953 | -5,720,950 | 4.1% | 15 |
| Investment cost +20%, Energy savings -20% | <i>97,396,042</i> | 1,995,514 | -16,549,683 | 1.0% | 18 |

F. Overall Program Performance to date and proposed action plan

144. **The overall performance of the Program to date (from April 2016 through June 2017) is assessed to be moderately satisfactory.** The Program was launched with reasonably well formulated Program documents with some analytical underpinnings, initiated with a fair and moderately transparent process for building selection, and supported by an adequate outreach effort. Preliminary methodologies and procedures have evolved since the start of the Program with the introduction of standard documentation and increased oversight. As a result, demand (as measured by the number of applications received from the municipalities) has been high with 523 applications in the first call for proposals and about 300 in the second call. The government has indicated its high priority for this Program and both the central and local governments have ensured that sufficient and qualified staff have been assigned to support Program implementation. As similar initiatives in neighboring countries were often done with substantial grant funds from the EC and other donors, this initiative from the GoS is a positive development.

145. These issues were discussed with PIMO and an agreed Program Action Plan is summarized below in Table 22.

Table 22. Identified Technical Deficiencies and Proposed Mitigation Actions

| No. | Deficiency | Proposed Mitigation Action | Deadline | DLI? |
|------------|--|--|-------------------------------------|-------------|
| 1 | Lack of documented procedures | Develop and adopt POM with content agreed by the Bank, to include program procedures, reporting, financial management and procurement processes, grievance redress mechanism, standard documents and templates | November 30, 2017 | Y |
| 2 | Establish Steering Committee | MME to establish a Steering Committee to strengthen governance framework of the Program. | November 15, 2017 | Y |
| 3 | Lack of social and satisfaction data | Develop and administer annual satisfaction and social survey to Program participants | December 29, 2017 and then annually | |
| 4 | Lack of capacity among contractors/ municipalities | Provide annual training to municipalities and contractors ensure incorporation of lessons learned into Program implementation and dissemination of best practices | December 29, 2017 and then annually | |

Annex 5: Summary of the Fiduciary Systems Assessment

Procurement profile of the Program

1. Procurement under the Program will follow the government procedures. For the transport sector, procurement will consist of performance based maintenance contracting, while for the energy sector, procurement will consist of technical elaborations and detailed designs of the buildings; construction works and design compliance reports and construction supervision. The program will not involve activities that involve procurement of works and services under high-value contracts that would require mandatory review by the Bank's Operations Procurement Review Committee (OPCR).

Legislative and regulatory framework

2. The Public Procurement Law (PPL) adopted in December 2012, amended in August 2015 represents a step towards conformity with EU procurement directives. The PPL applies to all procurement undertaken using government funds, i.e. procurement of goods, works and services purchased by state and local government authorities, state-owned enterprises and legal persons that use funds provided by the Government of Serbia or local self-governments.

3. The PPL regulates the procedures for the award of public contracts and framework agreements, outlines legal protection in relation to public procurement procedures, defines types of procurement procedures and introduces several improvements to the procurement system, such as increased transparency and a reduction of the number of exceptions.

4. The legal framework for procurement provides elements needed for a functional system. The organization of public procurement processes and the hierarchy between the Public Procurement Office (PPO), the Republic Commission for the Protection of Rights in Public Procurement Procedures (RC) and contracting authorities are clearly defined.

5. The key organizations in Serbia's public procurement system are (i) the PPO, accountable directly to the Government. The PPO is responsible for drafting public procurement secondary legislation and for coordination and monitoring the public procurement system in general; (ii) the RC deals with complaints and protection of rights. It is an autonomous and independent entity established in 2010 and activated in April 2013. It reports to the National Assembly and (iii) The State Audit Institution – responsible for the audit of all public funds and reports systematically on public procurement.

Overall risk assessment

6. The procurement assessment concludes that there is reasonable assurance that Serbia's procurement systems for the Program (planning, bidding, evaluation, contract award and contract administration arrangements and practices, as well as complaint mechanism and management and mitigation of fraud and corruption risk) will achieve intended results through its procurement processes and procedures. There are notable risks with in PIMO (capacity and written internal procedures) which need to be addressed. Additionally, in PERS there is a lack of responsive bids for Performance Based Maintenance Contracting due to introduction of the new concept of contracting in transport sector in PERS. For these reasons the procurement component of the fiduciary risk rating is substantial.

Complaints receiving and handling mechanisms

7. The Republic Commission for Protection of Rights in Public Procurement Procedures (RC) is responsible for the administrative procurement complaints system. A complaint may be lodged against any phase of public procurement procedure, as well as against decisions on contract awards. Amongst other responsibilities, the RC decides on "(i) requests for protection of rights and appeals filed against the

conclusion of the contracting authority, (ii) monitors and controls implementation of its decisions, (iii) annuls public procurement contracts, and (iv) imposes fines on contracting authorities and conducts minor offense proceedings in the first instance." The Commission issues decisions that are binding for all parties, without precluding subsequent access to an external higher authority. Further appeals can be made to the Administrative Court. The process for submission and resolution of complaints is clearly set out in the PPL by Articles 148-155 and 157 and is publicly available on the website of the RC (http://www.kjn.gov.rs/sr/zastita_prava/zahtev-za-zastitu-prava.html). Fees charged in the procedures of complaints, as detailed in article 156 of the PPL, are believed to be reasonable and not to prohibit access by concerned parties.

Procurement capacity

8. The implementing agencies will be the Public Enterprise "Roads of Serbia" (PERS) for the transport sector and Public Investment Management Office (PIMO) for the energy sector.

9. There is a Department for Public Procurement and Contracts within Sector for Legal, Staff and Common Affairs responsible for public procurement in PERS. The entity has satisfactory capacity for public procurement with total of 7 certified public procurement officers supported by technical staff from various departments. Procurement plans are based on Performance Based Maintenance Plans prepared on a yearly basis, and adopted by the Government, published on the Public Procurement Portal and on PERS' website. PERS adopted an internal act on public procurement control prescribed by the Law. There is no staff exclusively assigned for internal control of public procurement procedures. Conducted procedures are mostly open procedures and low-value procedures; in case of negotiated procedures the PPO's approval is obtained. Some procedures in the Procurement Plan are excerpted from the PPL, as defined by Article 7. Integrity of the procurement procedures are aligned with requirements of the PPL. There are internal procedures for preparation of tender documents, selection of members of evaluation committees and contracts administration. The entity has a satisfactory performance trace records; complaint mechanism is functioning. Contract administration is conducted by technical staff assigned based on the subject of public procurement. Efficient contractual procedures are in place and contractual remedies are enforced if necessary. The entity may be late in payments to economic operators due to insufficient collection of revenues and constrains the budget may face. If necessary, contracts are amended in accordance with provisions and clauses set by the PPL and respective tender documents. PERS is responsible for implementation of Performance Based Maintenance Contracting which 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. Being an entirely new concept in Serbia, PERS organized two workshops for economic operators and interested stakeholders to introduce this new model, prior to tendering. The bidding procedure for selection of contractors was launched on May 19, 2017, for 3,000 km of road maintenance, with the contracts duration being 3 years. The procedure is divided into six lots, with a total cost estimate of approximately €95 million (including VAT). Due to a high number of requests for clarifications, the deadline for bids' submission was extended to July 21, 2017. Contract administration in general is conducted satisfactorily, there is a sufficient technical and financial capacity within PERS for contract management. Supervision for works financed by investments projects is commonly outsourced while supervision for maintenance of roads is conducted by technical staff within PERS and often supported by the externally contracted supervision engineer. It has not been decided whether the supervision for PBM contracts will be conducted internally or outsourced. PBM contracts will be administered by PERS' Sector for Maintenance of Public Roads.

10. The Program for Reconstruction and Improvement of State-Owned Public Facilities of April 2016, revised October 2016 is being implemented by recently designated Public Investment Management Office. The program covers all public social buildings such as education, healthcare and social protection facilities in need of reconstruction. Works covered under the program include improvements of the building envelope (roof, windows, doors and wall insulation), internal equipment (lightening, fuel

switching, such as coal/oil to pellets/wood chips, solar hot water heaters) as well as some non-EE measures (structural reinforcement, sanitary repairs, rewiring, painting). The government program is decentralized in its implementation. All tasks related to design, procurement and supervision are the responsibilities of local self-governments (LSGs), as defined in contracts signed between PIMO and respective LSGs. Further, contract defines that PIMO comments bidding documents prior to publication, appoints a member of Evaluation Committee, co-signs contracts for works between LSG and contractors, executes payments and review any modification of works' contract. The contract serves as a legal base for update of municipal Procurement Plans prior to launching procurement procedure for works. In practice, PIMO reviews and provides its "approval" to each stage of public procurement, including supervision of possible clarifications of the bidding documents, response to complaints, reviews draft contract prior to signing and executes payments on renovation works contracts. LSGs use model tender document developed by PIMO. Currently within PIMO there is no filing system for procurement files nor any written internal procedures for handling public procurement requests and documents submitted by municipalities. There is no internal control for public procurement actions within the entity.

11. To exercise its responsibilities of reviewing each stage of the procurement process, PIMO should strengthen its professional capacity as well as formalize its internal procedures to defining procurement actions, responsibilities in revision of procurement documents and timeframe within which those actions are to be performed. Currently, PIMO has been undertaking supervision of public procurement procedures without having any certified public procurement officers but by three staff with no previous experience in public procurement. PIMO has contracted one certified public procurement expert who is being consulted on an "as needed" basis.

12. Having no sufficiently trained and certified procurement officers and having advisory and coordination role while issuing written "approval" in public procurement procedures without any operation manual represents a substantial risk for project implementation. To mitigate risks in procurement it is necessary to fulfill following recommendations: (i) PIMO procurement staff to take the exam for certification of public procurement officers as soon as possible and prior to approval of the Project by the Bank; (ii) strengthen capacity by employing one additional certified public procurement officer on a full time bases to avoid creation of bottlenecks in handling procurement requests and providing support to municipalities; (iii) to develop an efficient procurement filing system and (iv) to prepare a Program Operations Manual with clearly defined actions, responsibilities and procedures to be followed for public procurement.

13. **As a part of the fiduciary assessment, a total of eleven LSGs⁵⁶ were visited and their procurement capacity assessed.** The assessment covered sample of final beneficiaries as well. In most cases, the LSGs are assigned to conduct the public procurement procedures under the program (technical elaboration and detailed design, renovation works, final building energy performance certificate). All sampled LSGs and final beneficiaries are considered to have sufficient capacity to conduct public procurement under the program. All visited LSGs have certified public procurement officers, the number of which depends on the size of the LSG and contract value of the public procurements. All municipalities and final beneficiaries follow procedures and policies for public procurement as defined in the PPL; procurement plans are based on yearly financial plans and are publicly available through Public Procurement Portal and respective municipal websites; updates and changes in municipal budgets are followed by changes in Procurement Plans. Open competition and low value procurement procedures are most commonly used; qualification, evaluation and award criteria are defined in the bidding documents;

⁵⁶ Municipalities of Subotica, Secanj, Novi Sad, Pecinci, Sabac, Pancevo, Aleksandrovac, Cicevac, Krusevac, Svilajnac, Jagodina were sampled based on the size, number of buildings proposed, stage of implementation and geographic spread.

procurement arrangements of all visited entities included advertising of bidding opportunities; internal control in public procurement is not common, most entities do not have established internal control in public procurement; external control is executed yearly by independent audit as well as by SAI. In all visited entities, SAI conducted at least one audit for the past five years. Procurement procedures are subject to an external audit. No visited entity has been under any investigation for violation of the PPL. Most entities have satisfactory capacity to provide contract administration; contracts have contractual dispute resolutions in place; cost overruns are not common and contracts are amended following clauses of the PPL; in most entities contracts are managed by technical departments and payments are executed by financial departments after inspection of goods, works and services are performed; delays in payments do occur in some cases, while payment amounts are in accordance with contractual clauses. Advance payment guarantees, performance guarantees and bank guarantee for defect liability period for works are obligatory. Neither of visited entity had a record of often filed complaints in public procurement.

14. Sample of visited LSGs for procurement assessment took into consideration different phases in implementation of the Government Program. PIMO only reviews the renovation works tenders and contracts, since this is the only contract for which the program will pay. All LSGs after signature of an investment contract with PIMO for each public building update their Procurement Plans; once technical documentation is accepted by PIMO, a model bidding document is shared by PIMO. All LSGs develop bidding documents following this template and send it to PIMO for review. In practice, there have typically been two to three reviews/sets of comments provided by PIMO prior to publishing the invitation to bid. In the case of requests for clarification by potential bidders, PIMO is involved in drafting and preparing the response; technical specifications for works and drawings are included in bidding documents, as well as evaluation and qualification criteria and a model contract; PIMO appoints one member and one deputy member of the Evaluation Committee; there is no template for the evaluation report, so each entity uses its own format for the evaluation report (content of evaluation report is defined by the PPL); all entities visited appeared to have sufficiently qualified personnel to conduct the evaluation of bids; it is not mandatory nor practice to send the evaluation report to PIMO for its review; signature of the committee member appointed by PIMO is considered sufficient for acceptance of the evaluation report by PIMO and proceeding with contract award; however, a draft contract is sent to PIMO for a review and “no objection.” Contract for execution of works is co-signed by PIMO. Copies of contract, advance payment guarantees and performance guarantees are sent to PIMO.

15. **Most LSGs visited were not familiar with PIMO’s role in the procurement process prior to initiating the procurement procedures.** Although PIMO and the LSGs sign a contract when the buildings have been selected, in practice, responsibilities and actions by PIMO for the procurement process only become clear once the procurement process has begun. Thus, a clearer upfront contract and well-developed Operations Manual will be essential for successful implementation and a clear division of actions and responsibilities of all parties involved. Payment for works subject to these procurement procedures are verified by LSGs, supervision, PIMO engineers and executed by PIMO. Supervision of works is the responsibility of LSGs or final beneficiaries – some LSGs have their own technical resources for supervision while most of the visited entities will outsource supervision for works to certified contractors.

Table 23. Identified risks and proposed mitigation measures

| IDENTIFIED RISK | MITIGATION MEASURE PROPOSED | Party Responsible |
|--|--|---|
| Lack of internal controls in public procurement procedures | Control of procurement procedures by independent audits on yearly basis, the LSGs and other entities/contracting authorities such as PERS have a legal obligation to have an independent audit every year/being selected competitively by LSGs or the entity itself. | LSGs and Drzavna Revizorska Institucija (State Audit Institution) |
| Possible delays in payments during | Project reporting by PERS, PIMO and the PPO | PERS, PIMO, the |

| | | |
|---|--|---|
| contracts' implementation | | PPO, Ministry of Finance |
| Contracting delayed due to timely resolution of complaints by the Republic Commission for Protection of Rights in Public Procurement Procedures | Strengthening capacity of the Republic Commission for Protection in Public Procurement Procedures | Ministry of Finance |
| Lack of responsive bids for Performance Based Maintenance Contracting due to introduction of the new concept of contracting in transport sector | Wide advertisement of Invitations to Bid including international advertising Business outreaches prior to launching tender procedures | PERS |
| Lack of capacity within PIMO to supervise public procurement procedures conducted by LSGs | Strengthening PIMO's capacity for public procurement by: (i) Certification of current procurement staff and (ii) employment one additional certified public procurement officer | PIMO |
| Lack of written internal procedures for handling public procurement requests and documents submitted by municipalities within PIMO | Development of an efficient procurement filling system Preparation of a Program Operations Manual with clearly defined actions, responsibilities and procedures to be followed for public procurement | PIMO |
| Fraud and corruption during public procurement and/or implementation of contracts under the program | Program will follow Anti-Corruption Guideline applicable to PforR operations dated February 1, 2012, and revised on July 10, 2015 Use of World Bank debarment list of firms and individuals for the Program | SAI, Anti-corruption Agency, PPO, Ministry of Finance, the World Bank |

II. FINANCIAL MANAGEMENT

A) Financial Management Assessment of the Program for Energy Efficiency

PIMO

16. The PIMO has 3 employees responsible for budgeting, finance, accounting and treasury.
17. The SAI audited the PIMO in 2015. For the projects financed by the solidarity funds in the period from April 2015 to October 2016, the EU audited the PIMO. For this program, the EU requested from the PIMO to develop written procedures.
18. For the Program for rebuilding and enhancement of building of public purposes in public ownership in areas of education, health and social protection (which part is energy efficiency), the PIMO plans to pay directly construction companies providing works on the buildings. These funds will not be budgeted nor recorded by municipalities. The contract holders will be responsible for recording transactions and calculation of the increased values of buildings. The Program will not have any written procedures for approval and payments. The PIMO will use existing processes and procedures for approvals and payments, however, these procedures are also not in written form.
19. The total amount available to the PIMO are budgeted in the state budget. The currently available budget for the Program amount to RSD 789 million, but not all of these funds are committed yet.
20. The PIMO uses a local accounting program called Next Biz and the state treasury system for payments called FMIS. The PIMO applies the budgetary accounting policies.

21. The PIMO distribute the monthly reports to the MoF on the monthly quotes of the funds. Some ad-hoc reports are prepared for the PIMO director and donors. Quarterly reports are also distributed to the Treasury at the MoF.

22. The PIMO does not have neither an external nor internal auditors, although the Budget System Law requires instituting internal audit function in all public sector entities in the scope of implementation of Public Internal Financial Control framework in line with the Chapter 32 “Financial Controls” in the EU accession process.

23. As there will be 234 projects in 109 municipalities, capacity of the PIMO to respond to these needs will be monitored by the Bank and any capacity gaps should be addressed through the increase in number of staff.

Planning and Budgeting Arrangements

24. **Government is committed to including Program expenditures in the annual budget.** Staff qualified and with substantial experience in budget preparation process are in charge of these tasks. In the process, they adhere to the provisions of the Budget System Law (BSL) and prescribed budget calendar, sequence of steps, and content of budget documentation. Budget preparation is two-way process with budget beneficiaries, such as PIMO in the case of the program, submit proposals of the financial plans, and the MoF in communication with budget beneficiaries prepares the annual budget. Budget was assessed to be credible in previous years, with moderate amendments and deviations to the original budget.

25. **The calendar for preparation of the annual budget is outlined in the BSL.** The calendar provides clarity and comprehensiveness of the budget preparation process. The calendar specifies the timing and involvement of relevant stakeholders. However, deviations from the prescribed deadlines in some steps of the process have been noted in past years. Combined with limited staffing of the Budget Department of the MoF, the delays in adherence to the deadlines meant that there was insufficient time for thorough analysis of budget users’ requests and setting of adequate annual appropriation levels by the MoF. Further, identification of priority areas for financing (including national investment priorities) early in the process is rendered ineffective by subsequent MoF instructions for the preparation of the draft annual budget, which are usually not referenced to the priority areas for financing indicated by the budget users. Effective management of budget negotiations to decide upon priority budget allocations is hampered by unclear separation of costs of the existing and new policies in the budget requests.

26. **Compliance with budget calendar and timeliness of budget preparation has been satisfactory in previous years.** Track record for timeliness in submission by the government of the annual budget proposal and its approval by the National Assembly (NA) is overall solid. While the submission of the budget proposal to the NA has been on time in 2013 and 2014, submission of the budget proposal for 2015 was delayed and limited the time available for legislative review. On a positive note, budgets for the coming year in the recent past have consistently been adopted by the parliament before the current year end. Financial plans that municipalities prepare are subject to the MoF’s scrutiny when it comes to specific municipality’s budget, and this process lacks better two-way communication. This risk is mitigated by the fact that the government has committed to inclusion of Program expenditures in the budget.

27. **Municipalities do not have a track record of extensive budget changes in line with rules and procedures for in-year changes to the budget appropriations.** The rules for such changes are clearly outlined in the legislation and adhered to. This includes procedures requiring approval of the legislature as well as those managed by the executive. In recent years, in-year changes to budget appropriations have been undertaken in a transparent and predictable manner. On the executive side, decisions for reallocations of annual appropriations require prior approval by the MoF. Decisions on the use of this contingency fund are made by the government upon proposal of the MoF.

28. **The structures and procedures for review of the annual budget proposal are firmly established and respected.** Legislative review of the Fiscal Strategy and the annual budget proposal is prescribed in the BSL and parliamentary Rules of Procedure. The Annual Budget Law (budget proposal) does not present comparison of the previous year's outturn with the budgeted figures for the current year, making it difficult for the legislature to easily identify expenditure trends over time.

Transparency

29. **The availability of budget and budget execution documentation to the public is reported as overall partial, although principal documents such as annual budget and year-end financial statements are readily available to the public.** Documentation that must be submitted to the NA for review and approval of the annual budget is specified in the Budget System Law. With the exception of a monthly Public Finance Bulletin, which presents aggregate expenditure figures, availability of in-year budget execution reports to the public is partial. The monthly Public Finance Bulletin is published on the website of the MoF, but other official in-year budget execution reports are only available upon request from the relevant institutions (the MoF, government, and NA). In line with the regulation, implementing entities prepare quarterly budget execution reports which include Program expenditures. Financial statements for the budget of the Republic are easily accessible to the public in the form of the proposal of the Law on the Final Account that is submitted by the government to the NA for approval. All external audit reports are widely accessible through the website of the SAI. The reports are posted on the website without delay upon their finalization.

Accounting and Financial Reporting

30. **Quarterly reports on budget execution prepared by PIMO and delivered to the Treasury will be used as interim financial report for the program.** As per the legislation requirements, budget beneficiaries prepare quarterly reports and deliver to the Treasury. The format of the reports is prescribed and is assessed to be adequate to satisfy the project needs and present program expenditures in a transparent manner. In case PIMO is using the option to transfer the funds to municipalities for payment, which should be used only in exceptional circumstances, PIMO reports should be accompanied by reconciliation of funds transferred versus expended by municipalities.

31. **Adequate capacity of the accounting system is in place to track and report actual Program expenditures against a comprehensive budget classification system.** Budget control and monitoring are managed by the Treasury of the MoF through a centralized transaction processing system and captured in the Treasury Main Ledger (TML). The TML, running on the SAP platform, captures all revenue and expenditure transactions with relevant coding structures, which follow the organizational, functional, Program, three-digit economic, six-digit economic, and source-of-funds classification. The accounting arrangements facilitate detailed analysis, as necessary. Budget beneficiaries including PIMO, maintain additional accounting records and auxiliary ledgers, which they reconcile with the TML in the course of preparation of their budget execution reports. The accounting and financial reporting in PIMO is at an acceptable level. Relevant department employs qualified and experienced staff working on accounting and financial reporting, however capacities in terms of number of staff as compared to work needs should be monitored. They maintain the prescribed accounting records and submit the statutory in-year budget execution reports and annual financial statements.

32. **The government's accounting and financial reporting is performed on cash basis, with additional information on assets and liabilities.** The reporting meets the World Bank's requirements of Program financial reporting. Under the Decree on Application of International Public Sector Accounting Standards (IPSAS), the officially prescribed accounting standards for Direct Budget Beneficiaries and Indirect Budget Beneficiaries, users of funds of mandatory social insurance organizations and budgetary funds of the Republic as of 2010 are the cash-based IPSAS. All municipalities involved in the Program are subject to this regulation. However, since there are bylaws issued by the MoF that prescribe specific

accounting policies and reporting template, the implication is that IPSAS implementation continues to be indirect.

33. **A number of in-year budget execution reports of differing level of detail are issued regularly in the course of the year.** Additionally, the deadlines which regulate their preparation in the BSL are observed. The MoF publishes the monthly Public Finance Bulletin, compiled using Treasury data and aggregately reporting on central government revenue and expenditure cash flows, within eight weeks from the end of the respective period. The bulletin does not provide data about individual budget organizations and future commitments. Likewise, the bulletin does not furnish explanation for the variations.

34. **Annual financial statements are prepared and made available for audit in June, within six months from the end of the relevant period.** Budget beneficiaries, including PIMO, prepare annual financial statements using their accounting records, after reconciling such information with the Treasury of the MoF. Annual financial statements are submitted to the MoF and Treasury consolidates the reports and prepares the government's final account. The deadline for submission is fixed in the BSL and is consistently observed. The format of the final account is comparable to that of the approved budget and shows the budget allocation, executed budget figures, and the differences between the two. The final account is subject to the audit and it includes the following financial statements: balance sheet, revenue and expenditure statement, statement of capital expenditures and receipts, cash flow statement, and the budget execution report.

35. **Annual financial statements prepared by municipalities are generally reliable.** The quality of financial statements is assessed to be adequate as it pertains to budget execution, revenues, and expenditures. Quality and reliability of balance sheet items is somewhat questionable as the cash basis accounting and information system impedes maintaining quality financial information for accrual-based financial items; however, prevailing local regulation prescribes preparation of a balance sheet practically based on a chart of accounts aligned with that of the corporate sector.

Treasury Management and Flow of Funds

36. **The funds will flow to foreign currency account within the National Bank of Serbia and will be accounted in budget management system.** Country systems are used for flow of funds and the government will designate the account where the funds will flow. Subsequently the funds will be converted and transferred to Consolidated Treasury Account for local currency payments.

37. **PIMO will execute payments directly towards suppliers, however an option to transfer funds to municipalities for them to pay specific suppliers is retained.** Such option has been used only in exceptional circumstances by PIMO so far, and the process is appropriately safeguarded with PIMO approving each specific payment and account statements evidencing payments are delivered to the PIMO by municipalities. Potential transfers to municipalities will recorded as transfers to lower level of government, and in such case PIMO should reconcile funds transferred on this ground to municipalities and feedback supported by account statements evidencing payments executed towards suppliers to municipalities.

38. **The annual budget execution is orderly and program expenditures make an integral part of the budget.** The annual budget is executed through the budget execution system, operationalized though the FMIS. PIMO is a budget beneficiary which is included in the Treasury FMIS and submits payment requests in the FMIS which are executed by the Treasury within annual budget appropriations and monthly payments quotas.

39. **Ex ante commitment controls are exercised by the PIMO and subsequently channeled through the TA in the commitment and payment approval stages.** The decision and responsibility (ex-ante controls) for assuming any commitments rests with the management of budget beneficiaries.

Commitments created must conform to the appropriation approved for such purpose in the budget year. The Budget Execution System (BES) has rigorous application controls that prevent any payments that would exceed the determined quotas or overall annual budget appropriations. Within the year, budget entities respect the limits set by budget appropriations in terms of payments, and the FMIS has integrated hard controls not allowing payments to exceed appropriations. However, entities may assume liabilities without entering it in the FMIS, thus creating liabilities exceeding budget appropriations and accumulating arrears. There is insufficient monitoring and control over recording commitments in the FMIS by budget beneficiaries after liabilities have been assumed. In addition, it is possible for the budget beneficiaries to assume commitments within the budget appropriation but not be able to execute them against the subsequently set lower monthly quotas. In such cases, the budget beneficiary may apply to the TA for a change of the quota. The legislation requires the TA to decide upon such requests guided by a projection of budget revenue and income, by budget execution of a budget beneficiary in the previous period, and by the appraisal of financial planning performance. If the increase of the quota is not approved, this could potentially lead to outstanding payments.

40. **Cash management practices exercised by the TA are sound.** The TA manages cash liquidity, prepares a cash flow forecast for the fiscal year, and updates it monthly on the basis of actual cash inflows and outflows. In practice, cash planning is on a month-to-month basis, where the PIMO estimates monthly cash requirements through plans for budget execution and the TA approves their 'quota', that is, ceiling, by the 15th of the preceding month. The PIMO submit such quarterly plans for budget execution each month on a rolling basis.

Internal Controls and Internal Audit

41. **Although there is still a long reform path in implementation of Public Internal Financial Control (PIFC), existing systems for internal controls are sufficiently strong to provide a satisfactory control framework.** Implementation of FMC as defined by PIFC is still in the early stages; however, there is a longstanding traditional system of written internal controls and procedures within all implementing entities, which are properly applied in practice. This system provides a sound framework and covers key controls such as authorized signatories for transactions and approvals, segregation of duties, accounting checks and controls, all operations cycles covered by appropriate internal acts, and so on. There are written internal acts and rulebooks which describe procedures and controls applied for all relevant cycles of transactions. The formulated system is assessed to be adequate and complied with in practice. There is a Legal Framework for a functional PIFC system including FMC and internal audit, but implementation requires improvement. Recent assessments of public administration point to the conclusion that, despite extensive training on FMC concepts, the objectives and benefits of a fully operational FMC system are still poorly understood across the public sector. Operational guidance from the MoF on implementation of managerial accountability in practice is still lacking. This will be necessary in the ongoing transition from input- to result-based management of resources.

42. **The system of internal controls provides adequate safeguard of funds although in some cases it lacks the linkages with major requirements for a modernized sound system of public internal controls.** As in most public-sector institutions heritage of certain internal controls and procedures is applied although not always properly formalized, and the same is with PIMO. Features that need to be developed as part of the strengthening of internal controls and implementation of FMC would include setting of objectives, formalized risk assessment procedures, establishment of relevant and cost-effective internal controls to provide reasonable assurance, delegation of responsibilities and authority, documentation and audit trails, and so on. However, this centralized control over inputs still provides a substantially sound control environment and safeguards the use of public funds.

43. **The assessment showed that key internal controls are instituted and applied within PIMO. Those include:**

- appropriate authorizations and approvals of all purchases, relevant documentation, transactions of payments, and so on;
- segregation of duties as different persons are responsible for different phases of a transaction;
- original documentation to support all project transactions.

44. In addition to the above, the TA exercises the following controls for execution of the budget:

- No payments are processed if they exceed annual budget appropriations (hard control in the FMIS).
- No payments are processed if they exceed monthly payment quotas (hard control in the FMIS).
- Only authorized personnel of users of public funds can access the FMIS.
- Only authorized signatories approve requests for payment.
- Appropriate supporting documentation for payments is needed.

45. **PIMO makes part of the centralized payroll system in the Treasury, which is assessed to include adequate payroll controls.** The TA is required to manage a registry of employed, elected, appointed, and engaged Persons in the public sector. Recent assessments contain reservations with respect to quality (that is, comprehensiveness and credibility) of this registry due to delays in data gathering and issues with accuracy of the submissions from individual public funds beneficiaries. This is mainly due to the fact that this registry is designed as a self-reporting tool where the TA has no control over the quality or reliability of the data provided. The PIMO is covered with the current centralized payroll system operated by the TA. Recent assessments indicate that the degree of integration between personnel records and payroll, timeliness of changes, and internal controls over changes to personnel records and payroll are satisfactory so the risk to the Program for the participating entities is low.

46. **An internal audit unit has not been established and made functional in the PIMO.** The Program will not rely on the findings of internal audit as an instituted and agreed measure of confirming appropriate fiduciary arrangements for the Program during implementation, nevertheless as part of improved governance and strengthened control environment, the program action plan includes establishing of internal audit function within PIMO.

47. **The MoF Budget Inspection Unit carries out additional control of compliance with laws and regulations.** Findings of the budget inspection, as they pertain to the Program expenditures, will be consulted in the process of monitoring the expenditures. The mandate of the Budget Inspection Unit is very broad and includes Direct Budget Beneficiaries and Indirect Budget Beneficiaries, extra-budgetary funds, state-owned enterprises, regional and local governments and their state-owned enterprises, and any other legal entities who have received budgetary funds. In case of noncompliance with the application of laws in terms of material and financial operations and with the intended and legal use of funds by the budget beneficiaries, the inspection may issue administrative acts and decisions, which impose orders to remove irregularities, recover funds during the budget year, and file misdemeanor charges against the inspected entities or responsible persons.

Program Audit

48. **The SAI audit of the government's annual financial statements (the final account) will be considered as the audit of the Program.** The PIMO prepares the annual financial statements using their accounting records and auxiliary ledgers after reconciling such information with the TML. The Treasury consolidates based on such inputs and the TML, the government's annual financial statements (final account) which are subject to financial and compliance audit by the SAI. The audit of the final account for the previous year is delivered by the SAI by the end of the year following the audited period. The SAI audit of the final account will be considered as the audit of the Program. The Bank has agreed with the

SAI that the audit report will include an explanatory note which will detail Program expenditures specifically. The explanatory note will include information on the amount of program expenditures in respective program implementing entities for the period audited, and any comments the auditors may want to emphasize in order to provide appropriate level of information with respect to such expenditures (analytical splits, largest sub-items, other specificities). The SAI is assessed to have sufficient capacity to produce a reliable audit providing sufficient assurance about the use of Program funds. Program expenditures are an integral part of the final account and are audited annually within the audit of the final account.

49. **The SAI's capacity is assessed to be adequate as a result of significant development over the past years in terms of the number of staff, organizational structure, and audit methodology.** The mandate of the SAI is exhaustive, and its remit includes financial, compliance (regularity), and performance audits of all public entities, in accordance with national and international auditing standards. The SAI performs its audits based on a risk-based Annual Audit Plan which has to be adopted by the end on the current year for the subsequent calendar year. The SAI subscribes to the International Organization of Supreme Audit Institutions' International Standards of Supreme Audit Institutions. The institution conducted its first performance audit in 2013 and the most recent development relates to establishing quality control department within the institution. Manuals for financial and compliance audits, performance audits, and quality control have been formally approved by the management in April 2015. As a part of financial and compliance audits, apart from accuracy of financial statements and compliance with laws and regulations, the SAI also examines the FMC systems (including internal control systems) and internal audit.

50. **The SAI independence, mandate, and organization are established and protected by the Constitutional and Legal Framework, which is respected in practice.** The SAI is accountable to the NA. The parliamentary Committee on Finance, State Budget, and Control of Public Spending established a subcommittee to consider the SAI reports in 2015, thereby increasing the capacity for the legislative scrutiny of audit reports. Management and supporting structures to allow the SAI to discharge its mandate are in place. There was significant strengthening of capacity of the SAI over the past years in terms of the number of staff, organizational structure, and development of an audit methodology. Significantly higher resources in the SAI and extensive technical support provided by the twinning project have helped increase the audit coverage and quality. The institution conducted its first performance audit in 2013 and the most recent development relates to establishing a quality control department within the institution.

51. **All the entities participating in the Program are under the scope of the external audit (financial, compliance, performance) carried out by the SAI.** Apart from being part of the final account, separate financial statements for entities involved in the Program have not been included in the SAI risk-based Annual Audit Program in 2014 and audits of 2013 financial statements. However, information available from the SAI reports in earlier years for the participating institutions leaves a general perception that they have a substantial capacity in internal controls and public procurement. The Program will have impact by promoting sound management and control practices.

52. **The SAI system for follow-up on implementation of audit recommendations is effective.** For audit follow-up, the Law on SAI requires the auditee to report to the SAI on how it has addressed the detected irregularities or deficiencies that had not been addressed during the audit. The SAI is managing a database of all issued recommendations, including their status, and reports to the NA on the status through its annual report on activities. The SAI Annual Activity Report for 2014 identifies no outstanding recommendations issued in FY2013 by the Sector for Audit of Budget and Budget Funds, with a total of 142 of 229 recommendations fully implemented and the implementation of the balance underway.

B) Financial Management Assessment of the PE Roads of Serbia

Implementing entity

53. PERS has long track record of implementation of World projects (Transport project (closed), Road Rehabilitation and Safety (ongoing). Performance in the area of financial management was predominantly and continuously satisfactory during implementation of above mentioned projects. The implementation capacity is assessed to be adequate.

54. Apart from relevant sector legislation, the public enterprise Roads Serbia (“the Company”) complies with the Law on Public Enterprises as its main governing law in the areas the law covers (corporate governance, reporting, managing structures etc.). This law defines budgeting and reporting rules for all public enterprises including the Roads of Serbia. In addition, as a company, the Roads Serbia complies with the Law on Accounting and the Law on Auditing, which prescribe accounting and auditing rules.

Planning and Budgeting

55. The Company regularly prepares the annual business plans which submits to the Government for approval. There are written guidelines for preparing the annual business plan issued by the Government every year. These guidelines prescribes a content of the annual business plan that must be followed in preparing the budget. The Company also has an internal, written procedures for preparing the annual business plan. These procedures are incorporated into the ISO standards adopted for the finance function. Because the budget is prepared in December for the following year and dynamics of the industry, almost regularly the Company revises its budget in order to enable smooth operations. The revised budget is prepared in accordance with the procedures and guidelines, and must be approved by the Government.

Reporting

56. The Company prepares monthly reporting to the management, but the reports are used on ad-hoc basis. The Company prepares a regular monthly report on the outstanding overdue liabilities to the MoF that is mandatory for all public enterprises (RINO law). This report shows whether the Company has met payments deadline prescribed by the law. The Company prepares quarterly financial reports as required by legislation and deliversto the Ministry of Economy. The Government issues the Rulebook on Quarterly Reporting which is a governing document for the Company’s quarterly reporting to the Ministry of Economy and the Government. The reporting consists of eleven different reports, including interim Balance Sheet, Income Statement, Cash Flow Statement and a number of specific reports (investments, overdue payments, receivables structure, employee structure etc.). Quarterly reports are assessed to be in an acceptable format and will be used for program reporting.

Accounting

57. The Company complies with the Law on Accounting and applies the translated IFRSs (not full IFRSs). The Company has written accounting policies and procedures, and risk management policies. . There is a computerized accounting system in place called Mega. This is a local accounting system, used only by accounting department and it is not integrated with other ERP systems in the Company. The system is assessed to produce reliable financial information. Accounting transactions are recorded within eight days after incurring.

58. Capacity in the area of accounting and financial management is satisfactory. The accounting department has 24 employees. Overall the finance sector has 67 employees out of which 33 with university degree, 12 with college degree and 22 with high school diploma.

Internal Controls and Internal Audit

59. Budget System Law provides framework for implementation of Public Internal Financial Control (PIFC) across the public sector, with its two main elements being internal audit and financial management and control. Nevertheless, implementation of the framework in practice faces challenges and

demonstrates weaknesses. The Company has adopted the system for finance management and control (FMC) and regularly prepares the report on the financial management system, but the quality remains questionable even according to the Company. System of internal controls is not formalized and for a number of key areas and processes there are no written procedures. The management relies on the accounting policies which have some elements of the internal controls. There is also no formal control regulating conflict of interest nor related parties transactions. Conflict of interest is regulated by the ISO standards of procurement department. The Company has the bank account with the treasury sector of the MoF and performs daily reconciliations. There is also a fixed assets register in place, but the Company has many ownership issues regarding the road records missing in the cadastre. While, the Company does regularly conduct the annual inventory counts.

60. The Company has an internal auditor, which performs audits in line with the annual plan for internal audits prepared based on risk assessment. The program will not place reliance on the internal audit, but internal audit reports will be reviewed as a source of additional information.

Funds Flow

61. The company operates business accounts in several commercial banks, and such flow of funds is assessed to be reliable. Being a public sector entity, the company can have accounts within Consolidated Treasury Account, and such accounts are used for part of the financing and funds from the state budget. Treasury system and operating of the CTA is likewise assessed to be reliable. The loan funds will flow to a PERS foreign currency account held within the National Bank of Serbia or acceptable commercial bank. The account can be an already existing operating/business account of the PERS.

External audit

62. Moore and Stephens is the external auditor of the Company's annual financial statements for the last three years. SAI audited the 2010 financial statements. The auditors applied ISA in conducting the annual audit. The opinion for 2016 contained a qualification for the VAT miscalculation and an emphasis of matter for the fixed assets revaluation. The Government has issued the decree defining the value of the fixed assets, but the auditors claimed that this is not a final value of the fixed assets. The Company is also in the scope of the SAI audits, but although the SAI has the mandate to audit public enterprises, due to capacity constraints, a specific public enterprise is audited in the best case scenario every five years or so. However, as mentioned above, public enterprises are subject to mandatory statutory annual audit, and such audit will be considered as the audit of the Program. Given that the World Bank, based on capacity assessment, has a list of eligible audit firms to audit World Bank supported projects/programs and implementing entities, it will have to be ensured that one of acceptable audit firms audits the company's financial statements. The current list, as of September 2016, includes: PricewaterhouseCoopers, Ernst&Young, Deloitte, KPMG and BDO.

Table 24. Financial Management Program Action Plan

| No. | Deficiency | Proposed Mitigation Action | Deadline |
|-------------------------|---|---|---|
| <i>Budgeting</i> | | | |
| 1 | Unreliable medium-term expenditure ceilings | Strengthen medium-term budgeting in line with the PFM Reform Program and respective actions in this area, in particular, through analysis of the previous medium-term budget as part of annual budget documentation | December 31 2018 |
| 2 | Inadequate budgetary allocation for | Appropriate allocations for program expenditures are included in the annual budget/Roads | December 31 2017 (and each subsequent year end during program implementation) |

| | | | |
|--|--|---|------------------|
| | Program activities | | |
| <i>Internal Controls and Internal Audit</i> | | | |
| 3 | Completeness of formalized procedures in PIMO and Roads of Serbia | Adopt and implement formalized written procedures for all key operational cycles in line with implementation of Financial Management and Control as envisaged by Budget System Law. | June 30 2018 |
| 4 | Lack of established and functional internal audit | In line with provisions of the Budget System Law and accompanying regulation, establish internal audit function in PIMO and majority of municipalities involved in the program (more than 70%). | December 31 2018 |
| <i>External Audit</i> | | | |
| 5 | Roads of Serbia audited by an auditor not on the World Bank list of eligible audit firms | Appoint auditor from the World Bank list of eligible audit firms | December 31 2018 |

C) Governance and Anticorruption Arrangements

Overview of the Fraud and Corruption Legal and Institutional Framework

63. **An overarching Anticorruption Strategy for the period 2013–2018 is in place and its implementation is under way.** Progress on the implementation of the respective Action Plan is reported by the public entities and holders of the public authorities charged with its implementation through six-monthly and annual reports. Overall monitoring of the implementation of the strategy is carried out by the Anticorruption Agency (ACA) and reported annually to the NA. The EU Screening Report for Chapter 23: Judiciary and Fundamental Rights from 2013 states that the “Anticorruption Strategy and Action Plan provide an adequate framework” for addressing the impediments to better transparency and accountability in public service. The strategy, dealing with the issues of prevention, institution building and training, contains a section dedicated to public finance. Specific fields covered in the section on public finance include (a) public revenues; (b) public expenditure; and (c) PIFC, external audit, and safeguarding of the EU’s financial interests. All the entities involved in the Program have adopted Integrity Plans.

64. **A Legal Framework for anticorruption activities is largely in place.** Serbia has signed and ratified all major international instruments against corruption, but recent assessments indicate that more needs to be done on aligning the national legislation to consistently apply them. Fraud- and corruption-related offences are sanctionable under the Criminal Code and include, among other things, passive bribery and active bribery, embezzlement, fraud, obtaining and using credit and other benefits under false pretenses, abuse of trust, money laundering, abuse of position by a responsible person, malfeasance in public procurement, abuse of **authority** in economy, forging of documents, forging of an official document, and abuse of office and trading in influence. The Law on Protection of Whistle-Blowers has entered into force in June 2015 and some rules on whistle-blowers’ protection are included in the Law on Free Access to Information of Public Importance and the Law on Civil Servants. The Law on Civil Servants and the Code of Conduct for Civil Servants also contain measures to increase integrity in the public sector. The Law on Public Procurement contains a dedicated chapter on the prevention of corruption, requiring the purchasing authority to take corruption prevention measures at all stages of the procurement process and the duty to report corruption. Likewise, the law addresses potential conflicts of interest in the procurement procedure.

65. **Specific institutions in the Anticorruption Framework are established and functioning.** The Anticorruption Institutional Framework includes the following:

- (a) *Anticorruption Agency.* This is an independent and autonomous state authority, founded by the virtue of the Law on the ACA, for which implementation started on January 1, 2010. The ACA is accountable for its work to the NA. The ACA has numerous preventive, oversight, and supervisory authorities for prevention and suppression of corruption. Acting in accordance with its legal mandate, key responsibilities of the ACA are the following:
 - Oversees implementation of the National Anticorruption Strategy and associated action plans
 - Imposes measure due to the violation of the ACA Law
 - Resolves conflict-of-interest situations
 - Initiates changes in the Anticorruption Legal Framework
 - Issues its opinion and instructions for the implementation of the ACA Law and National Anticorruption Strategy and associated Action Plans
- (b) *Anticorruption Council.* The council is an expert advisory body of the government, founded with a mission to oversee all the aspects of anticorruption activities; propose measures to be taken to fight corruption effectively; monitor their implementation; and make proposals for the adoption of regulations, Programs, and other acts and measures in this area. The council was established under provisions of the Law on Government (Article 26) in 2001. The council consists of the president, vice president, and five members.
- (c) *The PPO.* In line with the stated anticorruption aims, the PPO is proactively discharging its obligations from the Anticorruption Strategy. The PPO has prepared a Model (template) Internal Plan for Anticorruption in Public Procurement for the purchasing authorities, whose total annual value of procurement is estimated at over RSD 1 billion. Similar model internal enactment that regulates in more detail the internal public procurement procedure within the purchasing authority has been developed and made available. The PPO's Rulebook on Contents of the Public Procurement Report and Manner of Maintaining Records on Public Procurement is in force.
- (d) *The SAI.* The SAI is required by the law to submit to the competent authority, without delay, any evidence relating to misdemeanors or criminal offences, and that body is required to inform the SAI of its decision. It has been noted that this additional duty potentially takes away resources from the audit work. From the Program perspective, this segment of the SAI mandate could be the critical resource in addressing possible instances of F&C involving Program funding.
- (e) *Republic Commission for Protection of Rights in Public Procurement Procedures.* The RC has the status of legal entity and is responsible to the NA of Serbia. The NA elects and relieves of duty the president and members of RC, upon the proposal of the Committee for Finance of the NA and after the open application procedure has been conducted. The RC has the following key competences:
 - Decides on request for protection of rights
 - Decides on appeal on procuring entity's conclusion
 - Decides on appeal on conclusion made by the PPO
 - Imposes fines on contracting authorities and accountable persons of the contracting authority and proposes compulsory retirement of managers or accountable persons of the contracting authority
 - Imposes fines on claimants in case of misuse of request for protection of rights
 - Annuls public procurement contracts
 - Initiates minor offence proceedings in the first instance for the offences prescribed by PPL

- (f) *Administration for the Prevention of Money Laundering (APML)*. The APML is the financial-intelligence unit of the Republic of Serbia, which is the central anti-money laundering and counter-terrorist financing body in the system. The APML's powers and responsibilities are provided for in the Law on the Prevention of Money Laundering and Terrorist Financing. The obliged entities under the AML/CFT Law send reports on suspicious transactions and persons to the APML, which then analyzes these reports and collects any additional data about them. Also, the APML can start collecting and analyzing data upon the initiative of another state authority such as the Court, Prosecutors' Office, Security Information Agency, Privatization Agency, Securities Commission, police, and so on.
- (g) *Tax Administration*. The administration carries out tax assessment, audits and collection. Through its inspection responsibilities, it worked to detect crimes, uncover the perpetrators, and the subsequent enforcement. Tax Administration provides tax assessments and delivers decisions on appeals on the assessment of taxes. It also institutes and conducts first and second instance offense proceedings and adjudications for tax crimes.

66. **In the context of EU integration, the MoF has established an Anti-Fraud Coordination Service (AFCOS).** This is an independent national authority responsible for protecting the EU's financial interests from fraud. It coordinates the sharing of information between the national fraud prevention authorities and the European Commission Anti-Fraud Office. AFCOS is still not fully operational and is missing a comprehensive legal basis to determine its duties, competences, and arrangements for cooperation with the European Commission. A full AFCOS network, including all other relevant national authorities in the area of prevention, detection, investigation and prosecution, is yet to be established.

67. **Institutional responsibilities for investigating and prosecuting corruption are clear, but their capacities remain inadequate.** The specialized prosecution office for organized crimes also has jurisdiction over high-level corruption cases. Throughout Serbia, around 40 prosecutors work on corruption cases. There is no similar degree of specialization at the level of the police or the courts. Inter-institutional cooperation is formalized in the memoranda on cooperation between the competent institutions. In March 2014, a memorandum on cooperation has been concluded between the SAI, PPO, RC, MoF, Ministry of Economy, ACA, Anticorruption Council, and Commission for Protection of Competition, which regulates the manner of cooperation, coordination, and data exchange in the field of anticorruption. It is too early to assess the results of the memorandum and how it addresses the remark from the EU Screening Report on judiciary which states that "inter-agency cooperation has improved to a certain extent, but needs to be further developed. In particular, databases should be better interconnected and a safe platform to exchange intelligence should be established."

Alignment with Anticorruption Guidelines

68. **To address the F&C associated risks, the Program implementation will be aligned with the anticorruption guideline (ACG) applicable to Program-for-Results (PforR) operations.** The government of Serbia has agreed to implement the Program in accordance with the ACG applicable to PforR operations dated February 1, 2012, and revised on July 10, 2015. These guidelines will be operationalized in the following ways under the Program:

- (a) *Sharing of information on F&C allegations*. Through the official exchange of letters, the SAI agreed to share with the Bank any information on allegations of corruption received from both the public and its own investigation every six months.
- (b) *Use of the Bank debarment list of firms and individuals for the Program*. The MoF will share with the procuring entities the list of firms or individuals on the Bank's debarment or suspended list and ensure that these are not allowed to bid for contracts or benefit from a contract under the operation during the period of debarment or suspension. The MoF and the

PPO will check compliance and report to the Bank every six months as part of the reporting requirement of the operation.

- (c) *Investigation of F&C allegations.* All allegations of F&C will be investigated by the SAI and the prosecutor's office and those found to be credible will be prosecuted. The Bank's Institutional Integrity Vice Presidency (INT) may also investigate any F&C allegations made against the entire Program or part of the Program. In all such cases, the Program managers and the SAI will collaborate with the INT to acquire all records and documentation that the INT may reasonably request from the operation regarding the use of the Program financing.

69. **The assessment concludes that the F&C risk will remain high.** Several F&C-related cases have been filed by the SAI in the recent past. During 2014, on the basis of the audit of financial statements from 2013 for all sectors (that is, central and local government, public enterprises, extra-budgetary funds, and so on), the SAI has filed 139 reports (111 for misdemeanor charges, 13 for economic crimes, and 15 for criminal charges). Until March 2015 (latest available data), further 103 reports were filed (95 for misdemeanor charges, 6 for economic crimes, and 2 for criminal charges). Additionally, starting from March 2014, when the new Law on Misdemeanor Offences entered into force, the PPO filed 26 requests for initiation of misdemeanor proceedings to the RC. The Program Action Plan will detail important actions that would have to be undertaken by the implementing agencies to ensure that Program activities are not affected by F&C.

Annex 6: Summary Environmental and Social Systems Assessment

A. Summary of the Environmental and Social Systems Assessment

1. Produced as required by World Bank policy OP/BP 9.00, this annex is based on findings of the Environmental and Social Systems Assessment (ESSA) of the “Program for Results: Enhancing Infrastructure Efficiency and Sustainability. It addresses the following topics:

- The environmental and social risks of program implementation;
- The legal, institutional and system framework;
- The evaluation of environmental and social management systems; and
- Identified areas for improvement (including recommendations).

B. Environmental Risks of Program Implementation

2. The ESSA’s main finding is that 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 and will contribute to increase of road safety. Indirectly, the Program, properly implemented, will create several long-term benefits by implementing the suggested measures such as: improving environmental management in state institutions, exercising control of origin and sustainable use of mineral natural resources, increasing quantities of recycled construction and other non-hazardous waste, and creating a good practice examples of waste and material management and monitoring for both the public and private sectors. Adverse environmental impacts of the Program are mostly short-term, predictable and easy to mitigate. If the Program implementation is inadequately managed, the Program does have the potential to cause adverse environmental impacts, most likely during construction activities; although the resulting negative impacts on single site may be minimal, the cumulative effects of the Program, if not properly managed, can be substantial and felt on regional scale. The negative impacts are particularly relevant to waste generation and management and mineral resources management. While it is assessed that regulation, policies and procedures are in place on all levels, and the expertise and know how is available, their implementation is partial and inconsistent – which makes monitoring and supervision activities a key area for improvement. Finally, the risk of low municipal capacity to implement the Program, especially among the smaller municipalities, was evaluated as a factor with environmental effect and assessed as very likely to occur, with a potentially medium-severity impact.

Environmental Risks

3. The Screening Exercise for environmental risks consisted of three elements:

- An analysis of the Program’s activities, with the aim of identifying and assessing positive and negative environmental impacts associated with the Program using an Environmental Assessment Risk Matrix;
- A review of national and international environmental and health and safety legislation and policies, the goal being to identify ways to facilitate the Program in a way that enhances its positive impacts while mitigating its negative ones; and
- Consultations with relevant stakeholders, including site visits and desk reviews related to environmental management at the local level. Detailed discussions and data collection were conducted in nine municipalities.

4. The methodology used in the assessment of environmental impact risks was similar to those typically used in ISO 14001 standard implementation. 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 four (4) steps: (A) Review of proposed programs (Road Rehabilitation Program and Infrastructure Program for Re-construction 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. The technical, temporal and geographical scope of the program was considered in this process. (B) 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 were also taken into account. (C) 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. (D) Based on the assessed characteristics the environmental impacts the risk assigned to the particular impact is graded as high risk, moderate and low risk.

5. The screening identified a range of potential negative environmental impacts, which are typical for the energy civil works and construction activities, that could potentially arise during the Program implementation. These impacts are related to Air quality; Water quality; Soils; Landscape; Mineral Resources and Raw Materials; Wastes (including toxic and hazardous ones); Hazardous substances; Noise and vibrations; Health and Safety.

6. The Program will, at the same time, have significant direct and indirect environmental benefits, such as (i) reduction of greenhouse gas emissions, CO₂ in particular, which can contribute to climate change combat globally; (ii) improvement of ambient air quality of the municipalities affected by Program implementation; (iii) reduction of the amount of waste generated as a result of combustion of solid and liquid fuels; (iv) improvement of community connectivity (v) improved access to local and regional markets; (vi) improvement of road safety in municipalities affected by the Program; and (vii) creation of preconditions for quicker, more balanced and sustainable development of the affected municipalities.

C. Legal, Institutional and System Framework

Environmental Aspects

7. The Program's environmental aspects are regulated through two separate processes: permitting and implementation of specific environmental regulations. Any potential environmental risks are addressed and regulated by spatial and specific construction/technical legal acts as well as general environmental regulations and specific field-related acts. Being an EU candidate country, Serbian environmental regulation is advanced, well defined but only partially harmonized with the EU Acquis.

8. Processes of rehabilitation of the infrastructure that is subject of the Program, is beside technical requirements standards and norms, regulated by the requirements of the 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). The Law, among others, 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. 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.

9. General environmental and sustainability stipulations in Serbia related to conservation and use of environmental assets, conservation of biological diversity, sustainable development, and environmental protection – as well as the conditions and procedures of environmental impact assessments – are defined in the overarching Law on Environmental Protection (LEP), ("Official Gazette of RS" No. 135/04, 36/09,

43/2011, 14/2016), that was initially adopted in 2004, again revised and adopted in 2014. The Law on Environmental Protection 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: (i) 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; (ii) Measures and conditions for environmental protection - prevention, planning and construction, spatial planning, SEA, Environmental Impact Assessment (EIA), International Plant Protection Convention (IPPC), accident risk assessment, values for emissions, environmental management system, eco-labelling, hazardous waste management and safety procedures); (iii) Environmental monitoring; (iv) Information on disclosure of information and public participation.

10. Specific Program related environmental risks are addressed within the large number of laws, among which the most important are:

- The Law on Environmental Impact Assessment (Official Gazette of the RS No.135/2004, 36/2009), which provides categorization of industries and projects and identifies types of environmental assessment required against respective categories of industries or projects;
- The Law on Waste Management (“Official Gazette of RS” No. 36/09, 88/2010, 14/2016), which 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 financing/funding and monitoring;
- The Law on Chemicals (“Official Gazette of RS” No. 36/09, 88/10, 92/11, 93/12) that 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;
- The Law on Air Protection (“Official Gazette of RS”, 36/09, 10/2013) which defines measures for the protection and improvement of air quality, air quality monitoring, responsibilities and financing in the field of air quality protection. 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 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, water management activities, limitation of owners’ and beneficiaries’ rights. The Law provides for various water management sub-laws on water resource conditions, water resource compliance and water resource permits.
- The Law on Protection from Environmental Noise (“Official Gazette of RS” No. 36/09, 88/10) envisages measures for the assessment and improvement of the situation concerning environmental noise.
- 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.
- The 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.

11. The Program-identified environmental risks are also regulated through a set of national strategies, rules, procedures and limits set forth in specific national strategies and sub-legislation, such as: National Sustainable Development Strategy; Strategy of Energy Development; National Renewable Action Plan; Regional Development Strategy; Strategy for Introduction of Cleaner Production; Development Strategy of Railroad, Road, Air and Intermodal Transport; General Master Plan for Transport 2009-2027; Regulation on monitoring conditions and air quality requirements; Regulation on limit values for pollutants in surface and groundwater and sediment; Regulation on limit values for hazardous surface water pollutants; Regulation on limit values for emissions of air pollutants; Regulation on emission limit values for pollutants in water; etc.

D. Evaluation of Social and Environmental Management Systems

12. The main conclusion of ESSA is that 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 non-compliances reported by the state competent authorities, local municipalities, EU progress reports, re-reports of non-governmental organizations and other public stakeholders document gaps in implementation of the Framework. The key areas for improvement under the Program include (i) waste management practices, (ii) use of natural re-sources, and (iii) environmental and energy efficiency monitoring system.

13. 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. Although the number of illegal dump sites has been reduced, there is still many illegal dumping sites and non-sanitary landfills, particularly in smaller and/or municipalities in economically underdeveloped areas. Those municipalities, as a rule, have a small number of inspectors and inadequate other resources to ensure adequate waste monitoring, separation and recycling.

14. 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 is a widespread evidence of unsustainable exploitation practices being used in Serbia. Regardless of the cause (“over-generosity” of concessions, deliberate exploitation over the limits set in permits, concessions and licenses, or intentional overlooking of these issues) requirement for significant quantities of mineral resources that will be used in the Program warrants the issue to be addressed.

15. Rehabilitation works, that consist majority of the Program, currently do not require construction permit or EIA according to national legislation. The environmental monitoring system in these situations relies on capacities of implementing agencies that are assessed as inadequately strong in respect to application of policies, procedures and practices within the Program’s implementing agencies. There is also a potential conflict of interest involved, where the local self-governments may decide on the need of construction permit/EIA for a project where at the same time they oversee issuing permit for commencement of construction works, and monitor its implementation. Even where there were developed environmental monitoring and supervision procedures (like in PERS), the examined field reports could not provide sufficient proof that these are being regularly implemented.

16. There is, in general, insufficiently effective inter-agency communication at all levels regarding the management of environmental issues as an integral part of program planning, development and coordination of technical designs, realization, and monitoring and assessment – all of which are crucially important to reduce potential negative environmental impacts of the Program. The institutions involved in

application of relevant environmental legislation to Program activities, in addition to PERS, PIMO and local self-government bodies at municipal level, are the Ministry of Agriculture and Environmental Protection, Republic Directorate for Water, Serbian Environmental Protection Agency, the Ministry of Mining and Energy, the Ministry of Construction, Transport and Infrastructure, the Ministry of Public Administration and Local Self-Government. The evaluation found that capacities of the above institutions to deal with the environmentally-related issues are in most cases with only minor insufficiencies in respect to a number of qualified staff, but are insufficient in respect to environmental impact monitoring and enforcement on the ground to allow full mitigation of the environmentally-related risks from the activities under the Program.

17. Based on screening, analysis and assessment of environmental regulation and policy framework, programs, procedures on the national, local and level of the implementing entities (PERS, PIMO, local self-government) as well as the system response to the risks of adverse impacts, the ESSA requested several mandatory and recommended measures to be implemented under the Program. The mandatory measures include:

- in PERS – (i) training of staff in environmental management tailored to Program’s needs; (ii) ensuring there is a dedicated environmental manager position to work exclusively under the Program; (iii) design of the environmental management guidelines for environmental impact monitoring for PERS; (iv) preparing a standard environmental management and monitoring guidelines for PERS-engaged contractors on road rehabilitation works; (v) preparing a standard/generic Waste Management Plan for road rehabilitation activities; (vi) adopting a rule that written approval of the environmental compliance report is obligatory precondition for the execution of the final payment of contractors.
- In PIMO and local-self-governments – (i) employment of an environmental manager for the Program-related works; (ii) development of the internal environmental management and monitoring procedures within PIMO, applicable to Program-funded activities; (iii) executing environmental-risks related training to PIMO staff, supervising engineers and environmental manager to enable efficient and effective environmental supervision and compliance; (iv) preparing internal guidelines for the environmental management and monitoring of Program-related activities/projects - tailored for the needs of the environmental manager, site and supervising engineers; (v) preparing a standard environmental management and monitoring guidelines for contractors; (vi) preparing a standard/generic waste management plan for the contractors related to Program-funded activities; (vii) adopting a rule that written approval of the environmental compliance report is obligatory precondition for the execution of the final payment of contractors.

Social Aspects

18. 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 (social systems); 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.

19. The preparation of the ESSA and the development of measures to strengthen the program, to address social improvements, has benefited from various inputs, information and consultation process, including the following:

- Review on legislative and strategic framework review, relevant reports related to transport and energy efficiency/construction issues.
- Face to face interviews with officials in 10 municipalities/cities included in the energy program. To develop a better understanding about the program, internal procedures, standards, selection criteria, implementation issues and approaches for this project, meetings

- o took place with leadership and technical staff. The meetings were structured as discussions on key areas of concern for the ESSA.
- o Consultation meetings with PERS and PIMO were held to develop a better understanding of their staffing arrangements, division of roles, procedures, main issues encountered in stakeholder cooperation and institutional strengths and weaknesses.

20. The P4R program, both transport and energy efficiency components will generate significant long-term social benefits, while negative impacts are expected to be short-term and linked mainly to the rehabilitation phases. Positive social benefits of the Program are expected to occur immediately upon the finalization of the rehabilitation/maintenance works for both components. 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. For the energy sector, the social benefits are expected to include energy and CO2 savings, improved social services and comfort levels (due to upgraded facilities), enhanced safety and building operating lifetimes, and job creation.

21. In the **transport** component, there is a space to improve the role of local self-government in decision making or developing strategies; there is a possibility to decrease existing gender bias in road maintenance sector employment; improve the quality of consultation that now is more formal and it is in one way direction.

22. The transport program would benefit from availability of consultations with conduit to influence actual outcomes that are important to different stakeholders. One way to achieve this is through road user satisfaction surveys. Proposed actions focus on **capacity building of key actors for social impact monitoring, design and installation of machinery for dialogue and consultation** with key stakeholders to increase their buy in and mitigate negative impacts early on. **Relevant stakeholders** to PERS are Ministry of Transport; Local Self-Governments; Contractors including businesses near the roads planned for the maintenance. While the key role for the road user satisfaction survey's relay to PERS, local governments could help especially with the lower level category of roads (below highway).

23. 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 to adequately portray the social benefits of the program. This would relate to PIMO as well as local governments. 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 practice to measure benefits beyond the financial and technical, so called social outcomes, and thus this 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 and thus to authorize widening of the M&E beyond the usual ones, financial savings. In the local governments, there is uneven capacity to address measurements of social benefits of the program. One way to address this impediment is to propose periodic/annual social surveys that will be part of the program's monitoring an evaluation plan and thus necessary funds would become available for the activity, including training of relevant PIMO staff and leadership as well as local governments to define relevant variables, manage these survey's and present results. Some capacity building for widening of the area of M&E to social impacts will be needed because this would be first time both for PIMO and more intensive capacity building would be needed for many small municipalities that have not had experience with measurement of social variables.

24. PIMO as a key stakeholder, by participating local self-governments, is perceived 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. So, the initiative to widen the measurements, and incorporate social variables from PIMO will be well received by Local Self-Governments who are also key stakeholders in the program. All of the participating LSGs visited during the assessment claim that they will continue to participate, based on the experience with the first call also because almost all public schools, health centers and social institutions are in need for retrofitting. New social variables to be introduced in the M&E could also incorporate consultation issues within municipalities. Apart from Sabac (who has engaged Local Environment Groups in promotion of EE) no other visited local government maintain relation with civil society organizations or professional associations with regards to infrastructure works. Extent and degree of consultation with citizens in municipalities interviewed for the assessment vary. The largest concentration of answers pertains to annual consultation with lowest level of self-organization in community ('mesna zajednica'). Council of local communities is consulted on needed infrastructure repairs, mainly regarding local roads and access to water and sanitation.

25. The legal framework relevant for the program and supranational (EU related framework), both components (transport and EE) is as follows

26. **Gender Equality Law**⁵⁷, 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.

27. **Budget System Law**⁵⁸ lists the objectives to be achieved by the budget system in article 4. Among other objectives, the law stipulates the following:

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.

28. Main related laws that regulate key stakeholder mandates are:

1. Law on local self-government⁵⁹
2. Law on Public Roads⁶⁰
3. Decree on the establishment of the Office for Public Investment Management⁶¹
4. Law on Administrative Procedure⁶²

29. Following laws and strategies ought to be considered during the implementation

1. Law on Social Protection⁶³

⁵⁷ Official Gazette of the Republic of Serbia, No. 104/2009

⁵⁸ 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

⁵⁹ Official Gazette of the Republic of Serbia, No. 129/2007, 83/2014 - and 101/2016

⁶⁰ Official Gazette of the Republic of Serbia, No. 101/2005, 123/2007, 101/2011, 93/2012 and 104/2013

⁶¹ <http://www.obnova.gov.rs/english/laws-and-decrees>

⁶² Official Gazette of the Republic of Serbia, No 33/97 i 31/2001 and No. 30/2010)

2. Law on Health care⁶⁴
3. Law on the protection of persons with intellectual disabilities⁶⁵
4. Strategy on prevention and protection from discrimination⁶⁶
5. National strategy on gender equality (2016 to 2020) and Action Plan for the period 2016 to 2018⁶⁷.
6. Law on Expropriation⁶⁸

30. Although the activities financed with the program will neither have any land impact nor any livelihood impact to either legal or illegal nature, the Law on Expropriation is also relevant law for PERS, not for the program financed with the PforR, but on general for the 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. There is also no evidence that there will be impact on squatters or on illegal small vendors and thus any impact on livelihood.

31. The P4R scope relates and addresses 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 report⁶⁹

32. 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**⁷⁰ by taking measures to reduce fatalities and adopt legislation on Intelligent Transport Systems;

33. 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;

⁶³ Official Gazette of the Republic of Serbia, No. 24/2011

⁶⁴ 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)

⁶⁵ <http://www.parlament.gov.rs/upload/archive/files/lat/pdf/zakoni/2013/1284-13Lat.pdf>

⁶⁶ Official Gazette of the Republic of Serbia, No. 55/05, 71/05 –correction, 101/07, 65/08, 16/11, 68/12 and 72/12

⁶⁷ 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

⁶⁸ 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

⁶⁹ https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/key_documents/2016/20161109_report_serbia.pdf

⁷⁰ Emphasis added

its current endowment of around EUR 1.2 million for 2016 is seriously insufficient to meet demands.”⁷¹

34. For the transport component, road user satisfaction surveys and machinery for consultation and dialogue are identified as parts that can be improved, one way to two-way communication/relation of the social management system. While these are not mandated by national legislation, they constitute enablers of the program’s success.

35. 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.

36. The 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.

37. As a whole, environmental sustainability is promoted in the Program design. Regarding 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.

⁷¹ Ibid., p. 47

SOCIAL ASSESSMENT ACTION PLAN TABLE

TRANSPORT

| IDENTIFIED RISK | MITIGATION MEASURE PROPOSED | Party Responsible |
|---|---|---|
| Risk of investing in deepening of an existing gender bias in road maintenance sector. | - In cooperation with the Commissioner for Protection of Equality, PERS could analyze the results (all the survey results should be disaggregated by gender and analyze results through gender aspects.) of the road users survey and check whether there are patterns of issues specific by gender. PERS 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. | PERS and Commissioner for Equality Protection |
| Formal consultations with no conduit to influence outcomes | - 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. | PERS possibly with outsourced help |
| | - Create an online and by telephone grievance mechanism specifically regarding maintenance and reconstruction works. | PERS and PBCM |

ENERGY EFFICIENCY

| IDENTIFIED RISK | MITIGATION MEASURE PROPOSED | Party Responsible |
|--|--|------------------------------|
| Failure to capture LSG-level and aggregate social impact | Assign staff responsibility for social impact monitoring, including beneficiary feedback as part of broader monitoring efforts whereby M&E database is searchable by different variables. The staff will support PIMO to <ul style="list-style-type: none"> - Formally adopt social indicators and design program M&E searchable by different variables (type of facility, municipality, work progress, due date, some social outcome variable, beneficiary category and by cross-linked criteria - Design consistent methodology for accounting final beneficiaries/service users whereby data should be more detailed and disaggregated by sex - 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 | PIMO Intersectoral Committee |

| | | |
|--|---|--------------------------------|
| | <ul style="list-style-type: none"> - Design and deliver training to participating LSG leaders to raise awareness on benefits of retrofitting program and gains to capture these benefits - In addition, document accessibility level (before and after) of the retrofitted institutions | |
| Consultation and grievance redress and complaint handling mechanisms | PIMO will revise their standard contract with municipalities to include a requirement for municipalities to include a contact for the program in the event there are any complaints or grievances by the building staff, occupants, neighboring citizens, etc. a contact will also be provided for PIMO to keep copies of the complaints submitted in local level, so they can follow-up with the municipality. | PIMO / Intersectoral Committee |

Annex 7: Systematic Operations Risk Rating (SORT)

SERBIA: Enhancing Infrastructure Efficiency and Sustainability Program

Stage: Appraisal

| Systematic Operations Risk-Rating Tool (SORT) | |
|---|----------------------------|
| Risk Category | Rating (H, S, M, L) |
| 1. Political and Governance | M |
| 2. Macroeconomic | M |
| 3. Sector Strategies and Policies | M |
| 4. Technical Design of Project or Program | S |
| 5. Institutional Capacity for Implementation and Sustainability | S |
| 6. Fiduciary | S |
| 7. Environment and Social | S |
| 8. Stakeholders | L |
| 9. Other | n.a. |
| OVERALL | S |

Annex 8: Program Action Plan

| Transport Component | | | |
|--|---|--------------------|---|
| Action | (First) Due Date | Responsible | Completion Measurement |
| Stage 1: Preparation | | | |
| Align legal framework To ensure compliance of PBMC scope to the national framework. | 06/2018 Start Bi-Annual Reporting for World Bank | MCTI | MCTI will report to the World Bank on the amendments to the existing legal framework. |
| Provide institutional support To develop robust road sector reform plans. | 06/2018 Start Bi-annual Reporting | PERS and MCTI | PERS and MCTI will provide progress reports to the World Bank on the SLA and supporting documentation (Performance Based Maintenance plan and asset management plan). |
| Road asset condition and data in support of PBMC To enable development of PBMC scope. | 06/2018 Start Bi-annual Reporting | PERS | PERS will provide progress reports to the World Bank on the status of road condition survey and other road asset information data assembled for the road asset management plan. |
| Stage 2: Procurement | | | |
| Develop attractive contract packages To enable successful competition at tender. | 08/2018 Start Bi-Annual Reporting | PERS | PERS will provide progress reports to the World Bank on the status of the PBMC procurement and contract strategy. |
| Stage 3: Delivery | | | |
| Develop capable supply chain and “buyer” To enable successful delivery of PBMC across the road network. | 01/2019 | PERS | PERS will provide progress reports to the World Bank on the status of the PBMC training to public and private sector |
| Stage 4: Monitoring and Evaluation | | | |
| Establish robust organizational arrangements for M&E PERS to assemble a PBMC Steering Committee and identify the Program Champion within its organization. | 03/2018 | PERS and MCTI | PERS and MCTI will provide progress reports to the World Bank on the status of the Program and its constituent parts. |
| Energy Component | | | |

| | | | |
|--|-------------------------------------|------|--|
| Appointment of environmental manager | October 15, 2017 | PIMO | Assign or recruit staff member in PIMO to serve as environmental manager, to support reviews of environmental compliance and preparation of guidelines for municipalities |
| State certification of PIMO procurement staff | October 31, 2017 | PIMO | Finalize certification of 2-3 PIMO procurement staff in public procurement |
| Establish Steering Committee | November 15, 2017 | MME | Adopt decree for Part 2 of Program. |
| Adopt Program Operations Manual | November 30, 2017 | PIMO | Develop and adopt POM with content agreed by the Bank, to include program procedures, reporting, financial management and procurement processes, grievance redress mechanism, standard documents and templates |
| Internal environmental management guidelines and training | December 15, 2017 | PIMO | Develop internal guidelines and training for PIMO engineers for environmental management (to be done by Environmental Manager) |
| Develop and administer annual social survey | December 29, 2017 and then annually | PIMO | Development and issuance of socioeconomic and satisfaction survey in a format agreed by the Bank |
| Provide annual training to municipalities and contractors on Program | December 29, 2017 and then annually | PIMO | Offering of annual training to ensure incorporation of lessons learned into Program implementation; training materials, agenda, and participant/invitee list to be agreed with the Bank |
| Contractor environmental management guidelines and waste management plan | December 31, 2017 | PIMO | Develop environmental guidelines and a waste management plan for construction works contractors (to be done by Environmental Manager) |

Annex 9: Implementation Support Plan

1. The implementation support plan was developed to be consistent with the PforR operational guidelines. Program implementation is the responsibility of the MCTI and PERS, as well as PIMO, with targeted and continuous implementation support and technical assistance from the World Bank team. Bank implementation support will also focus on the major risks identified and mitigation measures to ensure achievement of the Program development objective.
2. The Bank's implementation support will broadly consist of:
 - a) Monitoring and reporting – as with other PforR operations, independent monitoring and assessment of indicators will be critical as disbursements will be based on the validity of the reported figures. Twice a year, the Bank team will visit to assess compliance with agreed actions, verify reported DLIs, review additional relevant documentation and identify enhancements for program M&E systems.
 - b) Technical support – the Bank implementation support missions will include technical specialists to help guide the use of project criteria, audits and technical specifications, project commissioning and policy dialogue.
 - c) Procurement – a procurement specialist will carry out ongoing supervision during the program. The specialist will also participate in program implementation support missions and site visits, respond to just-in-time requests and provide ongoing guidance to MCTI, PERS and PIMO as required.
 - d) Financial management – during project implementation, the Bank will supervise the program's FM arrangements and adherence to agreed FM procedures and actions. Implementation support will include capacity strengthening in procurement, financial management, governance and anti-corruption. An annual fiduciary review will be conducted for the program, aligning with the reporting requirements and processes already in place. This review will be supplemented by on-site visits by the Bank's fiduciary staff at least twice a year. In addition, desk reviews will be done for audit, financial, procurement and any other reports pertaining to the program received throughout the financial year. In depth reviews may also be commissioned by the Bank whenever deemed necessary.
 - e) Safeguards – the Bank staff will periodically monitor environmental management systems and social measures taken to ensure compliance with agreed actions. Bank environmental specialists will participate in implementation missions and site visits as deemed appropriate.
3. The Bank will provide two-fold support to MCTI and PERS in implementing the Program:
 - Support with monitoring of Program delivery and performance, through engagement with the stakeholders and a proactive identification and collaborative resolution of emerging issues with a potentially adverse effect on the performance of the Program.
 - Support the institutional strengthening of the road sector institutions, through implementation of the Program Action Plan, institutional dialogue, two separate technical assistance projects and tailored training for the public-sector institutions and the private sector contractors.
4. Program monitoring support is designed to provide confidence to the Bank that the targeted outputs will be achieved within the expected timescale and at the expected level of quality.

Table 25. Elements of Program monitoring support

| Period | Support focus | Required skills | Resources | Partner Role |
|------------------------|--|--|----------------|---|
| Year 1 (M1- M12) | Refinement of: <ul style="list-style-type: none"> • MCTI outputs • Third-party DLI monitoring and verification | <ul style="list-style-type: none"> • Project management • Financial management • Disbursement | 12 staff-weeks | PERS will lead Program implementation, Program management |

| Period | Support focus | Required skills | Resources | Partner Role |
|--------------------|--|--|-------------------------|--|
| | Monitoring of: <ul style="list-style-type: none"> • Program budgeting and allocations • Program design • Program results framework • Alignment with Program Action Plan and progress | management <ul style="list-style-type: none"> • Road engineering • Business planning • Road asset management • Procurement and contracts | | and financial management |
| Year 2-4 (M13-M46) | Monitoring of: <ul style="list-style-type: none"> • Program budgeting and allocations • Program design and any physical progress • Program results framework • Alignment with Program Action Plan and progress Evaluation of technical performance through field visits and reviews of individual contract lots | <ul style="list-style-type: none"> • Same as above | 6 staff-weeks per annum | PERS will lead Program implementation, Program management and financial management |

5. Institutional support is designed to provide ongoing support to MCTI, PERS and other public sector stakeholders with the change management of the road sector in Serbia.

Table 26. Elements of Institutional Strengthening support

| Period | Support focus | Required skills | Resources |
|--------------------|--|--|--------------------------|
| Year 1-4 (M1-M46) | <ul style="list-style-type: none"> • Ad-hoc advice on road transport policy, technical and business management issues. • Ad-hoc advice on institutional issues related to road sector governance. • Ad-hoc advice on organizational development and business management of PERS operations and performance under the SLA and PBM contracts. • Review Terms of Reference for the TA to be procured for the Program. • Review TA reports • Arrange for workshops to disseminate knowledge and PMBC “early wins.” | <ul style="list-style-type: none"> • Road engineering • Business planning • Investment appraisal • Road asset management • Procurement and contracts • Public sector organization and management | 12 staff-weeks per annum |
| Year 3-4 (M25-M46) | <ul style="list-style-type: none"> • Ad-hoc advice on road transport policy, technical and business management issues. • Ad-hoc advice on institutional issues related to road sector governance. | <ul style="list-style-type: none"> • Road engineering • Business planning • Investment appraisal • Road asset | 6 staff-weeks per annum |

| Period | Support focus | Required skills | Resources |
|--------|--|--|-----------|
| | <ul style="list-style-type: none"> Ad-hoc advice on organizational development and business management of PERS operations and performance under the SLA and PBM contracts. Review TA reports. Arrange for workshops to disseminate knowledge and PMBC “early wins.” “early wins.” | <ul style="list-style-type: none"> management Procurement and contracts Public sector organization and management | |

Table 27. Task Team Skills Mix Requirements for Implementation Support

| Skills set required | Number of staff | Number of staff weeks | Number of trips | Comments |
|---------------------------|-----------------|-----------------------|-----------------|--------------------------|
| Project Management | 1 | 8 | 2 | 2 trips per year M1-M34 |
| Financial Management | 1 | 4 | 2 | 2 trips per year M1-M34 |
| Disbursement Management | 1 | 4 | 2 | 2 trips per year M1-M34 |
| Road engineering | 1 | 4 | 2 | 2 trips per year M1-M34 |
| Business planning | 1 | 4 | 2 | 2 trips per year M12-M24 |
| Road asset management | 1 | 4 | 2 | 2 trips per year M12-M24 |
| Procurement and contracts | 1 | 8 | 2 | 2 trips per year M1-M34 |

6. The Bank will provide implementation support to PIMO, in particular in the areas of:
- Review and technical advice on the development of the POM, including selection criteria, methodologies, sample documents, environmental and technical standards, processes, TORs, etc.
 - Support on the establishment of a program M&E framework, including suggestions on feedback mechanisms for participating municipalities.
 - Policy dialogue for the development of a medium-term building strategy and options for improving the long-term sustainability of the program.
 - Support to develop a training program for municipalities and contractors, with focus on low-capacity municipalities and small construction firms in areas of EE measures, typical works deficiencies, environmental policies, resources, etc.
7. Implementation support and resource requirements are summarized in Table 28.

Table 28. Task Team Skills Mix Requirements for Implementation Support

| Time | Focus | Skills | Resource Estimate |
|--------|----------------------|---|---------------------|
| Year 1 | Task management | Project management (DC based) | 8 staff weeks (SWs) |
| | Technical assistance | EE specialist (Belgrade and DC based) | 8 SWs |
| | Procurement | Procurement specialist (Belgrade and DC based) | 3 SWs |
| | FM | FM specialist (Belgrade based) | 3 SWs |
| | Safeguards | Environment and Social specialist (Belgrade and Skopje based) | 3 SWs |

| | | | |
|----------|----------------------|---|----------------|
| Year 2-4 | Task management | Project management (DC based) | 6 SWs per year |
| | Technical assistance | EE specialist (Belgrade and DC based) | 4 SWs per year |
| | Procurement | Procurement specialist (Belgrade and DC based) | 2 SWs per year |
| | FM | FM specialist (Belgrade based) | 2 SWs per year |
| | Safeguards | Environment and Social specialist (Belgrade and Skopje based) | 2 SWs per year |