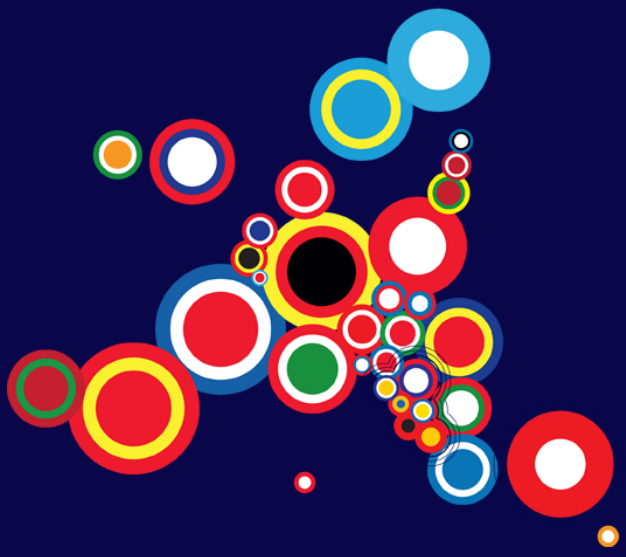
# INSTRUMENT FOR PRE-ACCESSION ASSISTANCE (IPA II) 2014-2020

# SERBIA

## EU for Environment and Climate action



The Action will contribute **to environmental protection and sustainability and energy efficiency in Serbia in line with EU standards and practice**. It will be relevant for implementation of harmonised legislation in the sector of environment and climate change. The Action will have a significant impact on the improvement of water and air quality trough upgrading of water and waste water infrastructures and reduction of $CO_2$ emissions. More concretely, it will improve the treatment infrastructure for water and wastewater, as well as the wastewater collection for the City of Niš; and increase management capacity of the relevant institutions and public utility companies at local level. Finally, it will strengthen infrastructure and institutional capacity for reduction of $CO_2$ emissions in the City of Belgrade and other Serbian municipalities.

**THIS SECTION SHOULD BE FILLED IN BY THE EU DELEGATION/EU OFFICE**

| | |
|---|---|
| **Action Identification** | |
| **Action Programme Title** | Annual Action Programme for the Republic of Serbia for 2018 |
| **Action Title** | EU for Environment and Climate Action |
| **Action ID** | IPA 2018/041-280/5/Serbia/EU for Environment and Climate Action |
| **Sector Information** | |
| **IPA II Sector** | 3. Environment,climate action and energy |
| **DAC Sector** | 41010 |
| **Budget** | |
| **Total cost** | EUR 108,360,000 |
| **EU contribution** | EUR 61,915,000 |
| **Budget line(s)** | 22.02 01 02 |
| **Management and Implementation** | |
| **Management mode** | Indirect management |
| *Indirect management:*<br>**National authority or other entrusted entity** | For Result 1: Central Finance and Contracting Unit/Department (CFCU/D)<br>For Result 2.1: KfW and for 2.2. EBRD |
| **Implementation responsibilities** | For Result 1: Ministry in charge of Environmental Protection<br>For Result 2: Ministry in charge of Energy and the City of Belgrade |
| **Location** | |
| **Zone benefiting from the action** | Republic of Serbia |
| **Specific implementation area(s)** | Result 1: City of Niš<br>Result 2: Selected local self-governments and City of Belgrade |
| **Timeline** | |
| **Final date for concluding Financing Agreement(s) with IPA II beneficiary** | At the latest by 31 December 2019 |
| **Final date for contracting, including the conclusion of contribution/delegation agreements** | 3 years following the date of conclusion of the Financing Agreement, with the exception of cases listed under Article 114(2) of the Financial Regulation |
| **Indicative operational implementation period** | 6 years following the conclusion of the Financing Agreement |
| **Final date for implementing the Financing Agreement (date by which this programme should be de-committed and closed)** | 12 years following the conclusion of the Financing Agreement |
| **Policy objectives / Markers (DAC form)** | |

| **General policy objective** | **Not targeted** | **Significant objective** | **Main objective** |
|---|---|---|---|
| Participation development/good governance | ✓ | ☐ | ☐ |
| Aid to environment | ☐ | ☐ | ✓ |
| Gender equality (including Women In Development) | ☐ | ✓ | ☐ |
| Trade development | ✓ | ☐ | ☐ |
| Reproductive, maternal, newborn and child health | ✓ | ☐ | ☐ |
| **RIO Convention markers** | **Not targeted** | **Significant objective** | **Main objective** |
| Biological diversity | ✓ | ☐ | ☐ |
| Combat desertification | ✓ | ☐ | ☐ |
| Climate change mitigation | ☐ | ☐ | ✓ |
| Climate change adaptation | ✓ | ☐ | ☐ |

## 1. RATIONALE

### PROBLEM AND STAKEHOLDER ANALYSIS

The Environment and Climate Change Sector in the Republic of Serbia needs significant resources and investments in order to fulfil Serbian legislation. Currently, the focus of the sector has been mainly towards alignment with the EU *acquis*, where Serbia advanced in harmonising its legal framework. Further investments and capacity development for strategic infrastructure planning and implementation in **water, waste, industrial pollution, air protection, renewable energy, energy efficiency and reduction of $CO_2$ emission** at all government levels are key priorities for the Republic of Serbia. Having in mind previously programmed national and EU assistance, as well as interventions through IFIs and other donors, and taking into consideration the most mature infrastructure projects ready in the key sectors, this specific Action will focus on the improvement of infrastructure in **water** and **waste water** in Niš, the third largest city in Serbia, as well as on the development of institutional and investment measures in the **climate change** sub sector addressed to the **reduction of $CO_2$ emission.**

With regard to the first priority, **wastewater** is the most expensive subsector and recognised to be a top priority, to be urgently and continuously addressed as there is still a huge need for additional infrastructure. In parallel with capital costs, it is necessary to ensure sustainable investments operation, by providing capacity building to municipalities and relevant public utility companies and by establishing cost recovery principles at the level of facility. As a consequence of insufficient investments over the past twenty years, today the situation in the water protection sector can be assessed as the worst regulated area in the water sector. According the Water Management strategy the level of sewerage network construction, and particularly wastewater treatment plants for settlements, is very low (in Serbia, about 55% of the total population is connected to the sewerage network, in settlements larger than 2,000 inhabitants around 72%, while the less than 10 % of the total population is covered by wastewater treatment to some extent). For the past few decades in Serbia over 50 urban waste water treatment plants (WWTP) were constructed in the settlements with more than 2,000 inhabitants. Out of 50 constructed facilities, 32 are operational, yet only a few operate in line with design criteria, while others operate with efficiency far below designed (the number of Population Equivalent (PE[1]) connected to the WWTP is far less than designed number of PE; the level of treatment as designed to meet the quality of the effluent is not sufficient). Based on data from the **Water Management Strategy**, the existing operating facilities serve around 600,000[2] inhabitants, while their total effective treatment comes down to 385,000 PE.

Furthermore, transposition of EU Directives in the **water** and **wastewater** sector is still limited and can be considered as a work in progress. Although national legislation and strategic directions for proper water management have been defined and developed in the past period, the provision of adequate waste water collection and waste water treatment remains one of the key challenges. According to the Post Screening Document (PSD)[3] and Directive specific implementation plan for Urban Waste Water Treatment Directive (UWWTD)[4], actions to achieve compliance and priorities are: 1) strengthening existing and creating new capacities for project identification, project planning, development and implementation, 2) infrastructure development: wastewater collection systems (extension of existing systems, construction of new systems, refurbishment and reconstruction of existing systems), wastewater treatment in accordance with requirements of the UWWTD, storm water collection and treatment systems. An on-going support to Serbia, financed by EU-IPA, aims at developing the EU acquis implementation planning capacities through development of eight

[1] **Population equivalent** or unit per capita loading, (PE), in waste-water treatment is the number expressing the ratio of the sum of the pollution load produced during 24 hours by industrial facilities and services to the individual pollution load in household sewage produced by one person in the same time.

[2] The total effects of the organic load removal are less than 65%, for nitrogen components less than 35%, and for phosphorus components less than 25%., Water Management Strategy

[3] Transposition and implementation of environmental and climate change acquis - chapter 27: status and plans, Post Screening Document, September 2015

[4] Transposition and implementation of environmental and climate change acquis -Chapter 27: Status and plans, Post Screening Document (PSD)

Directive Specific Implementation Plans (DSIPs), including a proposal for the DSIP for the Council Directive 91/271/EEC of 21 May 1991 (UWWTD).

The draft DSIP of UWWTD describes the current situation in the water sector, requirements of the Urban Wastewater Treatment Directive, identifies legal, institutional and technical gaps, specifies the implementation of necessary technical measures, makes cost assessments and identifies possible financial sources to close the gaps, and presents recommendations on the investment schedule and transition period for the implementation of the Directive.

The development of the DSIP is supervised by a technical working group consisting of distinguished experts from the Ministry of Agriculture, Forestry and Water Management (Republic Water Directorate), Ministry of Environmental Protection, Provincial Secretariat for Urban Planning and Environmental Protection, Public Water Management Companies "Srbijavode" and "Vode Vojvodine", Ministry of Economy, Serbian Environmental Protection Agency, Chamber of Commerce of Serbia, Standing Conference of Towns and Municipalities, PUC Belgrade Waterworks and Sewerage, Institute for the Development of Water Resources "Jaroslav Černi", Ministry of State Administration and Local Self-government, Ministry of Health and Statistical office of the Republic of Serbia.

Further, the draft DSIP of the UWWTD plans that the relevant implementing legislation pursuant to the Water Law will be adopted by end of 2020, with the following steps:

- Identification of sensitive areas and relevant catchments' areas or decision for Article 5(8)) which is proposed in this DSIP
- Provisions for biological treatment and/or more stringent treatment
- Conditions for designing, construction, operation and maintenance of UWWTP in accordance with requirements in Directive
- System for authorization for discharges
- Monitoring programmes that meet the requirements
- Adequate mechanism to meet information and reporting requirements
- Reform of the utility sector based on the Water Law (or draft amendments and draft bylaws)

Significant reform of the water utility sector is expected, which will equalize and improve the quality of service and lead to more efficient management of public water supply and collection and treatment of wastewater systems in service areas. Regionalization of water and wastewater service providers for the purpose of securing cost recovery and socially affordable water tariffs is planned to be considered.

It is planned to construct new wastewater treatment plants and rehabilitate and upgrade existing ones with a total capacity of around 6.6 million PE. Capacity of new wastewater treatment facilities with more stringent treatment is estimated at around 5.5 million p.e. (83%) while the total estimated capacity of facilities with biological treatment is around 1.1 million p.e. (17%).

Total proposed number of wastewater treatment plants is 359:

- 4 WWTPs above 150,000 PE, capacity of 2.8 million p.e. (42% of total loading)
- 13 WWTPs 50,000 – 150,000 PE, capacity of 1.2 mill. p.e. (18% of total loading)
- 49 WWTPs 15,000 – 50,000 PE, capacity of 1.3 mill. p.e. (19% of total loading)
- 19 WWTPs 10,000 – 15,000 PE, capacity of 0.2 mill. p.e. (4% of total loading)
- 255 small WWTPs 2,000 – 10,000 PE, capacities of 1.12 mill. p.e. (17% of total loading)
- 19 very small WWTPs below 2,000 PE, capacities of 0.02 mill. p.e. (<1% of total loading)

Also, approximately 10,400 km of new wastewater collection networks will be constructed. Measures for wastewater collection network rehabilitation (around 1,000 km) are supposed to cover priority interventions

to ensure full functionality. It is expected that around 2.0 million users shall be additionally provided with adequate wastewater collection.

Project preparation and implementation system is a very important prerequisite and will be established, as well as project preparation support system (technical assistance available on national and regional levels).

The draft DSIP on UWWTD should be adopted by Serbia in the course of the first semester of year 2018.

The second priority of this Action is the **climate change subsector,** where Serbia has achieved some level of preparation, but implementation is at very early stage. Priorities include interventions for lower final energy consumption, such as **introduction of low carbon approach** (renewable energy sources and energy efficiency) in order to **reduce greenhouse gas.** A national cross-sectoral **Climate Strategy and Action Plan**, consistent with the EU 2030 framework on climate and energy policies, is under development through IPA 2014 intervention. The Strategy will establish both a strategic and policy framework for climate action in Serbia in compliance with international obligations and **pledges on greenhouse gas mitigation**.

Serbia ratified the Paris Agreement, which sets out a global action plan to keep global temperature rises well below 2°C and it entered into force on 4 November 2016. Prior to the Paris Agreement, Serbia made a pledge to reduce emissions by 9.8% by 2030 compared to 1990. As a consequence, Serbia needs to put in place emissions reduction policies that will help the implementation of the current pledge, as well as enabling it to be strengthened in the future. In addition to this, the EU adopted its 2030 climate and energy framework that includes greenhouse gas (GHG) reductions at least 40% by 2030 and increasing the share of **renewable energy to at least 27**% and **increasing energy efficiency by at least 27%.** The ministry in charge of environmental protection has prepared the Law on Climate Change and its adoption is planned for second quarter of 2018. The main objectives of this Law are reduction of GHG (Greenhouse gasses) emission, establishment of monitoring system, reporting and verification of GHG in industry and energy sector, preparing all relevant stakeholders for the full EU Emissions Trading System (EU ETS) in the future.

Harmonization of Serbian legislation with EU Acquis in the area of energy efficiency is mainly based on the requirements of the Energy Community Treaty, to which Serbia is one of the Contracting Parties, but also as a part of the EU pre-accession activities. In the period from 2010 to 2016 three Energy Efficiency Action Plans have been prepared by the ministry in charge for energy and adopted by the Government of Republic of Serbia. These are the main strategic documents in area of energy efficiency with prescribed actions, measures and indicative targets for final energy savings. Their findings are also incorporated in the new Strategy of Energy Development of Republic of Serbia up to 2025 with projections until 2030. From the point of defining the goals it is important to have in mind the fact that the goals by 2018 are defined by the Contracting Parties of the Energy Community Treaty and in accordance with Directive 2006/32/EC, as final energy savings of 9% in the period from 2010 to 2018. By Directive 2012/27/EU, the European Union adopted the goal that energy consumption in the EU in 2020 must not exceed 1474 million toe of primary energy, i.e., 1078 million toe of final energy.

In 2015 the overall renewable energy sources (RES) share in Gross Final Energy Consumption GFEC[5] (%) was 21%. The targeted national share of renewables in final energy consumption for the year 2020 is 27%. The target is to increase the use of renewable energy by 6% comparing to the share of renewables from 2009, which has been selected as the base year. National Renewable Energy Action Plan has been adopted by the Government in June 2013 to reflect the identified needs of increasing energy efficiency and usage of renewable energy sources.

Strategic measures linked to this strategic framework are also defined in the heat sector with the aim to improve the functioning of **District Heating Systems (DHS)** by improving the energy mix for heat production and use of more renewable energy sources (RES) for heat production. Currently, for heating sector in Serbia there are no incentives for heat production from renewables, similar as for electrical power generation where feed in tariffs are employed. Whereas the law in principle allows such incentives, possible

[5] Gross final consumption of electricity from renewable energy sources is calculated as the quantity of electricity produced from renewable energy sources, excluding the electricity production in pumped storage units (reversible power plants) (Article 5, Item 3 of the Directive 2009/28/EC).

incentive schemes are located on local level responsibility. Practically, local self-governments never apply such schemes. There are 59 District Heating Companies-DHC supplying heat to about 25 % of the population in Serbia to commercial and public clients. The DHC mainly operate heat-only plants using natural gas (67%), lignite (14 %) and heavy oil - mazut (19%) and with a capacity totalling 6,600 MWth.

A second intervention concerning energy efficiency will support the implementation of the development strategy of the City of Belgrade until 2021, which includes the priority to ensure high level of quality of life and efficient and accountable use of available resources. In particular, energy resources as a chance for development should be implemented for all four identified strategic priorities: improvement of energy infrastructure, energy efficiency, institution setting for the development of energy systems and affordability of quality services. This will be achieved by the reconstruction and modernisation of facilities and installations owned by the City, city municipalities and PUCs as well as energy efficiency rehabilitation in the city building sector. The budgetary **Fund for Energy Efficiency in the City of Belgrade** was established in January 2017, as a record account within the main treasury book, within the division of the Secretariat for Energy in the City of Belgrade. The Decision on establishment was amended and finally adopted at the City council session on 30 November 2017, together with the Rulebook which is an umbrella document regulating conditions, rules, and measures for distribution and use of the City of Belgrade energy efficiency budgetary fund.The City of Belgrade is one of the cities in the European Bank for Reconstruction and Development (EBRD) Countries of Operation, committed to addressing urban environmental challenges in a systematic way. The City of Belgrade is about to sign the Covenant of Mayors (CoM) for Climate and Energy and has committed to reduce its $CO_2$ emissions (and other possible greenhouse gases) by at least 40%, increase its resilience to the impacts of climate change and provide secured access to sustainable and affordable energy by 2030. To achieve these goals, the City of Belgrade is required to submit a Sustainable Energy and Climate Action Plan (SECAP) within two years following the adhesion date. Before submission, the SECAP will have to be approved by the Assembly of the City of Belgrade.

While the SECAP addresses topics covering climate change adaption and mitigation, the City of Belgrade will tackle a broader set of environmental challenges, including water, air and soil issues through the implementation of a **Green City Action Plan** (GCAP). The GCAP forms part of EBRD's Green Cities Initiative which is designed to guide a City through 4 main steps – from establishing a Green City Baseline, developing a Green City Action Plan, to its implementation and reporting requirements. The methodology for the GCAP has been developed by EBRD together with the Organisation for Economic Co-operation and Development (OECD) and International Council for Local Environmental Initiatives (ICLEI). The Contract on loan for the Green Boulevard Project was signed between the City of Belgrade and EBRD on 11 July 2017 and Green Cities Action Plan will be prepared and finalized by 31 December 2018. EBRD will support the City of Belgrade to develop the SECAP and GCAP and build its capacity to implement them through applying the GCAP and SECAP methodologies, stakeholders engagement and comprehensive consultation process in line with the above process. GCAP in the City of Belgrade will be developed after the already adopted Green Cities Programme Methodology. GCAP is aimed at perceiving international, regional, national, legislative, economic, sociological, and environmental contexts as well as all previously adopted strategies and studies. Further capacity strengthening for preparation and evaluation of projects with an energy efficiency component is expected, as well for implementation of these activities.

The **ministry in charge of environmental protection (MEP**) is the key institution in the **Environment and Climate Change Sector**, responsible for policy making, legislation and enforcement for, inter alia, air quality, climate change, and protection of **water bodies from pollution. MEP** is lead institution in the Negotiating Group for Chapter 27 - Environment and Climate Change, and thus responsible for reporting to the European Commission (EC) on the overall progress during EU negotiations process and it also coordinates activities with other institutions involved in environmental and climate change acquis implementation. Also, MEP is responsible for the process of implementing, monitoring /reporting on EU assistance in Environment and Climate Change Sector, including the construction of municipal wastewater collection (sewage) and treatment systems. The **ministry in charge of energy** is coordinating relevant sector institutions in strengthening further switch from fossil fuel to renewable energy sources (RES) in District Heating Systems (DHC) for heat production in Serbia**. Local Self Government (LSG) Units** have responsibilities for communal environmental infrastructure including water and wastewater infrastructure, district heating infrastructure, energy efficiency in public buildings, etc. Public Utility Companies are under

the jurisdiction of the Ministry of Construction, Transport and Infrastructure. **The City of Belgrade**, Secretariat for investment is responsible, among other responsibilities for the reconstruction and maintenance of public buildings. The Regional Agency for Development and European Integration (RADEI) supports Belgrade City Administration and other regional stakeholders in project preparation and implementation. The City of Niš has already established a Project Implementation Unit (PIU) as a body responsible for managing the implementation of the Project and nominated the Project Manager who is responsible for overall coordination of the PIU. **Fund for Energy Efficiency in the City of Belgrade** is responsible to record funds intended for financing plans, programs, projects and other activities in the field of improvement of the energy efficiency system and introduction of renewable energy sources, in order to save heat and electricity and energy in the city of Belgrade.

### OUTLINE OF IPA II ASSISTANCE

IPA II assistance will contribute to environmental protection and sustainability and energy efficiency in Serbia in line with EU *acquis* through the improvement of water and wastewater management and interventions aimed at reduction of $CO_2$ emission.

Concerning the first priority, there is yet no form of wastewater treatment in the City of Niš and all wastewater is discharged into the Nišava River. **The present Action includes the design and the construction of WWTP, upgrade of the existing drinking water treatment plant and construction and rehabilitation of main collectors and sewage collection system in Niš urban agglomeration.**

**The City of Niš** is the third largest city in Serbia and is the administrative centre of the Nišava District. It is in the first level of the prioritisation for the construction of WWTP based on the specific load of the recipient and on existing % of population connected to sewage networks.

The Public Utility Company (PUC) "Naissus" is founded by the City of Niš with the purpose to provide communal services related to the supply of drinking water and removal of wastewater on its territory, aside from other activities. According to the 2011 Census, the city has a population of 187,544, while the urban area (including adjacent urban settlement of Niška Banja) has 260,237 inhabitants. The population of the Niš administrative area amounts to 373,404 inhabitants. In the urban area of Niš, wastewater from approximately 210,000 inhabitants is collected through a central combined sewer system. The industrial loading has not been quantified, although it has been estimated at cca 40,000 PE. In other rural areas, wastewater is discharged through systems for on-site sanitation (septic tanks, cesspool, pit latrines and infiltration).

Wastewater treatment (and associated conveyance schemes) for Niš has been considered for several years throughout technical studies and reports prepared by the City and local consultants, together with Feasibility Study with Cost-Benefit Analysis prepared through Environmental Infrastructure Support Programme - EISP 1 project financed by Swedish International Development Agency (SIDA). Within their urban planning documentation, the City has already reserved a site for construction of the urban WWTP (at Ciganski Kljuc) and confirmed that the expropriation process for the site is complete, while the preparation for the expropriation process for access roads on the WWTP site and the collector route is in progress. Further preparation works on technical and tender documentation are under way and will help to comply with required EU regulations. The ministry in charge of environmental protection prepared a road map with a list of activities for development of the necessary technical documentation and analysis in order to develop Urban Project for the Ciganski Kljuc site, Conceptual designs for wastewater and water facilities and main collectors in the City of Niš, with planned deadlines for their execution and responsible institutions. The analysis of property issues concerning the land acquisition was done. It is estimated that the sum of about EUR 1,200,000 is required for solving the land issue and the planned deadline is the end of 2018 with the responsible institution being the Secretariat for Property and Legal Issues, in the City of Niš. The amount of about EUR 800,000 has already been included in the City budget for 2018 for solving the land issue (for 13 km of the collector's route from the required 20 km), while the remaining funds will be provided by the City budget, through rebalance or current reserve from this year.

The goal is to ensure water and wastewater treatment which will reduce the environmental pressure on the South Morava River Basin downstream of Niš and contribute to improvement of the water quality in the Morava River Basin. The activities will support construction of treatment facilities, collectors and sewage network and with the constructed infrastructure significantly reduce loads and pollution from the untreated

wastewater discharge in the water courses. The most important is that the IPA II assistance will have beneficial impact to community health. The IPA II assistance under Result 1 will focus on the capacity building of the Public Utility Company responsible for the provision of water and wastewater service in the City of Niš. This activity is aimed to provide a range of support services, financial and operational performance improvement plan**,** system development, expertise and training to the management and staff of the PUC leading to improved management, operational and financial performance.

Through the activities under Result 2 IPA II assistance will contribute to the main need in the field of energy efficiency as a one of the key environmental and economic priority for the Serbia. These activities are focused on the infrastructure projects related to low carbon approach, particularly in increasing share of renewable energy sources and rehabilitation of the public buildings and on increasing capacities in the selected local self governments and the City of Belgrade in terms of institutional capacity building, regulatory reforms for promotion of energy efficient investment and availability of financing for scaling up implementation of energy efficiency interventions.These activities will contribute to higher usage of biomass in district heating systems and to introduction of efficiency approach in public buildings aiming energy consumption.
Namely, under the result 2.1., focus will be on the support to heat production from renewables. There are a number of initiatives in Serbia in this field. One of the major is the first phase of the innovative programme: Developing the Biomass Market in Serbia (Biomass I) which included 10 selected municipalities[6]. It is implemented through the Ministry of Finance (MoF), Ministry of Mining and Energy (MoME) and KfW with a tranche of EUR 20 million and financial contribution of EUR 2 million from DKTI funds and EUR 5 million grant from the Swiss Confederation through its State Secretariat for Economic Affairs (SionECO). On 21 June 2017, a number of Agreements (loan, financial and separate agreements) was signed between KfW, MoME, MoF regarding the first phase. The tender for the Consultants services is currently under procedure. The Law on Ratification of the Agreement is currently in Parliamentary procedure for adoption. The planned period of implementation of the first phase is until 2021. The current Action will support the second phase of the Programme for Promotion of Renewable Energies.

The loan amount of EUR 25 million is envisaged. The implementation Consultant selected in 2017/2018 is expected to cover both Biomass I and II.

Based on the experiences with the preparation of Biomass I and underlying calculations and assumptions, a grant amount of EUR 7-8 million is necessary to adequately and sustainably implement the second phase of the Biomass Programme.

It is expected that the switch from fossil fuel to renewable energy sources (RES) in District Heating Systems (DHC) shall (1) ensure the technical and economic viability of the systems (enhancing energy efficiency and RES), (2) significantly reduces $CO_2$ and $SO_x$ emissions, improve air quality, and possibly, if proven by specific pre-feasibility studies that include cost benefit analysis for each DHC, reduce cost of heating, (3) substitute fossil fuel imports through domestic energy sources and (4) promote employment and economic development. Being green gas emission neutral, DHC switch to biomass firing will almost entirely reduce $CO_2$ and significantly other particles from the environmental area where they are located.

In relation to the Result 2.2., the Action will support and build the capacity of the City of Belgrade to manage energy efficiency and will cover the rehabilitation for four existing public buildings in Belgrade (Emergency Central Building, Students' Healthcare Centre, City Library and Students' Hospital) as a pilot intervention. The IPA 2018 Action will introduce/pilot energy efficiency approach in these public buildings, improve their energy efficiency and reduce energy consumption. Based on preliminary research prepared by the IPA funded project PPF5 for 33 buildings owned by the City of Belgrade, and taking into account the significance of the buildings for the functioning of the City, the overall condition of the buildings and the number of users/visitors, the PPF 5 project reduced the list of the key four public buildings above. The significant number of users/visitors has defined these buildings as a top priority. It has been calculated that 260.000 students receive healthcare services per year in the Students' Healthcare Center and Students'

6 Prijepolje, Nova Varos, Mali Zvornik, Proboj, Novi Pazar, Bajina Basta, Becej Kladovo, Valjevo and Majdanpek

Hospital, more than 1 million services per year are provided to the City residents in the Emergency Central Building, while the City Library has more than 34.000 visitors/users per year. For this reason, the buildings have been considered of high visibility for the overall project, serving as good pilot and test cases for the overall goal of the activity.

### RELEVANCE WITH THE IPA II STRATEGY PAPER AND OTHER KEY REFERENCES

The **Indicative Strategy Paper (ISP**) 2014-2020 sets as the objective of EU assistance alignment of Serbian legislation with the EU environmental and climate change acquis and strengthening of institutional capacities for its implementation and enforcement. A further objective is **to develop and improve environmental infrastructure**, especially in the areas of urban wastewater treatment, water management and waste management.

In the area of mitigation of **climate change**, there is a need to strengthen the institutional capacity to design, implement and monitor mitigation policies and measures, with **particular attention to Greenhouse Gas (GHG) emission reduction activities**. More particularly, a system for economy-wide and systemic data collection on greenhouse gas emissions needs to be developed and implemented to comply with the EU requirements on monitoring, reporting and verification. Under the ISP one of the main results ***to achieve is: Reduced greenhouse gas emissions by 2020***.

**The 2018 EU-Western Balkan Strategy**, in the section related to Strengthening the Economy states: "*The countries must fully comply with the Energy Community Treaty and Transport Community Treaty and EU rules relevant for the European Common Aviation Area, by which they have committed to adopt the energy and transport acquis as well as related standards (e.g. environment and competition) well before accession.*[7]*'*

**EC Annuals Report 2018** states that the level of alignment for water quality is moderate. Serbia adopted a strategy for water management running until 2034. A national strategy and action plan on water protection have yet to be adopted. Untreated sewage remains the main source of pollution. Serbia needs to make significant efforts to further align its legislation with the acquis, and to strengthen administrative capacity, in particular for monitoring, enforcement and inter-institutional coordination. Local governance should be improved, in particular, through establishing clear rules on responsibilities for the operation and maintenance of facilities. **In climate change** Serbia has achieved some level of preparation but implementation is at a very early stage. .

The present Action is also inspired by the priorities listed in the following documents: **Europe 2020 Strategy: "Resource efficient Europe"** which aims to create a framework for policies to support the shift towards a resource-efficient and low-carbon economy which will help EU - including through the Europe flagship "**Low-carbon economy 2050 roadmap**", aimed at **reducing greenhouse gas emissions** by 80 to 95% by 2050.

The Action is compatible to the priorities of the **Regional Energy Community Strategy** include, among others, the need to **foster the use of renewable energy.**

**At national level, the National Priorities for International Assistance** (**NAD) 2014-2017 with projections until 2020** stipulates the need to implement national legislation, especially in the areas of **water management**.

**In the water sector, the Strategy for Water Management in the Republic of Serbia up to 2034** is a comprehensive planning document determining long-term water management policy to be pursued on the national territory, that is, the directions of sustainable action in the areas of water use**, water protection**, the regulation of water flow and protection against the harmful effects of water. **In relation to climate change, the Initial National Communication (INC)** of the Republic of Serbia with greenhouse gas (GHG) inventories for 1990 and 1998 and projections and mitigation scenarios until 2015, was adopted and

[7] Credible enlargement perspective for and enhanced EU engagement with the Western Balkans", 2018

published in 2010. INC highlighted a number of issues recognising the **energy sector as the main contributor to GHG emissions** in Serbia and also likely the sector with the **greatest potential for mitigation**. Serbia is currently compiling the Second National Communication Report including GHG inventory for the period 2000-2009 and **Mitigation action plan until 2030**. Serbia submitted its Intended Nationally Determined Contribution (INDC) in June 2015 ahead of Paris the UN climate conference in Paris, in December 2015, and adopted the Paris Agreement in May 2017. A national cross-sectoral strategy on climate change, and an Action Plan, both consistent with the EU 2030 framework for climate and energy policies, is currently being developed with the support of EU_IPA. Both documents should be available by end 2018. Further, the EC-funded RIPAP project (Regional Implementation of Paris Agreement Project) is contributing to climate change mitigation, adaptation and the development towards a resource-efficient, low-emissions and climate-resilient economy.

Serbia submitted in May 2016 its new regulations on large combustion plants to the Secretariat, following the transposition of the Directive 2001/80/EC usually named Large Combustion Plants Directive (LCP). Serbia has 37 plants which are subject to the LCP Directive.

**Serbia submitted 12 Nationally Appropriate Mitigation Actions (NAMAs),** including 4 related to using **renewable energy sources** and 7 to **improving energy efficiency** to the NAMA Registry operated by the UNFCCC Secretariat. Serbia has adopted three National Energy Efficiency Action Plans (NEEAP) so far, to plan and implement energy efficiency improvements, the goals by 2018 are defined final energy savings of 9% in the period from 2010 to 2018.

**The Energy Development Strategy** defines the main priorities and activities in each field of energy, including in energy efficiency and renewable energy sources. Related to efficient energy use, the strategy defines as priority activities related to: energy reconstruction in building sector and introduction of energy management in public sector. Related to renewable energy sources**,** the strategy defines **priority infrastructure interventions in the heat sector** which should be performed in order to improve the functioning of **District Heating Systems (DHS).** One of them is improving energy mix for heat production and **use of more renewable energy sources (RES) for heat production.**

The Sofia Declaration from May 2018 promotes connectivity in all dimensions: transport, energy, digital, economic and human. A new package of connectivity projects is expected on order to ensure that the **Regional Electricity Market** is integrated into the EU **Internal Electricity Market**. **Energy security** is prioritised, including through improved energy efficiency, better cross-border inter-connections, diversification of sources and routes, as well as a balanced energy mix better integrating renewable energy.

#### LESSONS LEARNED AND LINK TO PREVIOUS FINANCIAL ASSISTANCE

Analysis of EU and bilateral donor's assistance shows that in period IPA 2008 -2016 total funding for the wastewater infrastructure projects in Serbia was approximately EUR 130 million, mainly by development partners (grants and loans), namely: EU (approx. EUR 36 million), KfW (EUR 48 million) and EBRD (EUR 9 million), accompanied by national funding (EUR 18 million) and LSG finding (EUR 6 million)[8]. All implemented wastewater infrastructure projects have been supplemented with capacity building and TA activities to support end recipients and beneficiaries (FOPIPs, TAs, PPFs, etc). There have been difficulties in the preparation and implementation of investment projects in the environment sector and in the water and wastewater sector in particular (bottleneck projects) such as lack of capacities at local and central level, problems in co-financing, solving the problem of land acquisition and ownerships on the projects. Therefore, it is essential that there are adequate capacities of the implementing bodies to be able to effectively and efficiently manage the implementation of the infrastructure projects.

[8] Wastewater infrastructure was prepared and developed in Vrbas financed under IPA 2008 with EUR 12.3 million as EU contribution, Sabac financed under IPA 2008 with 8.6 EUR million as EU contribution and Leskovac financed under IPA 2010 with EUR 9.8 million as EU contribution. Ongoing project from IPA 2013 for the construction on WWTP Raska is supported with EUR 5.2 million from EU contribution. KfW is currently implementing the Water Supply and Wastewater Treatment in Medium Sized Municipalities in Serbia III/IV supporting preparation and implementation of wastewater infrastructure in the Cities of Krusevac and Vranje.

In addition to the construction of the water and waste water management infrastructure, efficient and effective operation and management of this type of infrastructure also requires adequate capacity within the entities responsible for service delivery, the "Public Utility Companies" (PUCs). Apparently, there have been difficulties in solving technical issues, land acquisition, obtaining the conditions, approvals and permits from both local and national level, decision-making process and financial issues in the preparation and implementation of investment projects in the environment sector and in the water and wastewater sector in particular (bottleneck projects). Moreover, it is apparent that investment needs in the water and wastewater sector are extensive and will take many years to implement. Therefore, it is essential that there are adequate capacities and capabilities in number and quality (skills) of staff, as well as in the organisation of the services.

**EU – IPA – interim evaluation and meta-evaluation of IPA assistance was done for Environment and Climate Change sector in 2013**. According to this evaluation, the IPA planned outputs were, in most cases, delivered; while the extent to which these are effectively turned into results (outcomes) is not as good as it should have been. Some of the efficiency problems stem from design deficiencies. In the area of water and waste infrastructure projects, cooperation between national, regional and local bodies to facilitate operation of the facilities constructed is low due to the lack of leadership and relies on the consultant drafting local level cooperation agreements. At the central level the Strategy for Restructuring of the Local Public Utility Companies and the necessary reforms and legislation are yet to be adopted.

Major infrastructure projects (including primarily, but not exclusively, water supply and/or wastewater networks, and/or waste management solutions) were considered to be less efficient, due to their higher costs in all project phases, inefficiencies stemming from the fact that often individual loans, or even entire lending programmes (such as water management), are approved before projects are selected, leading to problems in the absorption and disbursement of allocated funding because project documentation is often seriously under-developed. Overall, efficiency in the sector was proposed to be considered as medium. As stated in the WBIF (Western Balkans Investment Framework) Final Evaluation Report[9] the increased interest in blending funds by the European Commission with IFI and other financing is due to a number of potential benefits and increases the potential development impact of the EC's official development assistance. Based on previous experiences interventions within this Action Document the blending of funds is expected to increase efficiency, coordination, ownership and visibility of EU development finance.

- **Overall lessons learned can be summarised as follows:**

- systematic checks in terms of strategic relevance, quality and maturity are part of the development of a consistent Single Project Pipeline. As from 2013, the implementation of the Methodology for the selection of projects adopted by the Government enabled the selection of strategically important projects to be constructed by EU funds as well as better sequencing and coordination of interventions. Assessment of the current maturity of the projects on the Single Project Pipeline is needed.

- Adjust policy and regulatory framework aiming at improvement of sustainability of planning process and ensure commitment from the relevant institutions.

- Strengthen technical and professional capacities for effective preparation of spatial and urban planning documentation; ensure harmonisation of spatial plans on different hierarchy levels.

- Improving/upgrading land cadastre/real estate cadastre and implementing a simplified and faster official procedure should be further strengthened to provide easier access to all cadastre-related information.

- Strengthen administrative capacities at all levels for proper implementation of the electronic unified procedure for issuing of location conditions, construction and usage permits under the Law on Planning and Construction.

- Develop a mechanism for predictable and stable national financing and co- financing of infrastructure projects through local authorities, IFI loans and other available sources.

[9] November, 2015

- Concerning sustainability of environmental projects, there is a need to establish a pricing policy which provides adequate incentives for users to use the resources efficiently.
- It should be insured that multi annual budget planning is in relation with strategic planning
- Strengthen the capacity at local level for infrastructure project preparation and implementation
- Strengthen the function of inspection and provide higher responsibility of Investor – Consultant (Project Manager) – Designer – Technical Control – Contractor – Supervision - State inspection – Administration.
- Bottlenecks in terms of absorption capacities must be taken into consideration in the programming period.
- In order to provide an efficient and transparent tendering process, it is necessary to ensure that appropriate tendering capacity, templates and all the procedures are in place.

## 2. INTERVENTION LOGIC

### LOGICAL FRAMEWORK MATRIX

| **OVERALL OBJECTIVE** | **OBJECTIVELY VERIFIABLE INDICATORS (*)** | **SOURCES OF VERIFICATION** | |
|---|---|---|---|
| To contribute to environmental protection and sustainability and energy efficiency in Serbia in line with EU acquis | % of urban wastewater treated to EU standards compared to baseline year<br>Share of the renewable energy sources (RES) in the Gross final energy consumption (GFEC) -% | Serbian Environmental Protection Agency - annual reports<br>National Report on Status of Surface Water<br>Ministry of Mining and Energy, Project documentation, District Heating Systems | |
| **SPECIFIC OBJECTIVE** | **OBJECTIVELY VERIFIABLE INDICATORS (*)** | **SOURCES OF VERIFICATION** | **ASSUMPTIONS** |
| To improve water and air quality trough upgrading of water and waste water infrastructures improve energy efficiency and enable reduction of $CO_2$ emission | Population connected to wastewater collection and treatment systems on the territory of the Republic of Serbia (%)<br><br>MWt of installed capacity on biomass and other renewable energy sources (RES)<br><br>Level of energy efficiency in Central Register of Energy Passports for selected buildings | SEPA annual reports<br>EUROSTAT Waste Water statistics<br>Annual report of the Republic Statistical Office<br>Ministry of Mining and Energy Project documentation,<br>Central registry of energy passports in buildings<br>City of Belgrade Development Strategy | Continued political support for harmonisation and enforcement of the EU environmental and energy *acquis*<br><br>Serbian Government remains oriented towards improving environmental institutions and the enforcement of environmental legislation at all levels |
| **RESULTS** | **OBJECTIVELY VERIFIABLE INDICATORS (*)** | **SOURCES OF VERIFICATION** | **ASSUMPTIONS** |
| **Result 1**:<br>1.1. Collection and treatment infrastructure for water and wastewater for Niš urban agglomeration and the capacity of PUC for its management improved | Equivalent population covered with wastewater treatment in the City of Niš (urban/rural) | Project progress reports<br>Annual report of the Republic Statistical Office – Cities and Municipalities<br>Annual PUC report | Commitment of local authority to implement required water services tariff amendments<br>Ensured capital investment funding for Serbia's Environmental heavy |

| | | | |
|---|---|---|---|
| | | | investment sub - sector (Wastewater)<br>Adoption of revised decrees at national level on water pricing and calculation of water tariffs<br>Full support of municipalities' leadership and involved authorities to efficient project implementation<br>National financing secured |
| **Result 2**<br>Infrastructure and institutional capacity for reduction of $CO_2$ emission improved<br><br>2.1. Reconstruction of the heating system/boilers for the use of renewable energy sources in DHC and rehabilitation and upgrade of heating distribution system.<br><br>2.2. Management of energy efficiency improved through rehabilitation of public buildings . | 2.1. Number of Heating plants using biomass[10] and other RES and installed capacity in MWt<br>Capacity of selected DHS staff to operate heat energy production facility from biomass and other RES<br><br>2.2. Percentage of $CO_2$ emission of 4 public buildings in the City of Belgrade (% per building) | Ministry of Mining and Energy Project documentation<br>District Heating Systems<br>Annual report of the Republic Statistical Office<br>Elaborate on energy efficiency<br>Project progress reports<br>City of Belgrade Development Strategy and corresponding Action Plan | |

[10] Number should be increased depending on project documentation which should be completed

**DESCRIPTION OF ACTIVITIES**

**Result 1: Collection and treatment infrastructure for water and wastewater for Niš urban agglomeration and the capacity of PUC for its management improved**

This Action will support the development of wastewater treatment plant for the City of Niš, extension of sewage system, reconstruction and construction of main collectors and an upgrade of the drinking water facility trough construction of wastewater treatment at WTP Medijana for the third largest city in Serbia and the administrative centre of the NisavaNiš District, as well as the largest city in the statistical region Southern and Eastern Serbia. The city of Niš consists of five municipalities, namely: Medijana, Palilula, Pantelej, Crveni Krst and NiskaNiš Banja.

The present intervention includes the design and the construction (yellow FIDIC – International Federation of Consulting Engineers) of a wastewater treatment plant for the Niš urban agglomeration, upgrade of the existing drinking water treatment plant and construction, rehabilitation and extension of collectors (red FIDIC). An EU/IFI compliant feasibility study with cost/benefit analysis was done through the Sweden EISP 1 project in 2016. Technical assistance for the further preparation of the Niš Wastewater Project (preliminary designs, EIA and tender dossiers for wastewater treatment plant and upgrade of the existing drinking water treatment plant and detailed design for rehabilitation and extension of collectors) and support to the City during the permitting and technical review processes in accordance with national legislation, has been allocated by Sweden (PEID project), and will be implemented by the middle of 2019.

More concretely, the following main activities are envisaged under Result 1:

**Activity 1.1**: Construction of WWTP, upgrade of the existing drinking water treatment plant and construction and rehabilitation of main collectors and sewage collection system in Niš urban agglomeration

- Design and construction of WWTP for the City of Niš urban agglomeration;
- Design and construction of wastewater treatment at WTP Medijana (backwash water treatment);
- Construction of main collectors;
- Construction (extension) and rehabilitation of sewage network in urban and suburban area.

**Activity 1.2** Supervision of works specified under Activity 1.1

**Activity 1.3**: Capacity Building for the Public Utility Company (PUC) responsible for the operation and maintenance of the infrastructure investments. The activity will include Financial and Operational Performance Improvement Plan (FOPIP). FOPIP aims to identify the measures that PUC can take to improve operational efficiency, reduce operating costs and improve financial performance, addressing the whole range of operations undertaken by the PUC in the field of water and wastewater services.

**Result 2: Infrastructure and institutional capacity for reduction of $CO_2$ emission improved**

This intervention aims to support the following:

- Further improvements in the Serbian district heating sector after steady improvements in rehabilitation and optimisation of the heating grid achieved by District Heating programmes financed through German bilateral development assistance. It is part of the Programme “Promotion of Renewable Energies: Developing the Biomass Market in Serbia” (“the Programme”) but with a focus on fuel switch, i.e. substitution of conventional energies by renewable energy sources; biomass and geothermal energies and.

- Management of energy efficiency improved through the rehabilitation of public buildings in the City of Belgrade. This intervention is part of National Single Project Pipeline. In wide consultations with national institutions coordinated by the ministry in charge of European integration, the EU funded “Project Preparation Facility 6” (PPF6) prepared the Project Appraisal document which recommended 4 buildings in the city of Belgrade to be part of its technical assistance to prepare project and tender documentation: (1) Emergency Central Building, (2) Students’ Healthcare Centre, (3) City Library and (4) Students’ Hospital.

**Specific activities include: Activity 2.1.** Modification and replacement (where necessary) of heat boilers; Adaptation of heat distribution network for heat energy production from biomass and other RES and increase of storage capacities for biomass

This includes: main investments in modification and replacement (where necessary) of heat boilers; adaptation of heat distribution network for heat energy production from biomass and other RES and increase of storage capacities for biomass and complementary measures (network and associated equipment), substitution of deteriorated pipes of existing DH network, adaptation of DH network to modified operation (valves, sensors, pumps, etc.), renewal of heat exchangers, control devices, splitting of primary and secondary loop and heat meters on substation and if possible, consumer level, etc.

The second phase of the programme shall include further 10 or more municipalities and its preparation is underway. For this phase, Serbian Government has already reserved a respective budget for fiscal year 2018 for the next tranche of the DKTI Loan. A similar selection and ranking process as for phase I will have to be conducted, taking into account the lessons learnt from phase I. The list of DHS/municipalities which will be included in the component II is under preparation.

These above mentioned activities will be revised and defined when the list of municipalities and heat plants is established and all relevant agreements are defined. It is necessary to stress that detailed plan of activities and measures will be defined in the Loan Agreement, Financial Agreement and Separate Agreement. This documentation will be prepared after the grant is provided. After the signing of all relevant agreements and ratification of the Loan Agreement, the Implementation consultant should be selected. The Implementation consultant will elaborate of investment plans and detailed preliminary designs. Further proceedings will be based on the tenders of deliveries and services.

**Activity 2.2** Technical assistance to selected DHCs includes: consultant services including institutional measures (technical assistance to DHCs, preparation and monitoring of investments), Implementation consultant (Investment plans, Detailed design, tendering, supervision of works, taking-over procedures, accounting, reporting, etc.); specific consultancy regarding use of the geothermal source, programme-related biomass logistics, economic operation, optimisation of maintenance, data management; energy-related advisory service for consumers; technical training and implementation of institutional measures such as introduction of institutional and organisational reforms, business policies, customer relations management and financial planning and monitoring.

The KfW will prepare first set of up to 10 pre-feasibility studies including cost benefit analysis until mid of 2019. Based on these studies and their review, the consultant will prepare an investment plan and subsequently the tender documents for implementation of activities.

**Activity 2.3** Technical assistance to the Secretariat for Investment in the City of Belgrade in management of energy efficiency.
The activity will support **scaling up energy efficiency reforms and investments.** It will include support to the City of Belgrade in institutional capacity building and setting up a coordination mechanism for the energy efficiency agenda, developing a sustainable institutional set up, analyses of solutions for sustainable financing instruments and institutions for energy efficiency in public buildings and awareness raising. Additionally, the activity will strengthen the capacity of the Fund for Energy Efficiency in the City of Belgrade in the preparation of financing plans, programs, projects and other activities in the field of improvement of the energy efficiency system, and in improving advisory services related to energy efficiency; performing expert supervision over the execution of works on energy rehabilitation of public buildings; measures for improving the energy efficiency in public buildings where energy rehabilitation works will be performed to ensure low level of energy consumption as possible during the use of public buildings. Through well-defined training needs, targeted city employees and institutions that are important for planning, programming, preparation and implementation of energy efficiency projects in buildings will be trained to strengthen capacity in the area such as preparation of technical documentation and implementation of energy efficiency infrastructure projects that are fully or partially financed from donations and funds of international financial institutions (EU, EBRD, EIB, etc.).

**Activity 2.4.** The activity will be considered a pilot project in support to the management of energy efficiency, through the rehabilitation of fourpublic buildings in the City of Belgrade. The Emergency Central

Building, Students' Healthcare Centre, City Library and Students' Hospital are public buildings owned by the City, meaning that the construction permit for reconstruction of these buildings shall be issued by the City of Belgrade, namely the Secretariat for Urban Planning and Construction. These buildings require, prior to any activity submission, request for obtaining the restoration conditions from Institute for the Protection of Cultural Monuments of the City of Belgrade which will be done in accordance with the unified procedure for issuing location/condition and construction permits. UNDP has already been engaged in the preparation of technical documentation for the Emergency Central Building through the "Open Community - Successful Community" Project. Their project task is to produce technical documentation, precisely Design for execution of works without tender documents. When the UNDP compete technical documentation for Emergency Central Building at the Project Performance Level required for development of the tender documentation, PPF6 will continue with preparation of tender documents. The PPF 6 continues to prepare technical documentation for the remaining 3 buildings.

This activity implies energy rehabilitation of the buildings and the execution of the construction and other works on the existing buildings and supervision of works, as well as repair or replacement of devices, equipment and installations of the same or adequate capacity with adjustment of technical processes, such as roof reconstruction, wall and floor insulation, facade reconstruction with window replacement, interior lighting, heating and electrical installations which do not affect the stability and safety of the building, and do not affect fire protection and environmental protection, but which can change the outer appearance with the necessary consent, in order to increase the energy efficiency of the building and energy savings higher than minimum defined in the Serbian legislation[11].

**RISKS**

**Result 1: Collection and treatment infrastructure for water and wastewater for Niš urban agglomeration and the capacity of PUC for its management improved**

| Risk | Mitigation Measure |
|---|---|
| Delays in finalisation of procedures relating to land acquisition, obtaining location condition and relevant permits | The City of Niš allocated funds for this purpose in city budget for 2018 in the amount of 800,000 EUR and appointed relevant staff from the City Administration to deal with land acquisition issues, obtaining local condition and permits |
| Lack of timely and high quality developed technical documentation and tender documentation | Appointed relevant staff from the City Administration and members of Project Implementation Unit established in the City of Niš are well trained and involved in all the steps during the preparation of the technical and tender documentation. |
| Lack of availability of relevant staff for project implementation on local level | Availability of relevant staff closely regulated in End Recipient Agreement to secure relevant staff from the City Administration and PUC for implementation. End Recipient Agreement signed and in place after signing Financial Agreement and prior to start tendering procedure. |
| Lack of available funding for national financing contribution from LSG level, and for financing of local activities | End Recipient Agreement signed after signing Financial Agreement and prior to start tendering procedure to closely regulate the rights and obligations of the parties in connection with the project Construction of a water and wastewater collection and treatment plants for the city of Niš |
| There is no EIA in place for the WWTP in Niš by | EIA is a precondition for the successful |

[11] Rulebook of energy efficiency of buildings of the Republic of Serbia.

| Risk | Mitigation Measure |
|---|---|
| mid-2019. | implementation of the activity. Strengthened coordination by the Ministry for European Integrations and by the line ministry, through the timely monitoring of the achievement of all required steps is the main mitigating measure. |
| The decision making process on the partial expropriation for plot owners in the locations related to the WWTP, collectors, any access roads or linked networks is not performed with full transparency and participation of the local population or requires resettlements, causing reputational damages through protests or complaints. | The action incorporates technological approaches that minimize the requirement of expropriation (partial and temporary expropriation is planned, trenchless technology may be deemed necessary) and permanent re-allocation. Careful consideration on this point, including proper monitoring and communication by the line institutions and the city of Niš is required. |

**Result 2: Infrastructure and institutional capacity for reduction of $CO_2$ emission improved**

| Risk | Mitigation Measure |
|---|---|
| Changes in the management of the District Heating Companies (Result 2.1) | The project-manager should be responsible for the realisation of all activities until the end of the project regardless on changes in the management of DHC |
| Commitment of DHCs and Municipalities to the Programme (Result 2.1) | Official commitment of DHC and municipalities regarding the realization of all activities on the Programme is provided before the programme is started. Decision for the participation in the Programme will be provided by municipal assembly. CPIU is constantly in communication with DHC and municipalities in order to monitor the realisation of the Programme |
| Selection of the municipalities does not finalise by mid-2019. | Strengthened coordination by the Ministry for European Integrations and by the line ministry, through the timely monitoring of the achievement of all required steps is the main mitigating measure. |
| Insufficient qualitative and quantitative supply with biomass fuels (Result 2.1) | Selection of DHC/municipalities which will be included in the programme on the base of PFS which will define sufficient qualitative and quantitative supply with biomass and other RES |
| Timely prepared technical and tender documentation (Result 2.2) | A Project Working Group is formed and the relevant staff appointed from the City of Belgrade, Secretariat for Investments, RADEI, representatives of the institutions being rehabilitated, **the ministry in charge of energy**, the ministry in charge of European integration , PPF 6 project, UNDP and EBRD |

#### CONDITIONS FOR IMPLEMENTATION

**Result 1**

Activity 1.1, 1.2 and 1.3 linked to Result 1: Collection and treatment infrastructure for water and wastewater for Nis urban agglomeration and the capacity of PUC for its management improved

The disbursement following requests for funds related to the part of the Action implemented in indirect management by beneficiary country (Result 1) will be conditional to the conclusion of the End Recipient Agreement for both the WWTP and collectors. Such End Recipient Agreement shall include provisions on staff needed for operating the facility, available financial resources for ensuring co-financing of the construction and future operation of the new facility, and clear definition of the institutional set-up.

## 3. IMPLEMENTATION ARRANGEMENTS

#### ROLES AND RESPONSIBILITIES

This Action under IPA II assistance will be implemented and managed in accordance with the rules and procedures under the Indirect management and in line with respective legislation and Manuals of Procedures.

The institutional arrangements for implementation of activities which will contribute to the achievement of Action results are:

**Result 1: Collection and treatment infrastructure for water and wastewater for Niš urban agglomeration and the capacity of PUC for its management improved**

For all activities the ministry in charge of environmental protection is the final beneficiary while the City of Niš is the end recipient. Memorandum of Understanding (MoU) was signed between the Ministry of Agriculture and Environmental Protection (ministry in charge of environment) and the City of Niš regarding the implementation of the Project for Collection and Treatment of Waste Water in the City of Niš, financed by the Swedish International Development Cooperation Agency - SIDA through a programme entitled "Priority Environmental Infrastructure for Development". In the MoU the City of Niš is obliged to participate in timely raising of funds to finance the construction and supervision of the referenced Project, as well as to complete the expropriation process on the collector route and WWTP location. End Recipient Agreement will be prepared by the ministry in charge of environmental protection and the ministry in charge of finance- CFCU and the City of Niš and signed after signing of Financial Agreement for 2018.

**Result 2: Infrastructure and institutional capacity for reduction of $CO_2$ emission improved**

For the **Activity 2.1 and Activity 2.2** final beneficiary is the ministry in charge of energy, while the end recipients are DHCs when selected

**The ministry in charge of energy** shall be responsible for the overall programme coordination and administration, in particular the programme financial management and monitoring, the management of the tender processes for goods and services and the communication with the participating DHCs, municipalities and between all involved institutions and stakeholders. To this end, ministry in charge of energy shall form a **Central Programme Implementation Unit** (CPIU) and appoint an adequate number of qualified staff to become member of the CPIU. The ministry in charge of finance will act as the **borrower** of the loan funds and represent the Republic of Serbia as Recipient under the Loan Agreement. The ministry in charge of finance shall conclude trilateral agreements with the participating DHCs and municipalities that enable channeling the loan funds to the municipal level. The DHCs are responsible for the technical implementation of the Programme and thus act as "**Project Executing Agencies**" (PEA). They provide the data necessary for the consultant to support them in the implementation process. They take part in the tender process and ensure the correct installation of the procured equipment. In particular, the DHCs are responsible for a smooth and proper operation of the Programme investments. Furthermore, the DHCs shall implement the institutional measures mentioned under III/ Consultant Services.The cities/municipalities shall support their respective DHCs in the implementation of the Programme, e.g. in obtaining licenses and actively provide support in resolving legal and administrative matters on the municipal level related to the Programme implementation. Generally, a **decision by the municipal assembly** is required for a participation in the Programme. The implementation consultants ("Consultants") shall primarily be financed through the Financial Contribution. The principal task of the Consultants shall consist of supporting the CPIU as well as the PIUs with the overall Programme implementation and render training and advisory services as institutional measures (see under III/Consultant). All works of the Consultant shall be carried out in close cooperation with the CPIU and PIUs.

For the **Activity 2.3 and Activity 2.4** the final beneficiary is **the City of Belgrade**, while the end recipients are Emergency Central Building, Students' Healthcare Centre, City Library and Students' Hospital. The City Secretariat for Urban Planning and Construction is responsible for issuing location conditions and construction permit or decision approving the execution of works based on Article 145, Law on Planning and Construction for the works. Moreover, the Belgrade City Institute for the Protection of Cultural Monuments is in charge of issuing design conditions which are integral part of location conditions. The City Secretariat for Investment is responsible for overall managing of these activities in close cooperation with the Regional Agency for Development and European Integration of Belgrade (RADEI).

**IMPLEMENTATION METHOD(S) AND TYPE(S) OF FINANCING**

**Result 1: Collection and treatment infrastructure for water and wastewater for Niš urban agglomeration and the capacity of PUC for its management improved** will be implemented through Works and Service contracts.

**Activity 1.1:** Construction of WWTP, upgrade of the existing drinking water treatment plant and construction and rehabilitation of sewage collection system in Niš urban agglomeration will be implemented through Works contract.

**Activity 1.2** Supervision of Works will be implemented through Service contract.

**Activity 1.3:** Capacity Building for the Public Utility Company (PUC) responsible for the operation and maintenance of the infrastructure investments will be implemented through Service contract.

**Result 2: Infrastructure and institutional capacity for reduction of $CO_2$ emission improved**

| Activity | Method of implementation | Type of financing | Justification |
|---|---|---|---|
| Activity 2.1 and 2.2 | IMDA with KfW | 1 contract | The results will be implemented in indirect management by entrusting budget implementation tasks to KfW (Kreditanstalt für Wiederaufbau) as the identified entity according to Art. 62(1)(c) of the FR. The selection of KfW took place based on has its proven experience, reputation and high project management standards in performing switch from fossil fuel to renewable energy sources (RES) in District Heating Systems (DHC) for heat production in the Republic of Serbia. Since the knowledge, experience and efficiency of KfW is worldwide recognised in environmental protection and climate change investments, it is of key importance for the success of the Action.<br><br>The second component of the Programme „Promotion of Renewable Energies - Developing the Biomass Market in Serbia[12]", conducted by KfW, envisages a loan of EUR 25 million. Based on underlying calculations and assumptions as well as experiences made so far with the preparation of Biomass first component I, grant amount up to EUR 8 million is envisaged. The correct amount for the second component will be calculated based on studies and analysis as performed for component I include Cost-benefit analysis for each DHC and only eligible costs which is subject of current IPA 2018 intervention. This is deemed necessary to adequately and sustainably implement the second component of the Biomass Programme, as the financial scheme that would facilitate repayment of KFW loan. EU grant contributes to a lower CAPEX for the municipalities/DHC in the range of 16-18% of the total investment costs for Biomass Programme second |

[12] In the Summary Record of Negotiations on Development Cooperation between representative of German and Serbian Governments held in September 2017, related to Phase II of Program „Promotion of Renewable Energies - Developing the Biomass Market in Serbia" it is stated as following: „Depending on the interest of further District Heating Companies to invest in biomass or other renewable technologies for district heating, an additional loan agreement for Phase II of the program shall be concluded in 2018. The German and the Serbian side agreed that loan funds amounting up to 40 million would be envisaged in the budget of the Republic of Serbia for 2018 because the funds will elapse end of 2018. The EU has confirmed its interest in co-financing Phase II of the program.

| Activity | Method of implementation | Type of financing | Justification |
|---|---|---|---|
| | | | component. The second phase shall include further 10 or more municipalities and its preparation is underway. For this phase, Serbian Government has already reserved a respective budget for fiscal year 2018 for the next tranche of the DKTI loan.<br><br>The implementing body has to be able to rapidly mobilise efficient procurement and project management procedures as Serbia has limited expertise and specialised resources available in the field and needs support to raise its capacities.<br><br>The Action will dominantly be implemented through rehabilitation works, that give the beneficiaries the ownership over the projects, while the implementing partner will hold the overall responsibility for the Action results and maintain a monitoring and supportive role. At the same time, the entrusted Entity has to ensure an exclusive visibility of the EU for the overall action. |
| /Activity 2.3 and 2.4 | IMDA with EBRD | 1 contract | The results will be implemented in indirect management by entrusting budget implementation tasks to EBRD (The European Bank for Reconstruction and Development (EBRD) as the identified entity according to Art. 62(1)(c) of the FR. The selection of EBRD took place based on the fact that it has a worldwide reputation and follows high project management standards that are necessary to provide support to the introduction of an energy efficiency approach in the building sector, implying works, services, supplies and grant schemes, as well as partnerships of different actors at national and local level.<br><br>EBRD is in particular selected since the City of Belgrade will tackle a broader set of environmental challenges, including water, air and soil issues through the implementation of a Green City Action Plan (GCAP). The GCAP forms part of EBRD's Green Cities Initiative which is designed to guide a City through 4 main steps – from establishing a Green City Baseline, developing a Green City Action Plan, to its implementation and reporting requirements. The methodology for the GCAP has been developed by EBRD together with the Organisation for Economic Co-operation and Development (OECD) and International Council for Local Environmental Initiatives (ICLEI). EBRD will support the City of Belgrade to develop the SECAP and GCAP and build its capacity to implement them through applying the GCAP and SECAP methodologies, stakeholders engagement and comprehensive consultation process in line with the above process.<br><br>Based on the preliminary research made so far by PPF6 project during the preparation of Appraisal Report for Thermal Rehabilitation of Public Buildings in Belgrade, a grant amount for rehabilitation of 4 public buildings up to EUR 10 million is based on experience and expertise and the |

| Activity | Method of implementation | Type of financing | Justification |
|---|---|---|---|
| | | | correct amount will be calculated for each building based on Bill of Quantities from Design for the execution of works and will include only eligible costs which are subject of the current IPA 2018 intervention. For the technical assistance to the City of Belgrade, Secretariat for Investment a grant amount up to EUR 1 million is needed for institutional capacity building and scaling up energy efficiency reforms and investments.<br><br>The speed of implementation, institutional capacity building and scaling up energy efficiency reforms and investments are the key importance for the success of the result, the advantage of using EBRD as a partner is the ability to rapidly mobilise staff and apply efficient procurement and effective project management procedures/methods. The knowledge, experience and efficiency offered by EBRD will provide tailored assistance to the City of Belgrade institutions and will raise their capacities for future implementation of similar activities. Finally, the implementation of the result will require close cooperation and communication with the local level actors as well as tailored assistance which requires responsive expert team of people able to dedicate time and resources and act on ad hoc basis, whenever the need occurs.<br><br>The Action will dominantly be implemented through rehabilitation works, that give the beneficiaries the ownership over the projects, while the implementing partner will hold the overall responsibility for the Action results and maintain a monitoring and supportive role. At the same time, the entrusted Entity has to ensure an exclusive visibility of the EU for the overall action. |

## 4. PERFORMANCE MEASUREMENT

### METHODOLOGY FOR MONITORING (AND EVALUATION)

Monitoring the progress of implementation will be done in accordance with the rules and procedures for monitoring stipulated in the IPA II Implementing Regulation and Framework Agreement between the republic of Serbia and the European Commission on the arrangements for implementation of Union financial assistance to the Republic of Serbia under the Instrument for Pre-Accession Assistance (IPA II).

The overall progress will be monitored by means of several sources:

- **Result Orientated Monitoring (ROM) system** (led by DG NEAR): This will provide, as necessary and required, an independent assessment of the on-going or ex-post performance of the Action.
- **IPA II Beneficiary's own monitoring:** IPA II monitoring process is organised and led by the NIPAC, supported by the Technical Secretariat of the National IPA Coordinator (NIPAC TS)/ BCPME. NIPAC is the main interlocutor between the Serbian government and the European Commission (EC) regarding strategic planning, co-ordination of programming, monitoring of implementation, evaluation and reporting on the overall IPA II assistance. NIPAC monitors the process of programming, preparation and implementation, as well as the sustainability and effects of programmes, aiming to improve these processes, ensure timely identification, remedying and

alleviation of potential issues in the process of programming and implementation of Actions. Through the support of the NIPAC TS/ BCPME, the NIPAC prepares regular monitoring reports for the Government and the EC based on the reports drawn up by the institutions responsible for implementation. It reports on the formulation of Action, the fulfilment of preconditions for the initiation of public procurement procedures, the implementation of Action, its sustainability and effects, and organises the process of evaluation.

- **Self-monitoring performed by the EU Delegation**: This is part of the annual assurance strategy process and is done based on the ex-ante risk assessment of actions/contracts considered riskier.
- **Joint monitoring by DG NEAR and the IPA II Beneficiary**: The compliance, coherence, effectiveness, efficiency and coordination in implementation of financial assistance will be regularly (at least once a year) monitored by the IPA Monitoring Committee. It will be supported by Sectoral Monitoring Committees which will ensure monitoring process at sector level. The results of monitoring will be used in the policy-making process to propose programme adjustments and corrective actions.

Monitoring process envisages participation of various stakeholders, such as EC/EUD, NIPAC, NIPAC TS/ BCPME, NAO, NAO SO, NF, Contracting Authorities, Final Beneficiaries, AA, and other institutions and civil society organisations.

In line with the IPA II Implementing Regulation 447/2014, an IPA II beneficiary who has been entrusted budget implementation tasks of IPA II assistance shall be responsible for conducting **evaluations** of the programmes it manages.

The European Commission may carry out a **mid-term, a final or an ex-post evaluation** for this Action or its components via independent consultants, through a joint mission or via an implementing partner. In case a mid-term or final evaluation is not foreseen, the European Commission may, during implementation, decide to undertake such an evaluation for duly justified reasons either on its own decision or on the initiative of the partner. The evaluations will be carried out as prescribed by the DG NEAR guidelines for evaluations. In addition, the Action might be subject to external monitoring in line with the European Commission rules and procedures set in the Financing Agreement.

**INDICATOR MEASUREMENT**

| Indicator | Baseline (value + year) (2) | Target 2022 (3) | Final Target (2025 year) (4) | Source of information |
|---|---|---|---|---|
| % of urban waste water treated to EU standards compared to baseline year | 0 % (2015) | 2 % | 6% | Serbian Environmental Protection Agency - annual reports<br>National Report on Status of Surface Water |
| Share of the renewable energy sources (RES) in the Gross final energy consumption (GFEC) -% | 21.2 % (2009) | 27 % (2020) | | Ministry of Mining and Energy Project documentation, District Heating Systems |
| Population connected to wastewater collection (%) | 61.3%(2016) | 63% | 67% | SEPA annual reports<br>EUROSTAT Waste Water statistics<br>Annual report of the Republic Statistical Office – Cities and Municipalities |
| Population connected to treatment systems on the territory of the Republic of Serbia (%) | 14% (2016) | 16 % | 18% | SEPA annual reports<br>EUROSTAT Waste Water statistics<br>Annual report of the Republic Statistical Office – Cities and Municipalities |
| MWt of installed capacity on biomass and other renewable energy sources (RES) | 11.287 MW (2016) | 72.1 MW | 150 MW (final figures will be defined) | Ministry of Mining and Energy Project documentation, District Heating Systems |
| Equivalent population (%) covered with wastewater treatment in the City of Niš (urban/rural) | 0% (2016) | 85 % | 87% | Project progress report<br>SEPA annual reports<br>Annual report of the Statistical Office – Cities and Municipalities<br>Annual PUC report |
| Number of Heating plants using biomass[13] and other RES and installed capacity in MWt | 5 | 10 | 20 or more / 150 MW (final figures will be defined) | Ministry of Mining and Energy Project documentation, District Heating Systems<br>Annual report of the Republic Statistical |

[13] Number should be increased depending on project documentation which should be completed

| | | | | |
|---|---|---|---|---|
| | | | | Office<br>Project progress reports |
| Capacity of selected DHS staff to operate heat energy production facility from biomass and other RES | 0% | 100% | 100% | Project progress reports |
| Percentage of $CO_2$ emission of 4 public buildings in the City of Belgrade / in percentage per building | 0% | 15% | 25% | Project progress reports<br>Elaborate of energy efficiency |

## 5. SECTOR APPROACH ASSESSMENT

The **Environment and Climate Change sector** is well covered by strategic documents at national level. The **National Programme for Environmental Protection (NPEP) 2010-2019** is considered to be the sector framework strategy which sets out the overall vision for the sector and presents an overview of all the key problems being addressed and opportunities being seized. The NPEP details the existing laws, obligations, institutions and stakeholders within the sector and is based on a cross-cutting approach that encourages the integration of environmental protection into all national sector policies and provides the framework for the adoption of action plans to address specific environmental issues.

The NPEP is complemented by the **Environmental Approximation Strategy (EAS) 2011-2019** which covers legislative, institutional and financial components and is the key document for the harmonisation of legislation in the field of environmental protection in Serbia. The objectives of the EAS are to address the complexity of the challenge to apply EU environmental legislation in Serbia and to provide a sound basis for the accession negotiations on Chapter 27. In addition, the EAS contains an overview of economic instruments and financial mechanisms in the field of environment which are necessary for the support of domestic and foreign investment.

The **Water Management Strategy** of the territory of the Republic of Serbia is a master planning document that serves as a blueprint for the implementation of water sector reforms through the year 2030, aimed at achieving needed water management standards at the national, regional and local levels, and at fulfilling water management objectives. As described in Water Management Strategy, Serbia's operational goal is to construct sewage systems with adequate capacity (sewage network covers 85% of populations living in settlements with over 2,000 inhabitants) and the level of treatment established in the draft Water Pollution Protection Plan.

Apart from the new overarching energy sector strategy, specific sub-sector Action Plans are developed, such as the second **NEEAP** (National Energy Efficiency Action Plan) and **NREAP** (National Renewable Energy Action Plan). The Serbian Energy Sector development strategy for the period up to 2025 with the projections up to 2030 represents the main instrument for defining the Serbian energy policy and is strongly influenced by obligations set by the EU Accession process and Agreements signed by Serbia, in particular the Stabilization and Association Agreement and the Energy Community Treaty (2005). Strategic priorities of the energy development have been defined along key principles: improving security of supply, development of energy market and a comprehensive transition towards sustainable energy. Thus, it covers all relevant subsector policies, which are also in the focus and complemented by the IPA II actions.

***Sector and donor coordination***

**Sector Working Groups (SWGs)** have been established in order to achieve efficient and coordinated process of programming and monitoring of international development assistance, especially the IPA, as well as to provide the basis for the implementation of sector approach. The ministry in charge of environmental protection is the lead institution within the Sector Environment and Climate Change with respect to sector policy coordination, while planning, programming and monitoring of EU funds and other assistance is led and coordinated by the ministry in charge of European integration. Primary role of the **SWG for Environment and Climate Sector** is to ensure adequate forum for sector policy dialogue and reliable basis for effective planning and programming enabling strategic focus and prioritization, complementarity of various interventions and optimisation of different sources of funds. It thus improves the coordination and management of international development assistance and increases its effective absorption while ensuring a transparent and inclusive dialogue among all relevant stakeholders.

***Sector budget and medium term perspective***

As of 2015 all **line ministries are required to produce programme budgets** and there is a need for significant improvement in this process, since programme budgets need to be fully integrated within improved medium term budgeting exercise. Budget beneficiaries are obliged to submit **three-year projections** in the course of the annual budget cycle. Fiscal strategy sets the medium-term budget limits per budget beneficiary which allows for the estimates of sector budgets on the basis of individual annual budgets for the institutions.

The programme budgeting mechanism developed in instructing and coordinating with the budget beneficiaries can already be qualified as very instrumental for consolidating the fiscal discipline and for the transparency of public expenditure.

However, there is yet no full-fledged mid-term, sector-based budgetary planning process that could be used to develop mid-term expenditure frameworks.

***Sector monitoring system***

The public administration of Serbia is not equipped with general methodology, guidelines, manuals and IT system for monitoring and evaluation and they have been developed on a case-by-case basis. Evaluation is done ad hoc, without methodology, there is no internal capacity to carry out evaluation, and this refers both to sector and sub sector level. Reporting mechanism on sub sector level is not harmonised and there is no reporting mechanism on the sector level.

For the time being sector **PAF** is based on three key mechanisms: (i) system of indicators in ”National Priorities for International Assistance for period 2014-17 with 2020 projections (NAD)”, Sector strategy contains outcome and result based indicators, baseline and target values. Indicators are in line with sub sector policy objectives. However, the capacities for defining proper (RACER) indicators, carrying out the monitoring and evaluation tasks on the sector level should be strengthened.

## 6. CROSS-CUTTING ISSUES

### GENDER MAINSTREAMING

As the National Strategy for Improved Status of Women and Gender Equality Promotion (2009-2015) obliges for equal participation of women and men in decision making at all levels and in all policy areas, greater involvement of women in actions described, regarding policies and decision-making processes will be promoted.

In the sector of environment protection and energy efficiency, key gender issues are: availability of knowledge and information; availability of financial resources for investments and employment opportunities in the sector (in green business, but also for technology for energy from renewable resources); participation in decision making (particularly at the level of household and in the local community). At the local level, it is expected that women will be excluded from decision making about infrastructure projects and priorities in local communities since traditional gender roles are strong and only 13% of members in local community councils are women. Among energy manager at local level, only one is a woman. Survey conducted within WISE SEE project[14] showed that only 18% of women are informed about their local government activities in the field of energy efficiency or environment protection.

The role of women in climate change risk mitigation and increasing resilience of local communities have been documented in various studies and researches worldwide, including Serbia. The main direction related to gender equality, but also human rights perspective is more visible and more active role of women in transition to sustainable energy or in climate change mitigation actions.

At activity level, it will be ensured that all interventions in the Environment and Climate Change sector create opportunities for women’s empowerment and gender equality related to decision making (including capacities for informed decision making), business opportunities for women in biomass value chains and also gender aspects of access to infrastructure, PUC services and energy poverty. It will also be ensured that the same opportunities are available to women as well as men.

In particular, the at the level of implementation, activities that can contribute to gender equality include:

- In PUC capacity building programme could be integrated vulnerability analysis, citizens’ engagement and gender sensitive consultations. In order to contribute to local development, customer oriented services and increased accessibility of services, capacity building should cover consultations with customers (prior to infrastructure investments), service satisfaction measurement, complains management and human rights based approach, and gender mainstreaming and gender equality.

[14] https://wisesee.org

- All statistical data that will be used and collected during the intervention needs to be gender segregated and segregated according to type of settlement.
- Gender responsive SIA assessment should be conducted.
- For the second result, promotional and informative campaigns at the level of local communities (municipalities) related to energy efficiency, sustainable energy and RES;
- Analysis of energy use patterns and energy poverty, that will include gender and human rights issues should be conducted in order to provide measurement of increased access to energy from RES.
- All promotional materials that will be used need to include visual promotion of gender equality i.e. to avoid gender stereotypes.
- Increase number of employed women on a local level in the field of heating plants (and increase other target groups in capacity building activities)
- **EQUAL OPPORTUNITIES**

**L**egislation in Serbia concerning working conditions and equal opportunities for women and men, for people with disabilities and for people belonging to minorities and other vulnerable groups as well as the improvement of the level of protection of the health and safety of workers, taking as a reference the level of protection existing in the EU. All proposed Activities within this Action Document and results to be achieved are neutral when it comes to equal opportunities and beneficial for both sexes.

**MINORITIES AND VULNERABLE GROUPS**

Respect of minority rights is embedded in all strategic documents of the environment and climate change sector. The link between activities envisaged in this Action Document and minorities and vulnerable groups is reflected primarily in the impact on the health and quality of living in Serbia. As regards minorities and vulnerable groups, all activities under this Action Document must be based on the principle of non-discrimination of minorities and vulnerable groups. Furthermore, all infrastructure activities under the Action are encouraged to actively seek approaches that reflect the needs of minorities and vulnerable groups. Socio – economic vulnerabilities are relevant for access to sanitation, clear water and energy. Roma settlements, or rural settlements are usually without adequate infrastructure or PUC services coverage.

Vulnerability assessment is particularly important in tariff systems development and intersectional approach is needed in order to address existing inequalities and vulnerabilities. Women, particularly single headed households of elderly women, single parents or Roma population, are vulnerable to energy poverty because of material poverty and limited access to alternative energy sources, distance heat system, information on available alternative energy sources or financial resources for investments. For vulnerable groups specific problem is restricted choice of energy sources. It is important to ensure that women and men will be enabled to choose technology that is the most suitable for their needs and resources. Accessibility of public building for persons with disabilities needs to be improved. If it is possible, accessibility should be integrated in Project results.

For water and wastewater management, it is also relevant to educate beneficiaries and users about their obligations and contribution bearing in mind different channels of communication for men and women and need for additional efforts to outreach women (particularly in rural areas).

**ENGAGEMENT WITH CIVIL SOCIETY (AND IF RELEVANT OTHER NON-STATE STAKEHOLDERS)**

In order to enable a more inclusive and transparent dialogue, as well as a consultation and communication with all relevant stakeholders in the respective sectors, a consultation mechanism with the civil society organisation (CSOs) has been established in Serbia in 2011.This mechanism is based on the consultative process with Sectorial Civil Society Organisations (SECOs) and serves as a platform that enables exchange of information and contribution of CSOs in relation to planning development assistance, particularly programming and monitoring of the IPA. A sectorial civil society organization indicates a consortium of maximum three civil society organisations as partners, one of which is clearly indicated as leading partner. The SECO consortium for the environment sector actively contributes to the creation of recommendations within the network, influences official documents and provides recommendations to define priorities for financing from EU funds and development assistance.

Related to other cross cutting issues, special efforts should be put in outreach women (rural women, women in agriculture, women in SME, or women's experts' networks – WISE SEE, Women's Architecture Society) and Arhus centres.

### ENVIRONMENT AND CLIMATE CHANGE (AND IF RELEVANT DISASTER RESILIENCE)

Activities envisaged under this Action Document focus on environmental issues and climate change mitigation. The specific results of the action seek to improve wastewater and water management in line with Serbian and EU requirements and to improve air quality trough reduction of $CO_2$ emission.

The Activity under result 1 Construction of WWTP, upgrade of the existing drinking water treatment plant and construction and rehabilitation of sewage collection system in Niš urban agglomeration, based on figures and calculations from the FS will result in stoppage of discharge of untreated effluent into the Nišava River and will consequently reduce the environmental pressure on the South Morava River Basin downstream of Niš. Construction of WWTP in Niš is expected to make significant reductions in the nutrient loads and release of chemical pollution from the untreated wastewater discharge as well as microbiological contamination is expected to be significantly reduced. The construction of wastewater infrastructure in the City of Niš will have beneficial impact to community health, resulting in improvement of sanitation conditions, and reduction of number cesspools.

The Activities under result 2 Increasing share of the renewable energy sources in the Gross final energy consumption in Serbia and introduction of energy efficiency in public buildings in Belgrade are in line with EU acquis requirements. Reconstruction of the heating system/boilers for the use of renewable energy sources in DHC and rehabilitation and upgrade of heating distribution system into selected DHCs as well as rehabilitation of 4 public buildings in the City of Belgrade towards using of the renewable energy sources in for energy production and more efficient heating system, efficient electrical appliances and cooling devices; improved insulation; refers to climate change mitigation measures, specifically to reduce emission of $CO_2$ as one of main greenhouse gasses.

## 7. SUSTAINABILITY

The action will produce sustainable results since it is designed to support the already existing beneficiary institution and structures that are already in place.

The activities under Result 1 will include, among construction works, FOPIP for the PUC in the City of Niš as an essential element to developing an effective and sustainable water and wastewater management. Selected support will also improve environmental infrastructure through construction of water and wastewater treatment plant which will contribute to fulfilling EU standards in Serbia, and better health of the population. Feasibility Study for Wastewater collection and treatment project for the city of Niš has been prepared, which included Financial Cost Benefit analysis. The objective of the FS is to encourage full cost recovery (FCR) off all costs associated with investment, operation and management of the upgraded systems. In this analysis the expert had given the recommendations for financial sustainability of the project, included the recommended tariff increases. As a short and medium term goals of the PUC operating the system will be to meet their cash flow needs defined as: operation and maintenance costs and reinvestments needed to operate sustainably the implemented infrastructural system. The financial sustainability of the PUC in the City of Niš will be ensured trough setting up adequate level to successively meet the operating costs, other indirect and non-cash operating costs and cash flow requirements.

As regards institutional and infrastructure capacity for reduction of $CO_2$ emission, for each long-listed DHC candidate, a Cost-Benefit, Financial- and a Cash-Flow Analysis will be conducted, and a positive result of the studies and CBA will be precondition for short-listing of candidates. Concerning macroeconomic and financial sustainability, the analysis of First component of Biomass Programme have clearly shown that investment grants are instrumental to enable this kind of relatively high up-front investment without the need of tariff increases while maintaining a financial soundness and robustness of the overall financial model of the single investments. Equal treatment of DHCs in terms of equal ratio loan/grant is considered key for Biomass Programme first component and will be also applied for Biomass second component. The ratio was calculated to be around 20% for each municipality. For the first component of Biomass Programme, the methodology applied was mutually agreed and endorsed by the ministry in charge of energy, the consultants performing the preparatory studies, the Swiss Cooperation (SECO) and KfW and shall therefore also be applied for Component II. The ministry in charge of finance acts as the borrower of the loan funds and represent the Republic of Serbia as recipient under the Loan Agreement. The ministry in

charge of financing onlends the credit line to the DHC respectively local self governments. The ministry in charge of finance shall conclude trilateral agreements with the participating DHCs and municipalities that enable channeling the loan funds to the municipal level. According to agreement between KfW and the ministry in charge of finance, loan conditions to DHC should be at least same or better comparing to loan conditions under the Loan Agreement between Government of Serbia (ministry in charge of finance) and KfW that makes favorable terms to contributing to financial sustainability. The EU grant support will help to improve financial indicators and financial capability of DHC and make them acceptable by the ministry in charge of finance. Concerning Social sustainability, District heating systems cover public sector buildings. In that sense, District Heating benefit all citizens of the potential municipalities. In addition, looking on the household level, DHC are primarily installed in multi-flat buildings where medium and even lower class of citizens are living. Social sustainability will be guaranteed by a continuous increase of public awareness about the importance of good environmental behaviour and its effects on the improvement of the quality of the environment and consequently of the quality of the life. The consumers, the population and the environment benefit from a sustainable, efficient and reliable energy supply provided by economically sound operating DHCs as well as from the associated stimulation of local value chains. Relating to impacts on local economy, Biomass heating systems are a workforce intensive activity and thus would create a number of new working places as well as support new local and rural business opportunities, especially in the biomass supply chain.

The activities under Result 2 regarding introduction of energy efficiency in public buildings in the City of Belgrade will be supported with institutional set up to manage Belgrade's energy efficiency agenda and sustainable mechanisms for financing with a special focus on Belgrade as a pilot case for scaling-up EE reforms and investments. The aim of these activities is to join international experiences and strong commitment of the City of Belgrade towards developing sustainable solutions for energy efficiency institutions and financing the mid and long term and development of Energy and Climate Action Plans. Sustainability will be addressed through Energy and Climate Action Plans (under Green Cities Programme, EBRD) as a document that articulates a particular city's sustainable development vision, strategic objectives and actions and investments to address priority environmental issues and meet the plan's objectives. Beyond prioritising investments and reforms, the GCAPs are also expected to be a good policy paper helping to promote awareness and additional financing for greener cities.

## 8. COMMUNICATION AND VISIBILITY

Communication and visibility will be given high importance during the implementation of the Action. The implementation of the communication activities shall be funded from the amounts allocated to the Action.

All necessary measures will be taken to publicise the fact that the Action has received funding from the EU in line with the EU communication and visibility requirements in force. All stakeholders and implementing partners shall ensure the visibility of EU financial assistance provided through IPA II throughout all phases of the programme cycle.

Visibility and communication actions shall demonstrate how the intervention contributes to the agreed programme objectives and the accession process, as well as the benefits of the action for the general public. Actions shall be aimed at strengthening general public awareness and support of interventions financed and the objectives pursued. The actions shall aim at highlighting to the relevant target audiences the added value and impact of the EU's interventions and will promote transparency and accountability on the use of funds. Visibility and communication aspects shall be complementary to the activities implemented by DG NEAR and the EU Delegations in the field.

The Result 2, Activity 2.4 will have a special visibility for Belgrade citizens and students coming from Serbia and abroad, considering number and the frequency of the citizens in Emergency Central Building, Students' Healthcare Centre, City Library and Students' Hospital. The Activity will increase public awareness and general understanding of energy efficiency in public building and positive impact of EU interventions.