The second/revised Serbia's nationally determined contribution – CCM component[1]

Introduction

The Republic of Serbia ratified the Paris Agreement on 25 July 2017.

The Republic of Serbia submitted its Intended nationally determined contribution (INDC) on 30 June 2015 with the aim to reduce its GHG emissions by 9,8% by 2030 compared to the 1990. The First NDC contains losses and damages related information in order to underline the needs for investments in adaptation.

In accordance with the Decision 1/CP.21, taking into account national circumstances and capabilities and by using the tools and models, as those used for assessment of the EU GHG emission goals, Republic of Serbia identified possibility for increase of its climate ambition. By 2030 Serbia is aiming to reduce its GHG emissions by 33,3% compared to 1990 level (i.e. 13,2% compared to 2010 level).

Assessed GHG mitigation potential is result of analysis of technical, technological and financial, as well as social and environmental conditions, and it represents optimal combination of these conditions.

Revised GHG emission reduction target is defined in the Low Carbon Development Strategy (LCDS) with Action plan (LCDS). The LCDS provides framework for development by the year 2050 accompanied by the GHG emission reduction, taking into account the EU development goals and priorities in line with Serbia's status of the EU candidate country.

Specific measures and activities in Annex II are those defined in the Action plan for implementation of the LCDS and presented in the Second Biennial Update Report (2BUR). Action plan includes information on responsible institution for all listed measures and activities as well as indicators to track progress, that are also indicators for monitoring of achievement of the second NDC.

Ministry for environmental protection is the UNFCCC NFP and responsible for reporting on NDC. All relevant NDC related MVR procedures and timelines will be defined and ensured by adoption and subsequent implementation of the Law on Climate Change (LCC).

The LCC will establish mechanisms for timely, transparent, accurate, complete, **comparable,** and consistent MRV on GHG emissions and removals, adaptation, and fulfillment of other obligations to the UNFCCC and the Paris agreement.

[1] Even includes mitigation related actions and goals, this NDC provides suggestions for inclusion of adaptation related information

LCC is compliant with EU MRV acquis and introduces mechanisms for the GHG emission reduction based on the best practices and legislation of the EU.

NDC revision is result of the LCDS and Action plan as well as the 2BUR development processes, during which numerous stakeholders were involved ensuring a consultative process.

In compliance with the UNFCCC Decision 1/CP.21, 4/CMA.1, 9/CMA.1, 18/CMA.1 detailed information are provided in Annexes in Tabular form, in order to ensure clarity, transparency and understanding (CTU) of Serbia's NDC.

Annex I

Information to facilitate clarity, transparency and understanding

Serbia's Nationally Determined Contribution (NDC) for the period 2021-2030 Updated in 2020
Target: 13,2% GHG reduction compared to 2010 that is 33,3 % compared to 1990 levels.

Quantifiable information on the reference point (including, a base year)		
(a)	Reference year(s), base year(s), reference period(s) or other starting point(s);	Base year[2]: 2010. In order to be comparable with the first NDC and due to the GHG inventory modifications, the NDC target is presented also compared to 1990. Reference year[3] is 2015, representing a starting point for the GHG emission projections.
(b)	Quantifiable information on the reference indicators, their values in the reference year(s), base year(s), reference period(s) or other starting point(s), and, as applicable, in the target year	Quantifiable information on the reference indicators available in the GHG inventories.

[2] A specific year of historical data against which greenhouse gas emissions are compared over time, https://unfccc.int/files/national_reports/non-annex_i_natcom/cge/application/pdf/final-compendium-mitigation-actions.pdf

[3] A year against which commitments are made and measured, typically in the form of emission Abatement, https://unfccc.int/files/national_reports/non-annex_i_natcom/cge/application/pdf/final-compendium-mitigation-actions.pdf

(c)	For strategies, plans and actions referred to in Article 4, paragraph 6, of the Paris Agreement, or polices and measures as components of nationally determined contributions where paragraph 1(b) above is not applicable, Parties to provide other relevant information;	Not applicable	
(d)	Target relative to the reference indicator, expressed numerically, for example in percentage or amount of reduction;	Absolute target: 13,2% compared to 2010 (33,3% compared to 1990) Conditional target 28,7% compared to 2010 (45,2% compared to 1990) with appropriate international financial, technical, and capacity building support.	
(e)	Implementation costs i. Identify and analyze public and private climate investment options for NDC implementation	EUR 6.511 mil compared to the BAU, out of which certain percent is partially expected to be ensured from the international assistance.	EUR 19.239 mil compared to the BAU, as conditional target (WAM scenario). This can be achieved only with the international financial, technical and capacity building assistance.
(f)	Information on sources of data used in quantifying the reference point(s)	GHG inventories presented in the 2BUR and available at the Serbian Environmental Protection Agency (SEPA)	
(g)	IPCC methodologies and metrics used for estimating anthropogenic greenhouse gas emissions and removals	In line with the Guidelines for National Greenhouse Gas Inventories prepared by the IPCC, and adopted by the COP, including removals by LULUCF. Current GHG inventories are compliant with Decision 24/CP.19, including 2006 IPCC Guidelines for National Greenhouse Gas, IPCC 2013 KP Supplement) and the 2013 Supplement to the 2006 IPCC Guidelines for the National Greenhouse Gas Inventories: Wetlands (IPCC 2013 Wetlands Supplement)	

		The metrics used for the total GHG emissions and removals is the Global Warming Potentials of a 100-year time horizon which were presented in the IPCC Fourth Assessment Report. These methodologies are subject to change depending on the progress of future international negotiations on estimating and accounting rules.
(h)	Information on the circumstances under which the values of the reference indicators could be updated	The national total GHG emissions in base year may be updated and recalculated due to methodological improvements. In addition, changes in GDP and other macro-economic parameters may lead to changes of activities that have impact on the GHG levels. Any updated information will be included in the Biennial Transparency Report.
Time frames and/or periods for implementation		
(a)	Time frame and/or period for implementation, including start and end date	01.01.2021 – 31.12. 2030
(b)	Whether it is a single-year or multi-year target	It is single-year target in 2030.
Scope and coverage		
(a)	General description of the target	Economy-wide target in 2030 Being the EU Candidate country and the Energy community treaty contracting party, Serbia's enhanced nationally determined contribution goes significantly beyond the first NDC target.
(b)	Sectors, gases, categories and pools covered	Sectors: Energy, LULUCF, agriculture, land-use, land-use change and forestry, and waste Gases: Carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), sulphur

		hexafluoride (SF6) and nitrogen trifluoride (NF3). LULUCF is not included in the GHG emission reduction target due to insufficient quality of activity data and inventories, which are necessary for accurate determination of activities and resulting GHG emission reduction. LULUCF was not included in the first NDC.
(c)	How the Party has taken into consideration paragraphs 31(c) and (d) of decision 1/CP.21;	All relevant information are included in the 2BUR and SEPA database
(d)	Mitigation co-benefits resulting from Parties' adaptation actions and/or economic diversification plans, including description of specific projects, measures and initiatives of Parties' adaptation actions and/or economic diversification plans.	*Adaptation related information will be included in updated version of this document*
Planning processes		
(a)	Information on the undertaken planning processes	GHG emission reduction target in this NDC is determined by the Low Carbon Development Strategy, while its achievement is defined by an accompanying Action Plan, which is also presented in Second BUR. Even the process of revision of the NDC started in June 2020, process of planning and preparation of revised NDC is a result of consultations which took place during the development of the LCDS and Second BUR. Consultations included 15 events with app. 40 participants per event representing governmental institutions, public and private companies, NGOs, scientific and research institutions. Gender equality was considered

		during the preparation and realization of these events (*gender related information will be included in final draft of NDCs revision*). The NDC planning and revision took into account obligations resulting from the EU accession process as well as national circumstances and capacities.
(b)	Domestic institutional arrangements, public participation and engagement with local communities and indigenous peoples, in a gender-responsive manner	Ministry in charge for environment is national entity responsible for coordinating climate change policies and implementation of measures and for the reporting to the International community. The LCC defines roles and responsibilities of other parties as well as procedures relevant for mitigation and adaptation on the national and local level. LCDS Action Plan, among else, defines responsible institutions for implementation of each specific measure and action and indicators for monitoring of achievement of targets, and therefore achievement of targets of revised NDC. Following the international and certain provisions of the EU legislation, involvement of the broad range of stakeholders was ensured through public consultation process, working groups responsible for preparation of the NDC, as well as on-line surveys and questionnaires.
(c)	Contextual matters, including, inter alia, as appropriate:	
	(i) National circumstances, such as geography, climate, economy, sustainable development, and poverty eradication;	Republic of Serbia is non-Annex I Party to the UNFCCC with energy production mostly based on national, low caloric value coal. Detailed information provided in the Second BUR.

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<td>(ii) Best practices and experience related to the preparation of the NDC;
(iii) Other contextual aspirations and priorities acknowledged when joining the Paris Agreement.</td>
<td>Lessons learned from the NDC preparation process show that no matter how long-lasting and transparent this process may be, it leaves the possibility of additional involvement of interest groups and individuals and provides a good basis for raising the awareness on the importance of combating climate change. Achievement of the Paris Agreement goals is of key importance for Serbia from the perspective of reduction of losses and damages due to global warming. Assessment shows a significant decrease of the Serbian GDP compared to the potential that would have been achieved in the absence of global warming and without adaptation as shown in the table below (in USD and %):
<table>
<tr><th>Increase of temperature for:</th><th>2020-2040.</th><th>2040-2100.</th></tr>
<tr><td>1°C</td><td>15,465 (1,20%)</td><td>328,899 (4,74%)</td></tr>
<tr><td>2°C</td><td>58,124 (4,53%)</td><td>708,193 (10,2%)</td></tr>
<tr><td>3°C</td><td>59,107 (4,97%)</td><td>831,296 (12,88%)</td></tr>
<tr><td>4°C</td><td>97,536 (6,87%)</td><td>1.904,874 (18,46%)</td></tr>
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<td>(d)</td>
<td>Specific information applicable to Parties, including regional economic integration organizations and their member States, that have reached an agreement to act jointly under Article 4, paragraph 2, of the Paris Agreement, including the Parties that agreed to act jointly and the terms of the agreement, in accordance with Article 4, paragraphs 16–18, of the Paris Agreement;</td>
<td>Not applicable</td>
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(d)	How the Party's preparation of its NDC has been informed by the outcomes of the global stocktake, in accordance with Article 4, paragraph 9, of the Paris Agreement	During COP 24, high-level representatives of the Delegation of the Republic of Serbia participated in the Talanoa Dialogue round-tables. In May 2018, in cooperation with the European Commission, an EU – Serbia Talanoa high-level conference was organized, supporting the involvement of a broad range of public and private actors (including public and private companies) in development of NDC and combating climate change. In the future revisions of the NDC, conclusions and findings of the Global stocktake to be held in 2023, will be taken into account.
(e)	Each Party with an NDC under Article 4 of the Paris Agreement that consists of adaptation action and/or economic diversification plans resulting in mitigation co-benefits consistent with Article 4, paragraph 7, of the Paris Agreement to submit information on How the economic and social consequences of response measures have been considered in developing the NDC.	*Adaptation related information will be included in updated version of this document*
Other information		
(a)	How the Party considers that its nationally determined contribution is fair and ambitious in the light of its national circumstances	As a developing country under the UNFCCC, Serbia already reduced its GHG emissions in 2018 by 0,87% (62.683 ktCO2eq) compared to 2010 levels. NDC of the Republic of Serbia is part of the long-term GHG emission reduction vision by the year 2050 in compliance with the Paris Agreement long-term goals.

		Additionally, Serbia is facing huge GDP losses due to global warming, as presented above. *L&D data will be included in the updated version of this document*
(b)	Assumptions and methodological approaches used for accounting for the implementation of policies and measures or strategies in the nationally determined contribution	Information are available in the 2BUR and in case of changes, updated information will be presented within the Biennial Transparency Report.
(c)	Potential Barriers, challenges and gaps related to the implementation	Lack of financial resources, especially due to COVID-19 situation and, potentially, further loss and damages due to extreme weather events and natural disasters and their impacts on the GDP growth and reallocation of investments, could interfere with the achievement of the GHG emission target. Additional burden could be: lack of capacities of key actors for efficient use of new technologies and practices and meeting the market demands for products with reduced carbon footprint (reduced GHG emissions in the production process).
(d)	Assumption and methodologies	Specific assumptions and methodologies available in the 2BUR and where relevant, will be applied in Biennial Transparency Report.
(c)	How Article 4, para 3 was taken into account;	Considering that under the first NDC, GHG emission reduction target was 9,8%, while the revised NDC sets a GHG emission reduction target of 33,3% in 2030 compared to 1990, the new GHG emission reduction target represents significant increase of ambition.
	How Article 4, para 4 was taken into account;	Not applicable

(e)	How Article 4, para 6 was taken into account;	Not applicable
(e)	How the NDC contributes towards achieving the objective of the Convention as set out in its Article 2; How the NDC contributes towards Article 2, paragraph 1(a), and Article 4, paragraph 1, of the Paris Agreement.	Even though Republic of Serbia is a non-Annex I Party to the UNFCCC vulnerable to climate change, significant increase of ambition in the Second NDC contributes to the achievement of the objective of the Convention, namely stabilization of GHG concentrations in the atmosphere.
	Finance, technology and capacity-building needs, including investment needs, related to mitigation component of nationally determined contributions	Detailed information provided in the Second BUR. In particular, it should be noted that Serbia is ready for additional/conditional ambition, pending the financial, technical and capacity building assistance.

ANNEX II

Specific projects, measures, and activities to be implemented - NDC Implementation Plan

Specific projects, measures, and activities to be implemented to contribute to mitigation	Description of actions that will lead to the achievement of the NDC is provided in the 2BUR. These actions are: 1) Introduction of CO2 tax Sectors: Energy, IPPU 2) Increasing the RES use in energy production Sector: Energy 3) Improving energy efficiency and increasing use of CHP and RES in district heating systems Sector: Energy 4) Increasing use of RES and energy efficiency in the industry Sector: IPPU 5) Improving thermal integrity of households

	Sector: Residential sector 6) Energy efficiency, improvement of heating and cooling infrastructure and promotion of use of RES in households Sector: Residential sector 7) Improving energy efficiency and use of RES in the Tertiary sector Sector: Residential sector 8) Improving thermal integrity in the Tertiary sector Sector: Residential sector 9) Renewal of the passenger fleet and promotion of sustainable passenger transport Sector: Road transport 10) Renewal of the freight fleet and promotion of sustainable freight transport Sector: Road transport 11) Awareness raising on benefits of Winter cover crops Sector: Agriculture 12) Potentials in increase of legume share in fodder area Sector: Agriculture 13) Afforestation Sector: LULUCF 14) Conversion of coppice to high forest Sector(s): LULUCF
Specific projects, measures and activities to be implemented to contribute to mitigation co-benefits, including information on adaptation plans that also yield mitigation co-benefits, which may cover, but are not limited to, key sectors, such as energy, resources, water resources, coastal resources, human settlements and urban planning, agriculture and forestry; and economic diversification actions, which may cover,	*Adaptation related information will be included in updated version of this document*

but are not limited to, sectors such as manufacturing and industry, energy and mining, transport and communication, construction, tourism, real estate, agriculture and fisheries	
Specific projects, measures and activities to be implemented to contribute to mitigation	*Adaptation related information will be included in the updated version of this document*

ANNEX III

Specific projects, measures and actions required for the achievement of Serbia's NDC, – NDC implementation plan, based on the Action plan for implementation of the LCDS and 2BUR

Mitigation action 1	**Introduction of CO2 tax**
Description:	The introduction of CO_2 tax for plants above a certain size in: ○ power and heat generation ○ energy-intensive industry sectors including oil refineries, production of steel and iron, aluminum, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals ○ production of nitric, adipic and glyoxylic acids and glyoxal CO2 tax shall start gradually increase from 2022.
Indicators:	Reduction of GHG emission by 15%
Type of instrument:	Financial, regulatory
Status:	Planned
Sector(s) affected:	Energy, IPPU
Gases affected:	CO_2, N_2O
Start year of implementation:	2022
Implementing entity(ies)	Ministry for Environmental Protection

	Ministry of Finance
Costs:	Preparatory (start-off)[4]: 1.6 Mio€ Additional investment costs[5] for investors[6]: 279.3 Mio€
Non-GHG mitigation co-benefits:	Improve air quality Improve resource efficiency Reduce negative impacts on health
Information on interactions of mitigation actions:	Support to realization of the Mitigation action 2
GHG emission reductions (in 2030 (single year) compared to WOM	6,942 $ktCO_2$ (combined mitigation impact with Mitigation action 2)
Target year or period:	2030
Other year:	Achievement will be yearly monitored, and corrective measures made in 2025, if necessary

Mitigation action 2	**Increasing the RES use in energy production**
Description:	In order to increase share of RES in energy system, that is mostly based on the coal, the Government will continue to incentives use of RES for energy and heat production. The feed in tariff system currently in place in Serbia needs to be updated.
Indicators:	Reduction of GHG emissions by 17%
Type of instrument:	Incentive, Financial, Regulatory
Status:	On-going
Sector(s) affected:	Energy

[4] All relevant preparatoy costs for insitutional enforcement and administrative preparation and management of the measure

5 Costs additional than those for the BaU

[6] For the purpose of cost estimates, costs have been allocated to the one who makes the investment, irrespective of its capacity to pass the costs of the investment down the value chain to consumers and irrespective of any public subsidies or incentives it received. Investors have been considered to represent companies, public or private and farmers; consumers represent households and state represents state investments from state budget.

Gases affected:	CO_2, CH_4, N_2O
Start year of implementation:	From 2009
Implementing entity or entities:	Ministry of Mining and Energy
Costs:	Preparatory (start-off): 2Mio EUR The additional investment costs for investors: 635Mio EUR.
Non-GHG mitigation co-benefits:	Improve air quality Reduce impacts on health Increase number of green jobs
Information on interactions of mitigation actions:	Support to realization of the Mitigation action 1
GHG emission reductions (in 2030 (single year) compared to WOM	4,397 $ktCO_{2e}$ (combined mitigation impact with Mitigation action 1)
Target year or period:	2030
Other year:	Achievement will be yearly monitored, and corrective measures made in 2025, as appropriate

Mitigation action 3	**Improving energy efficiency and increasing use of CHP and RES in district heating systems**
Description:	Different analysis as well as Energy development Strategy underline a large potential for CHP in district heating systems and in industry. There is potential for increase of share of electricity production from CHP in gross electricity production to 5.5 % in 2030 (4.0 % in 2015). In order to achieve that potential incentives shall be introduced.
Indicators:	Reduction of GHG emissions by 17%
Type of instrument:	Incentive, Financial, Regulatory
Status:	Planned

Sector(s) affected:	Energy
Gases affected:	CO_2
Start year of implementation:	2020
Implementing entity or entities:	Ministry of Mining and Energy
Costs:	Preparatory costs (start-off): 1.5 Mio. EUR The additional investment costs for investors: 115.2 Mio EUR,
Non-GHG mitigation co-benefits:	Improve Air quality, health benefits
Information on interactions of mitigation actions:	Realization of the Mitigation action 1 is going to support achievement of goals of this action
GHG emission reductions in 2030 (single year) compared to WOM	Included in Mitigation measure 1
Target year or period:	2030
Other year:	Achievement will be yearly monitored, and corrective measures made in 2025, as necessary

Mitigation action 4	**Increasing use of RES and energy efficiency in the industry**
Description:	The industrial sector will have to promote and implement energy efficiency projects and employ best available technology (BAT) to retain its competitive advantage. Also, use of RES has significant role in that regard and it shall be at the level of 282 ktoe in 2030 (126 ktoe in 2015). Subsidies shall be introduced to support such improvements.
Indicators:	Reduce GHG emissions by 9.7%
Type of instrument:	Regulatory, Incentive, Financial

Status:	Planned
Sector(s) affected:	Manufacturing industry
Gases affected:	CO_2, CH_4, N_2O
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Mining and Energy
Costs:	Preparatory costs (start-off): 2.5 Mio. € The additional investment costs for investors: 694.2 Mio EUR
Non-GHG mitigation co-benefits:	Improve of air quality Attract use of cleaner technologies Improve work conditions Reduce utility bills
Information on interactions of mitigation actions:	This measure is part of the other regulatory measures such as penetration best available technology (BAT) to retain its competitive advantage and indirectly benefit from carbon taxation introduced through Mitigation action 1
GHG emission reductions (in 2030 (single year) compared to WOM	715 $ktCO_2$ in 2030
Target year or period:	2030
Other year:	Achievement will be yearly monitored and corrective measures made in 2025, as necessary

Mitigation action 5	Improving thermal integrity of households
Description:	There is an estimate that 85% of current buildings do not fulfil minimum energy efficiency requirements. Increase of EE in households shall contribute to achievement of energy consumption, excluding electricity, of 81 kWh/m^2 (in 2015 it was 90 kWh/m2) per m^2 of housing stock in 2030, In order to reduce the GHG emissions but also to directly contribute to

	improvement of a quality of life of Serbian inhabitants, financial support shall be ensured through Energy Energy Efficiency fund.
Indicators:	Reduce GHG emissions by 9.7%
Type of instrument:	Regulatory, Incentive, Financial, informational-educational; Organizational-governance-institutional
Status:	Planned
Sector(s) affected:	Residential sector
Gases affected:	CO_2
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Mining and Energy
Costs:	Preparatory (start-off): 3 Mio EUR, of which 2 Mio. EUR for establishing independent advice network for citizens. The additional investment costs for consumers: 1,730.1 Mio EUR
Non-GHG mitigation co-benefits:	Improve air quality Reduce utility bills
Information on interactions of mitigation actions:	Implementation of this measure is incremental for the reduction of costs associated with Mitigation action 6
GHG emission reductions (in 2030 (single year) compared to WOM	220 kt CO_2
Target year or period:	2030
Other year:	-

Mitigation action 6	Energy efficiency, improvement of heating and cooling infrastructure and promotion of use of RES in households
Description:	A large share of single-family houses predominantly use old inefficient boilers on coal and wood biomass. Combustion causes high specific CO_2 emissions. Coal and biomass use in inefficient boilers emits PM 2.5, which has adverse effects on health. More efficient boilers reduce fuel use, while decreasing emissions. It is assessed that up to 41,000 boilers and heat pumps could be supported with subsidies in the 2022-2030 period. This will result by decrease of average CO_2 emissions per amount of fuel used in households, excluding electricity, to 11.3 tCO_2/TJ
Indicators:	Reduce GHG emissions by 9.7%
Type of instrument:	Regulatory, Incentive, Financial, informational-educational
Status:	Planned and partially adopted
Sector(s) affected:	Residential sector
Gases affected:	CO_2, N_2O
Start year of implementation:	2022
Implementing entity or entities:	Ministry of Mining and Energy
Costs:	Preparatory (start-off): 2 Mio EUR The additional investment costs for consumers: 81.4 Mio EUR.
Non-GHG mitigation co-benefits:	Improve life conditions Reduce health pressures Reduce utility bills
Information on interactions of mitigation actions:	Interaction with Improving thermal integrity of households will lead to significant and reasonable investment and action of the GHG emission reduction - Mitigation action 5
GHG emission reductions (in 2030	Included in **Mitigation action 5**

(single year) compared to WOM	
Target year or period:	2030
Other year:	-

Mitigation action 7	Improving energy efficiency and use of RES in the Tertiary sector
Description:	Measure shall contribute to reduction of energy consumption (including electricity) and replacement of fuels with zero or lower emitting fuels for heating purposes. Reduction of consumption of solid fuels shall be for 63 ktoe in 2030/
Indicators:	Reduce GHG emissions by 9.7%
Type of instrument:	Regulatory, Incentive, Financial
Status:	Planned
Sector(s) affected:	Tertiary sector (the tertiary sector includes buildings in the public and private serviceand in the agriculture sectors
Gases affected:	CO_2, N_2O
Start year of implementation:	2021
Implementing entity or entities:	Administration for Joint Services of the Republic Bodies, Ministry of Mining and Energy, Ministry of Construction, Transport and Infrastructure, Ministry of Finance, Local communities and other Institutional and Commercial entities
Costs:	Preparatory costs (start-off): 2 Mio EUR The additional investment costs (mainly for the state): 94.4 Mio EUR.
Non-GHG mitigation co-benefits:	Improve quality of services Reduce utility bills "Greening" of the local economy

	Improve work conditions
Information on interactions of mitigation actions:	Strong interaction with improving of the thermal integrity of tertiary buildings (Mitigation action 8) in order to achieve significant GHG emission reduction and sustainable investment
GHG emission reductions (in 2030 (single year) compared to WOM	365 kt CO_2
Target year or period:	2030
Other year:	-

Mitigation action 8	Improving thermal integrity in the Tertiary sector
Description:	Improving thermal integrity (insolation) of the tertiary sector buildings, reduces heating and cooling needs, contributing significantly to energy efficiency gains. Measure assumes 5.8 Mio m^2 of tertiary sector public buildings deeply renovated. Consequently, energy costs as well as investment costs in heating and cooling infrastructure are reduced.
Indicators:	Reduce GHG emissions by 9.7%
Type of instrument:	Regulatory, Incentive, Financial
Status:	Planned
Sector(s) affected:	Other sector – Tertiary Sector
Gases affected:	CO_2, N_2O
Start year of implementation:	2022
Implementing entity or entities:	Administration of Joint Services of the Republic Bodies, Ministry of Mining and Energy, Ministry of Construction, Transport and Infrastructure, Ministry of Finance, Local communities and other Institutional and commercial entities
Costs:	Preparatory (start-off): 1 Mio EUR

	The additional investment costs (mainly at the state level): 168.7 Mio EUR
Non-GHG mitigation co-benefits:	Improve quality of life Reduce utility bills "Greening" of the local economy
Information on interactions of mitigation actions:	Interaction with measure "Improving Energy efficiency and use of RES in the Tertiary sector" (Mitigation action 7)
GHG emission reductions (in 2030 (single year) compared to WOM	Included in the measure "Improving Energy efficiency and use of RES in the Tertiary sector" (Mitigation action 7)
Target year or period:	2030
Other year:	-

Mitigation action 9	**Renewal of the passenger fleet and promotion of sustainable passenger transport**
Description:	This measure include three areas of actions: Efficiency improvement of vehicle stock and usage of vehicles, Promotion of public transport and non-motorized transport and Promotion of usage of alternative fuels and biofuels aiming to: foster the penetration of low-CO_2 passenger cars through relevant adjustment of legal framework and increased incentives, to increase the use of public transportation. This will contribute to limitation to the GHG emissions growth by 2030 and preparation of a legal framework to allow and support the 2nd generation of biofuels to penetrate into Serbia's transport fuel market
Indicators:	Limit GHG emissions growth in transportation sector by 10%
Type of instrument:	Regulatory, Organizational-Governance-Institutional, Incentive
Status:	Planned
Sector(s) affected:	Road Transport

Gases affected:	CO_2, , N_2O
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Construction, Transport and Infrastructure
Costs:	Additional investment costs for consumers: 2262.9 Mio EUR.
Non-GHG mitigation co-benefits:	Improve air quality Reduce impacts on health Additional reduction in PM2,5
Information on interactions of mitigation actions:	Action shall be realized in combination with Mitigation action 10
GHG emission reductions (in 2030 (single year) compared to WOM	752 kt CO_2
Target year or period:	2030
Other year:	-

Mitigation action 10	**Renewal of the freight fleet and promotion of sustainable freight transport**
Description:	Freight transport is necessary for economic growth and normally witnessing higher growth rates than GDP. As such, in a context where Serbia's GDP will continue to grow and freight more than the GDP, it is important to find modalities to limit emissions from this source, without necessarily limiting freight and growth. Therefore, in order to support promotion of sustainable freight transport it is important to implement modulation of yearly infrastructure charges for HDVs according to CO_2 emission performance standards and implement road charging for freight vehicles based on EURO emission standard. The goal is to share freight

	transport on railways and waterways in total freight transport of 45%. For these fees needs to be ensured.
Indicators:	Limit GHG emissions growth in transportation sector by 10%
Type of instrument:	Regulatory, Organizational-Governance-Institutional
Status:	Planned
Sector(s) affected:	Road Transport
Gases affected:	CO_2, N_2O
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Construction, Transport and Infrastructure
Costs:	Additional investment costs for investors: 388 Mio. EUR,
Non-GHG mitigation co-benefits:	Improve air quality Reduce impacts on health
Information on interactions of mitigation actions:	Action shall be realized in combination with Mitigation action 9
GHG emission reductions (in 2030 (single year) compared to WOM:	156 kt CO_2
Target year or period:	2030
Other year:	-

Mitigation action 11	Awareness raising on benefits of Winter cover crops
Description:	Aawareness raising through the Agriculture Advisory Services. Measure assumes planting of winter cover crops on the area of 1.919 kha.
Indicators:	Reduce GHG emissions in agriculture by 15%

Type of instrument:	Incentive; Informational-Educational
Status:	Planned
Sector(s) affected:	Agriculture
Gases affected:	N_2O, CO_2
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Agriculture, Forestry and Water Management, Agricultural Advisory Service, Farmers
Costs:	The additional investment costs for investors associated with this measure are 76.2 Mio€
Non-GHG mitigation co-benefits:	Reduce soil erosion Increase soil fertility Increase soil and water quality Reduce pressure on biodiversity.
Information on interactions of mitigation actions:	-
GHG emission reductions (in 2030 (single year) compared to WOM	579.05 $ktCO_2eq$ of which 410.70 $ktCO_2$ are related to sequestration/
Target year or period:	2030
Other year:	-

Mitigation action 12	**Potentials in increase of legume share in fodder area**
Description:	Financial stimulations for increase of legume share for 33,000 ha compared to 2017, combined with awareness raising through the Agriculture Advisory Services.
Indicators:	Reduce GHG emissions in agriculture by 15%

Type of instrument:	Incentive, Informational-Educational
Status:	Planned
Sector(s) affected:	Agriculture
Gases affected:	N_2O, CO_2
Start year of implementation:	2021
Implementing entity or entities:	Ministry of Agriculture, Forestry and Water Management, Agricultural Advisory Service, Directorate for Agrarian Payments, Directorate for Agricultural Lland, Chamber of Commerce, Farmers,
Costs:	The additional investment costs: 3.55 Mio€
Non-GHG mitigation co-benefits:	Increase bio-fixation Reduce costs for farmers Reduce water pollution
Information on interactions of mitigation actions:	-
GHG emission reductions (in 2030 (single year) compared to WOM	14.6 kt CO_{2eq}
Target year or period:	2030
Other year:	-

Mitigation action 13	Afforestation
Description:	This measure prescribes the afforestation of 5,000 ha every year up to 2030 (and should be continued up to 2050). This requires the additional afforestation of 2,952 ha, compared to the current average level of 2,048 ha.
Indicators:	Increase the carbon sink in the Serbian by 17%

Type of instrument:	Regulatory, Incentive
Status:	Planned
Sector(s) affected:	Land use Land use Change and Forestry (LULUCF)
Gases affected:	CO_2
Start year of implementation:	2021
Implementing entity or entities:	Ministry for Agriculture, Forestry and Water Management, Research institutions, Directorate for Agrarian payments, Organizations responsible for the forest management, Private forest owners
Costs:	The additional investment costs: 35 Mio EUR
Non-GHG mitigation co-benefits:	Reduce soil erosion Increase biodiversity, Conserve rainwater Increase employment
Information on interactions of mitigation actions:	Action is combined with Mitigation action 14.
GHG emission reductions (in 2030 (single year) compared to WOM	259.1 kt CO_2
Target year or period:	2030
Other year:	-

Mitigation action 14	Conversion of coppice to high forest
Description:	This measure prescribes the annual conversion of 7,000 ha of coppice forest to high forests, in particular oak and beech coppice forests for conversion into high forest. At the present, the government is financing amelioration of forests, which also includes direct conversion of coppice forests.

	Direct conversion of coppice forests is a process consisting of clear cut of certain areas and then afforestation. This measure is available for the both State and private forests.
Indicators:	Increase the carbon sink by 17%
Type of instrument:	Regulatory, Incentives, Educational-Informational
Status:	Planned
Sector(s) affected:	Land use Land use Change and Forestry (LULUCF)
Gases affected:	CO_2
Start year of implementation:	2021
Implementing entity or entities:	Ministry for Agriculture, Forestry and Water Management, Research institutions, Organizations responsible for the forest management, Private forest owners
Costs:	The additional investment costs: 33.5 Mio EUR
Non-GHG mitigation co-benefits:	Increase biodiversity Conserve rainwater Increase employment
Information on interactions of mitigation actions:	Action is combined with Mitigation action 13
GHG emission reductions (in 2030 (single year) compared to WOM	458.4 kt CO_2
Target year or period:	2030
Other year:	-