

ANNEX 3: SUMMARY OF CLIMATE CHANGE MITIGATION MEASURES

No.	Measure	Term	Expected effect	Required budget	Possible source of financing	Responsible / support units
<b>C.1 Legal-administrative and management framework for climate policy</b>						
C.1.1	Introduction of gradual restriction of the use of high-emission fuels and open combustion heating devices	2023 for the creation of a schedule and in stages until 2030 according to the schedule in the ordinance	EE: 59 GWh/year RES: 113,6 GWh/year Emissions: 28 хил. tCO <sub>2e</sub> /year	BGN 12 thousand лв. for development	Budget of Sofia Municipality	Climate, Energy and Air Directorate
C.1.2	Gradual increase of the share of electricity from renewable energy sources to meet the needs of the public and the interdepartmental transport	2030	RES: 92,5 GWh/year Emissions: 42,8 thousand-tCO <sub>2e</sub> /year	Depending on the needs after conducting intermediate inventories of GHG emissions	Budget of Sofia Municipality	Transport and Urban Mobility Division /  Climate, Energy and Air Directorate
C.1.3	Creation of preconditions for the renovation of buildings to the highest levels of energy performance and the construction of new buildings with zero-energy consumption and plus energy buildings	2023	EE: 53,9 GWh/year RES: 33,6 GWh/ year Emissions: 19,1 thousand tCO <sub>2e</sub> /year	n.a	n.a	Architecture and Urban Planning Division /  Public Construction Division / Climate, Energy and Air Directorate
C.1.4	Reduction of the emissions factor of the heat supplied by "Toplofikacia Sofia" EAD, including taking into account the possibilities for use of renewable energy sources	2022 for the preparation of a schedule and according to it until 2030	EE: 8,4 GWh/year RES: 1,1 GWh/year Emissions: 27,1 thousand tCO <sub>2e</sub> /year	To be included in the business plan of the company.	Business plan of Toplofikacia Sofia EAD	"Toplofikacia Sofia" EAD /  Architecture and Urban Planning Division / Climate, Energy and Air Directorate

No.	Measure	Term	Expected effect	Required budget	Possible source of financing	Responsible / support units
C.1.5	Introduction of a requirement for all new municipal buildings to be built up to the "nearly zero energy building" level	2022	EE: 0,5 GWh/year RES: 0,2 GWh/year Emissions: 0,1 thousand tCO <sub>2e</sub> /year	n.a	Budget of Sofia Municipality	Public Construction Division
C.1.6	Provision of access to the data for the actual annual mileage and the fuels used by the registered vehicles on the territory of the municipality	2023	See measure C.1.7	n.a	n.a	Climate, Energy and Air Directorate
C.1.7	Creation of favorable conditions for the construction of "green" electric charging stations, including through public-private partnerships	2023	EE: 190,3 GWh/year RES: 60,1 GWh/year Emissions: 49,5 thousand tCO <sub>2e</sub> /year	n.a	n.a.	Transport and Urban Mobility Division /  Climate, Energy and Air Directorate
C.1.8	Creation of a local eco-label/certificate and rules for the buildings, using renewable energy, awarding	2023	EE: 33,2 GWh/year RES: 33,2 GWh/year Emissions: 14,6 thousand tCO <sub>2e</sub> /year	BGN 8 thousand	Budget of Sofia Municipality	Climate, Energy and Air Directorate
C.1.9	Creation of procedures, rules and model for the construction of heat pump installations that utilize the heat of shallow waters, geothermal energy and the energy of the sewerage systems wastewater	2022	See measure C.3.3	BGN 50 thousand	Budget of Sofia Municipality	Architecture and Urban Planning Division
C.1.10	Creation of rules and a model of public-private partnership to ensure the wider penetration of RES in the municipal building stock	2022	See measure C.1.8	18 thousand лв.	Budget of Sofia Municipality	Climate, Energy and Air Directorate /  Public Construction Division / Architecture and Urban Planning Division

No.	Measure	Term	Expected effect	Required budget	Possible source of financing	Responsible / support units
C.1.11	Introduction of a system of incentives to increase the separate collection of municipal waste at source	2022	See measure C.3.11	BGN 20 thousand	Budget of Sofia Municipality	Waste Management Directorate
<b>C.2 Improvement of the climate change mitigation activities management</b>						
C.2.1	Creation of spatial map of RES sites by type of technology	2023	See measure C.1.8	BGN 50 thousand	Budget of Sofia Municipality / EUKI	Climate, Energy and Air Directorate/ OP „Sofiaplan“
C.2.2	Practical guide preparation related to the regulatory and other requirements and principles for the establishment of renewable energy communities	2022	See measure C.1.8	BGN 30 thousand	Budget of Sofia Municipality / EUKI	Climate, Energy and Air Directorate
C.2.3	Establishment of a unified register for the energy performance of the new buildings on the territory of Sofia Municipality, including the production of energy from renewable sources	2022	Existence of a rich database for assessments and analyzes related to energy efficiency, the use of energy from renewable sources and greenhouse gas emissions in the building sector	BGN 30 thousand	Budget of Sofia Municipality	Architecture and Urban Planning Division / District administrations
C.2.4	Expansion of the system for food waste separate collection	2024	See measure C.3.11	BGN 50 thousand	Budget of Sofia Municipality	Waste Management Directorate
C.2.5	Introduction of a system for data collection on the morphological composition of the waste entering the landfills for accurate greenhouse gas emissions calculation	2024 and every two years	See measure C.3.11	BGN 30 thousand per study	Budget of Sofia Municipality	Waste Management Directorate/ Climate, Energy and Air Directorate

<b>C.3 Investment measures to reduce the green gas emissions and/or to increase the share of renewable energy used</b>						
C.3.1	Residential buildings renovation	2021 – 2026	EE: 48,6 GWh/year RES: 1,2 GWh/year Emissions: 14,8 thousand tCO <sub>2e</sub> /year	BGN 144 mil.	Recovery and Resilience Plan	District administrations / Architecture and Urban Planning Division / Climate, Energy and Air Directorate /
C.3.2	Gradual renovation of the residential buildings to the highest cost-effective levels	2025 – 2030	EE: 241 GWh/year RES: 22,8 GWh/year Emissions: 84,6 thousand tCO <sub>2e</sub> /year	BGN 600 mil.	Existing financial instruments and co-financing by owners / loans  Regional Development Program, Priority 1. Integrated urban development	Architecture and Urban Planning Division /  District administrations / Climate, Energy and Air Directorate / Finance and Healthcare Division
C.3.3	Gradual certification and energy renovation of the municipal buildings to the highest cost- effective level	2022 – 2030	EE: 33 GWh/year RES: 8,7 GWh/year Emissions: 7,2 thousand tCO <sub>2e</sub> /year	60 млн. лв.	Regional Development Program, Priority 1. and equity by Sofia Municipality / BgEERSF/ NTEF / RRP / FMEEA / ESCO	Public Construction Division / District administrations / Climate, Energy and Air Directorate
C.3.4	Implementation of renewable energy installations in already renovated municipal buildings	2021 – 2030	EE: 0,9 GWh/year RES: 0,9 MWh/year Emissions: 0,4 thousand tCO <sub>2e</sub> /year	1 мил. лв.	Regional Development Program and equity by Sofia Municipality / BgEERSF/ NTEF / RRP / FMEEA /	Public Construction Division / District administrations / Climate, Energy and Air Directorate
C.3.5	Introduction of a system for monitoring the energy and water consumption, including that from renewable energy sources and street lighting	2022 – 2030	Existence of a rich database for assessments and analyzes related to energy efficiency, the use of energy from renewable sources and greenhouse gas emissions in the building sector EE: 3 GWh/year RES: 0,5 MWh/year Emissions: 1,2 thousand tCO <sub>2e</sub> /year	Gradual financing – BGN 60 thousand initially for the system and the buildings in which there are already installations and for pilot buildings; BGN 2.4 million for the creation of a platform for digitalization and monitoring of buildings, providing for the gradual expansion of the scope and the	Budget of Sofia Municipality / RRP / FMEEA	Information Technology Directorate /  Public Construction Division / District administrations / Climate, Energy and Air Directorate

				buildings connected to the system		
C.3.6	Implementation of pilot and demonstration projects for the construction of zero-energy and plus energy buildings	2027-2030	EE: 0,3 GWh/year RES: 0,3 GWh/year Emissions: 0,1 thousand tCO <sub>2e</sub> /year	BGN 5 mil.	Regional Development Program, Priority 1 and equity by Sofia Municipality	Public Construction Division / District administrations / Climate, Energy and Air Directorate
C.3.7	Pilot areas development with zero-energy consumption and transition to plus energy consumption	2022 - 2030	EE: 12 GWh/year RES: 4 GWh/year Emissions: 3,1 thousand tCO <sub>2e</sub> /year	BGN 2 mil. for urban planning solution, infrastructure design, development of incentive mechanisms and investment mediation	Regional Development Program, Priority 1 / Environment Program – Priority 5 and equity by Sofia Municipality / INVEST EU	Architecture and Urban Planning Division / Climate, Energy and Air Directorate /
C.3.8	Gradual replacement of the fleet of the interdepartmental transport with electric ones	2021 – 2030	EE: 0,4 GWh/year RES: See measure C.1.2 Emissions: 0,1 thousand tCO <sub>2e</sub> /year	BGN 3 mil.	Budget of Sofia Municipality	Transport and Urban Mobility Division / District administrations / Municipal enterprises / Municipal companies / Climate, Energy and Air Directorate
C.3.9	Gradual replacement of the street lighting fixtures with LED ones	2021 – 2030	EE: 12 GWh/year Emissions: 5,4 thousand tCO <sub>2e</sub> /year	BGN 30 mil.	RRP / Regional Development Program, Priority 1 and equity by Sofia Municipality / FMEEA	Transport and Urban Mobility Division
C.3.10	Gradual replacement of the liquid fuel-fired boilers with heat pump or gas/pellets boilers	2021 – 2030	EE: 1,6 GWh/year RES: 1,6 GWh/year Emissions: 0,4 thousand tCO <sub>2e</sub> /year	BGN 2 mil.	Budget of Sofia Municipality / BgEERSF/ NTEF / RRP / FMEEA	Public Construction Division
C.3.11	Introduction of a system for separate collection of bio-waste from households	For development – 2023 For introduction of the system –	11 thousand tCO <sub>2e</sub> /year	For development – BGN 200 thousand. For implementation (50 thousand households/year) – BGN 2,5 mil./year	Environment Program – Priority 2 / Budget of Sofia Municipality	Waste Management Directorate

		gradually from 2024 to 2033				
<b>C.4 Establishment of a system for broad public involvement in the measures implementation</b>						
C.4.1	Development of the communication strategy of Sofia Municipality regarding climate change	2021	Certain systematic actions for communication with stakeholders	BGN 14 thousand for the preparation of the strategy (part of the contract for the preparation of the SEAP)	Budget of Sofia Municipality	Climate, Energy and Air Directorate
C.4.2	Implementation of communication activities to raise the public awareness, knowledge and attitudes regarding climate change mitigation	2021 – 2030	EE: 138,6 GWh/year RES: 50 GWh/year Emissions: 37,3 thousand tCO <sub>2e</sub> /year	BGN 400 thousand /year	Budget of Sofia Municipality	Climate, Energy and Air Directorate
		<b>Total:</b>	<b>EE: 836,7 GWh/year RES: 424,3 GWh/year Emissions: 346,8 thousand CO<sub>2e</sub>/year</b>	<b>BGN 871,102 mil. for the period until 2030</b>		

*\* All envisaged financial sources in the for Sustainable Energy and Climate Action Plan of Sofia Municipality 2021-2030 can be updated and changed after the approval of the programs financed by the European funds, the Recovery and Resilience Plan of the Republic of Bulgaria and other financial mechanisms.*