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THIS ACTION IS FUNDED BY THE EUROPEAN UNION

ANNEX 2

of the Commission Implementing Decision on the financing of the special measure in favour of Libya for 2022

Action Document for Support to climate change strategy and environment protection in Libya

MEASURE

This document constitutes the annual work programme in the sense of Article 110(2) of the Financial Regulation, and action plan/measure in the sense of Article 23(4) of NDICI-Global Europe Regulation

1. SYNOPSIS

1.1. Action Summary Table

1. Title OPSYS Basic Act	Support to climate change strategy and environment protection in Libya Special measure in favour of Libya for 2022 OSPYS business reference: ACT-61424 ABAC Commitment level 1 number: JAD.1050088 Financed under the Neighbourhood, Development and International Cooperation Instrument (NDICI-Global Europe)
2. Team Europe Initiative	No.
3. Zone benefiting from the action	The action shall be carried out in Libya.
4. Programming document	The situation in Libya remains unpredictable and marked by political instability and armed conflict. A declaration of crisis has been issued in 2011. It was consistently renewed since then and extended again in June 2021. A high level of flexibility and responsiveness is needed to adapt EU programmes to this volatile context. The EU has planned its cooperation since 2017 through yearly ‘Special Measures’
5. Link with relevant MIP(s) objectives/expected results	N/A
PRIORITY AREAS AND SECTOR INFORMATION	
6. Priority Area(s), sectors	410: General Environment Protection; 230: Energy; 231: Energy policy; 232: Energy generation, renewable sources; 236: Energy distribution; 14050: Waste management/disposal.
7. Sustainable Development Goals (SDGs)	Main SDG: 13 Take urgent action to combat climate change and its impacts Other significant SDGs (up to 9) and where appropriate, targets:

	<p>SDG 7. Ensure access to affordable, reliable, sustainable and modern energy for all. Targets: all targets under SDG 7;</p> <p>SDG8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all (Targets: 8.4)</p> <p>SDG 11. Make cities and human settlements inclusive, safe, resilient and sustainable. (Targets: 11.6 11.b)</p> <p>SDG 12 Ensure sustainable consumption and production patterns (Targets: 12.2 12.4 12.5 12.c)</p> <p>SDG 14. Conserve and sustainably use the oceans, seas and marine resources for sustainable development (Targets 14.1 14.2 14.3).</p> <p>SDG 15 Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss (Targets 15.3).</p> <p>SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development (Targets: 17.7 17.9 17.18 17.19).</p>			
8 a) DAC codes	<p>DAC code 410– General Environment Protection – 20%></p> <p>DAC code 2311 Energy policy and administrative management – 30%</p> <p style="padding-left: 20px;">23111 Energy sector policy, planning and administration</p> <p style="padding-left: 20px;">23112 Energy regulation</p> <p style="padding-left: 20px;">23183 Energy conservation and demand-side efficiency</p> <p style="padding-left: 20px;">232 Energy generation, renewable sources</p> <p style="padding-left: 20px;">23230 Solar energy for centralised grids</p> <p>DAC-code 14050 – Waste management / disposal 20%</p> <p>DAC-code 15110 – Public sector policy and administrative management 20%.</p> <p>DAC-code 73010 – Reconstruction, relief and rehabilitation- 10%</p>			
8 b) Main Delivery Channel @	<p>Channel 1 - Channel code</p> <p>40000: Multilateral Organisations -41100: United Nations Agency, fund or commission (UN).</p> <p>10000: Public Sector Institutions-13000: Third Country Government (Delegated co-operation).</p>			
9. Targets	<p><input type="checkbox"/> Migration</p> <p><input checked="" type="checkbox"/> Climate</p> <p><input type="checkbox"/> Social inclusion and Human Development</p> <p><input checked="" type="checkbox"/> Gender</p> <p><input type="checkbox"/> Biodiversity</p> <p><input checked="" type="checkbox"/> Human Rights, Democracy and Governance</p>			
10. Markers (from DAC form)	General policy objective @	Not targeted	Significant objective	Principal objective
	Participation development/good governance	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Aid to environment @	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Gender equality and women's and girl's empowerment	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
	Reproductive, maternal, new-born and child health	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Disaster Risk Reduction @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Inclusion of persons with Disabilities	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Nutrition @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	RIO Convention markers @	Not targeted	Significant objective	Principal objective
	Biological diversity @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Combat desertification @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Climate change mitigation @	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Climate change adaptation @	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
11. Internal markers and Tags	Policy objectives	Not targeted	Significant objective	Principal objective
	Digitalisation @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Tags digital connectivity digital governance digital entrepreneurship digital skills/literacy digital services	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	/
	<u>Connectivity @</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Tags digital connectivity energy transport health education and research	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	/
	Migration @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Reduction of Inequalities @	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	COVID-19	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	BUDGET INFORMATION			
12. Amounts concerned	Budget line: 14.020110 Total estimated cost: EUR 16 000 000 Total amount of EU budget contribution: EUR 16 000 000			

MANAGEMENT AND IMPLEMENTATION	
13. Implementation modalities (type of financing and management mode)	Project Modality Direct management through: - Procurement Indirect management with the entities to be selected in accordance with the criteria set out in section 4.3.2.

1.2. Summary of the Action

Libya is heavily susceptible to the impacts of climate change. Projected increases in temperatures, increased frequency and intensity of extreme weather conditions, declining precipitation, and rising sea levels threaten the sustainability of water supplies and pose an existential risk to coastal population centres, where around 70% of the country’s people reside. Climate change is compounding water scarcity, thereby reducing water availability for agricultural and domestic consumption. In facing these urgent needs, the Libyan institutions are in dire need to develop capacity at both organisational and expertise-development levels. A much stronger focus is needed on the governance in the three interlinked sectors Environment-Energy-Solid Waste Management. Key institutions including municipalities need to develop capacity, so to become real leaders in the formulation of strategies, legislations and policies while supported by adequate technical assistance.

With an overall objective to support Libya to combat climate change and protect its environment the action will mainly contribute to SDG 13 “Take urgent action to combat climate change and its impacts”. It will develop capacity at both organisational and expertise levels.

Building on previous contribution in the energy and solid waste management sectors, the action will enhance the alignment to European standards and utilise European know-how and norms. It will aim at triggering basic essential mechanisms conducive for coordination, awareness, and policy making processes that might be further supported in the future. A broad range of actions is suggested from technical assistance to support to the development of evidence-based policy formulation, and coordination with major international stakeholders, combined with locally driven initiatives and support to service delivery. Support to the adoption of strategies and regulations, where possible, resulting in a more conducive environment for private investments or promotion of Public-Private-Partnerships (PPP), will be provided. Supporting the integration of the renewable energy production within the current national production is an essential factor contributing to the stabilisation of the country. Providing technical assistance so to develop sustainable capacity in the gathering and analysis of reliable data will help the country to become responsive to international obligations, and will certainly contribute to institutional confidence building and inter-institutional cooperation. Further, the action’s contribution to the preservation of environment and resources through solid waste management in the framework of the promotion of the decentralisation process aims at increasing the overall recycling rate as well as introducing the concept of circularity.

2. RATIONALE

2.1. Context

Country context

With an estimated 6 million population, Libya faces many challenges transitioning to democratic rule after the 2011 revolution. It has been a decade of national division that has worsened since the national elections of 2014. Surveys reflect continued uncertainty for the country's future in recent years, with an increasing lack of public confidence in state authorities at the national and local levels, with the judicial sector providing a

remarkable exception. To date, the security sector remains fragmented, and the safety of citizens and the rule of law are not guaranteed. Public service delivery remains lacking, despite efforts to re-establish services (health, education, water, sanitation, and waste management) at the municipal level. Resumption of violence remains a high possibility given the postponement of national elections that were supposed to start with the first-ever presidential elections in December, 2021. The failure of the Libyan Government to confirm the list of eligible candidates and hence the postponement of national elections may reverse Libya's stable situation achieved since the Berlin process's initiation. Any new outbreak of violence would negatively impact the Government's capacity to deliver services to the citizens and its relations with civil society. Against this background, governance in Libya continues to face critical challenges, especially in the current unpredictable context. Libya's long-running conflict and instability have impacted the state and its capacity to reinstate itself as a credible authority with a capable central government empowered to provide services to its citizens. Yet, despite the complex reality, there have been promising signs of increased willingness by the mid-level management in Libyan ministries to improve governance and institutional capacity at the national and local levels. Examples include actions in critical sectors such as environment, energy and renewable energy and solid waste management. These go hand in hand with decentralisation, and reforms in other sectors that are vital to Libya's democratic transition and stability.

Climate change

Libya faces considerable obstacles in both adapting to global climate change and reducing its emissions. The economy is almost entirely dependent on two natural resources.

The first is its hydrocarbon reserves. Although Libya's reserves of both oil and natural gas are considerable, the fact that 87% of Libya's revenue is reliant on their production¹ makes the country highly exposed to price volatility and to the prospect of peak oil. Libya oil and gas industry has one of the world's highest rates of carbon emissions coming from the flaring and venting of methane during production and refinement. The International Energy Agency (IEA) estimates that Libya flared and leaked 2.4 million tonnes of natural gas in 2021. This is both highly damaging to the climate and a major lost economic opportunity. The United Nations Environment Programme (UNEP) estimates that this results in up to Euro 450 million in lost export revenue per annum.

The second commodity on which Libya is reliant is fossil water. Annual water demand is around one billion cubic meters, compared to annual groundwater recharge estimated at only 250 million cubic meters. The previous regime addressed water scarcity through the so called Great Man-Made River project (GMMR), which taps into non-renewable fossil aquifers in the Sahara Desert. These aquifers are now providing the vast majority of the country's fresh water supply. The UN assessed that the GMMR technical system that brings the water from South to the West and East will progressively fail from 2023 onwards, whilst parts of the Saharan aquifer will be over-extracted by 2030.

Environment

Current climatic variability in the region indicates a trend towards an increase in surface air temperature and a decrease in rainfall. Hotter and drier conditions will likely exacerbate the frequency of extreme climate events, such as sand and dust storms, droughts and heat waves and will hamper agricultural production, particularly rain-fed agriculture. Resultant accelerated desertification rates will have direct negative effects on food security and income streams.

At the local level, the Libyan communities outside of the coastal industrial cities are all extremely vulnerable to climate change and ongoing environmental degradation. With few exceptions, the economies of the inland communities rely heavily on a combination of irrigated agriculture, effectively free electricity and potable water, high levels of public sector employment and informal/illegal sectors such as smuggling fuel and migrants. Electricity blackouts and cuts in potable water are frequent and increasing, the public infrastructure is aging, and in some areas damaged by conflict and instability. In the absence of both well targeted investments and sustainability adjustments to their economies, many towns are anticipated to gradually empty

¹ <https://www.coface.com/Economic-Studies-and-Country-Risks/Libya>

out and/or resort to more destabilising activities due to a combination of climate and economic factors. Libya ratified the Paris Declaration on Climate Change² but has not yet produced “nationally determined contributions” (NDCs).

Weak capacities to collect and treat **solid waste** negatively impact the environment. Operating this essential municipal service requires integrated systems that are efficient, sustainable, and socially supported. Effective waste management is expensive, often comprising 20%–50% of municipal budgets. Since the transfer of the competence of solid waste management to municipalities, it has become clear that municipalities are struggling to make ends meet to ensure coherent service delivery.

Since the end of 2020 and following the Libyan Political Dialogue Forum Agreement in Geneva, the Government of National Unity (GNU) has been established in March 2021. Among others, a key task of the GNU has been to improve in an equitable manner service provision to the Libyan citizens across the country and to foster decentralised local governance through strengthening municipalities and local actors. The GNU has made a remarkable progress towards that aim by taking concrete decisions and actions aiming at activating local governance law #59/2012. This has resulted in the actual devolution of some competences to municipalities. The process has contributed to enable municipalities to access fiscal resources and set and collect their own revenues from the services they provide.

The EU and the international community have been supporting Libyan efforts to reform the system and improve solid waste management. Several ongoing initiatives and programmes have been working on solid waste management. The joint EU-German programme “Support to Municipalities in Libya – SML” (EU Emergency Trust Fund for Africa - EUTF) implemented by the Deutsche Gesellschaft für internationale Zusammenarbeit (GIZ) GmbH have provided an integrated approach by linking and institutionalizing nationwide decentralisation policy reforms with locally driven initiatives, technical assistance, quick impact measures, and capacity-building. The work of empowering municipalities to take over the responsibility of collection and transfer of waste management has started. Improvements have been made but they need to be fostered and institutionalised. There is also a need to promote environmental approaches and improve the solid waste management system in order to decrease the waste volume and initiate some circular economy patterns. The Ministry of Local Government (MoLG) and other key national actors have been receiving technical support, through the joint EU-German programme “Support to Municipalities in Libya”, in setting up the enabling framework for the decentralisation process and strengthening the capacities of the Ministry of Local Government and other national actors to manage, implement, and monitor decentralisation on the basis of an inclusive and strategic approach. In the national road-map and results framework that has been set forward by the MoLG, solid waste management is a key priority. Humanitarian-development Nexus opportunities will be explored, through potential synergies with DG ECHO (Directorate-General for European Civil Protection and Humanitarian Aid Operations) actions.

Energy³ is an essential component of any economic development, and electric power is a fundamental indicator of a country's economic and technological progress. Libya is currently wholly dependent on oil and natural gas to produce electricity. Against the backdrop of dwindling fossil fuel reserves, rising costs of this type of fuel, and negative environmental impacts such as air pollution, acid rain, and associated global warming impacts, renewable energy has gained much attention. Libya has a high potential for electric power generation from renewable energy, such as solar, wind, and biomass energy.

Even compared to neighbouring countries in the Middle East and North Africa (MENA) region, Libya has almost ideal natural conditions for the use of **renewable energies**. However, the sector policy framework for the promotion of renewable energies is currently underdeveloped. As a result, the country's electricity production is still 100 % based on fossil fuels. The infrastructure in the electricity sector is in a deteriorated state as a result of lack of maintenance and investment, the war, and acts of sabotage at neuralgic points of the

² Libya is Party to Paris Agreement. Date of signature: 22 August 2016. Ratified: 31 August 2021; Party to Kyoto Protocol. Date of ratification: 24 August 2006.

³ Libya National Voluntary Review 2020: <https://sustainabledevelopment.un.org/memberstates/libya>
World Bank Global Electrification Database: <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=LY>
Africa Energy Portal, Libya Country Profile: <https://africa-energy-portal.org/country/libya>

power supply network. The electricity demand can no longer be met with the existing and inadequately operated power plant park. Power cuts of up to 16 hours per day are frequent, especially during the summer. The country's drinking water supply is also at risk and repeatedly interrupted when the pumping stations cannot be operated continuously. Companies and private households operate diesel generators for emergency power supply. However, there are repeated supply shortages of diesel fuel throughout the country, even on the black markets.

The Libyan electricity sector is characterised by high state subsidies, extremely low electricity prices and a high and rapidly growing electricity consumption per inhabitant. The state-owned electricity company (**General Electric Company of Libya, GECOL**) is mainly generating energy from oil and gas. It operates with limited efficiency, transparency and accountability. GECOL has a monopoly on electricity generation, transmission and distribution, and also performs policy functions in the absence of a ministry of electricity. The electricity sector is unregulated, and losses incurred by GECOL are compensated by the state budget. There is no business planning or expansion planning of the electricity sector.

The **Renewable Energy Authority of Libya (REAOL)**⁴ has been founded in 2007, to integrate renewables in the field of power generation. To this aim, the adoption of a regulatory framework represents a prerequisite for the realisation of investments not only in the field of renewable energies (RE), but in the electricity sector in general. The Libya Renewable Energy Strategic Plan 2013-2025, released by REAOL, aims at integrating the locally available renewable energy resources with the national energy system, and at increasing the share of renewable energy in the national energy mix. The Plan seeks a 7% renewable energy contribution to the electric energy mix by 2020 and 10% by 2025. This will come from wind, concentrated solar power, photovoltaic and solar water heating.

The promotion of renewable energy through the opening of the power generation market to national and foreign investors requires the involvement and agreement of GECOL for the integration of RE projects in the grid.

Currently, the most important international development partners engaged in the RE sector are the United Nations Support Mission in Libya (UNSMIL), United Nations Development Programme (UNDP), United States Agency for International Development (USAID) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). Together with Libyan investment funds, they are currently working on a lighthouse project, in the course of which several small decentralised photovoltaic systems (approx. 5 megawatt (MW)) are to be implemented at community level along the pipelines of the Man Made River to maintain the drinking water supply (power supply to the pumping stations). The German GIZ has been funding three projects focussing on Decentralisation and local development of RE production with the aim of improving electricity supply. While UNDP and the Italian Agenzia Italiana per la Cooperazione allo Sviluppo (AICS) have been supporting the Introduction of solar technology applications in power generation at the local level. The World Bank is waiting for the adoption of key reforms to intervene in the power sector. At present, only one foreign company is active in the RE sector in Libya and is setting up decentralised, self-sufficient solar systems with Libyan partners on behalf notably of UNDP to maintain the power supply for hospitals and street lighting projects.

Some foreign oil production operators are boosting crude production, reduce flaring and spend on solar/ photo-voltaic (PV)⁵.

The International Energy Agency (IEA) proposes several cost-effective measures to reduce fugitive gas emissions in Libya by up to 71% at no net cost⁶. As Libya exports 60% of its oil and nearly all of its natural gas to the EU and as the EU has a policy to reduce upstream emissions, the EU has a direct political and economic interest to assist Libya in reducing fugitive emissions. In the absence of a bilateral cooperation agreement between the EU and Libya, the EU interest in assisting Libya with a three-pronged action targeting: Environment, Energy and solid waste management reflects four out of the five pillars of the *Geopolitical Commission: a Stronger Europe in the World*: Green deal; Alliances for Science,

⁴ <https://www.iea.org/policies/4950-law-no-426-establishing-the-renewable-energy-authority-of-libya-reaol>

⁵ <https://www.upstreamonline.com/finance/totalenergies-to-invest-billions-in-libya/2-1-1102677>

⁶ <https://www.iea.org/countries/libya#reports>

Technology; Alliances for Sustainable Growth and Jobs; and Governance, Peace and Security, Human Development⁷. The action is meant to build on the current dialogue between the Libyan authorities and the majors partners engaged in the sector. It will promote coordination and complementarity in terms of both approach and implementation.

Besides, within the framework of the Joint Communication on a Renewed Partnership with the Southern Neighbourhood and the related Joint Staff Working Document, it is reminded that joining forces to fight climate change, decrease harmful emissions, use resources sustainably and speed up the green transition are crucial. We need to prepare for long-term scenarios where new forms of low-carbon energy gradually replace fossil fuels. For this purpose, the Commission will propose to partner countries comprehensive initiatives promoting climate neutral, low carbon and renewable energy, building on key elements of the European Green Deal such as the Hydrogen Strategy⁸. Fostering investments, in energy efficiency, renewable energy and a new focus on clean hydrogen production, including through adequate regulatory and financial incentives, and the regional integration of electricity markets and networks will be priorities. This will contribute to preserving our Mediterranean common goods to the benefit of all. We will also help our partners increase their resilience to climate change by reinforcing our action on adaptation in particular in key vulnerable sectors such as agriculture and water.

2.2. Problem Analysis

Environment and climate change

Libya is heavily susceptible to the impacts of climate change. Projected increases in temperatures, increased frequency and intensity of extreme weather conditions, declining precipitation, and rising sea levels threaten the sustainability of water supplies and poses an existential risk to coastal population centres, where around 70% of the country's people reside. Climate change is compounding water scarcity, thereby reducing water availability for agricultural and domestic consumption.

Desertification is one of the most pressing environmental threats in Libya which poses risks of further loss of already limited arable land, thereby potentially impacting food security. Desertification is driven by a combination of factors, including high rates of urbanisation and overexploitation of water resources and natural vegetation. Future climate change induced sea level rises will likely increase soil salinity, further impacting agricultural production. While Libya signed the United Nations Framework Convention on Climate Change in 2015 and ratified the Paris Climate Accord in 2021, it has not submitted the requisite policies, plans or reports, such as a National Determined Contribution, National Adaptation Plans, or National Communications. Libya's vulnerability to the impacts of climate change and environmental degradation necessitates proactive measures against their potential consequences. The development and implementation of national disaster risk reduction and climate change adaptation policies and strategies can help mitigate the worst impacts of climate change, including desertification and the protection of coastal urban centres from rising sea levels.

Accelerating the adoption of sustainable forms of consumption and production, including the expansion of renewable energy production, will minimise environmental impacts across all economic sectors.

Most of Libya's available freshwater resources are concentrated in a few locations, mostly under the control of the General Haftar's Libyan Arab Armed Forces, making access to these resources a potential cause of friction in the future. Already, attacks on and threats against water infrastructures have been used as a weapon

⁷ https://ec.europa.eu/info/sites/default/files/political-guidelines-next-commission_en_0.pdf

⁸ 'A hydrogen strategy for a climate-neutral Europe' (COM (2020) 301).

of war during the recent armed conflict in Libya and more recently, including the politically motivated closure of the Man-Made River Project in August 2021 which cut supplies to an estimated 3 million people.

Declining availability of water in already arid regions, particularly in the south of the country, have the potential to trigger migration towards the north, putting additional strain on urban centres.

The protracted conflict in Libya has caused a severe decline in access to water, sanitation, and hygiene (WASH) services and facilities. Only 65% of households have access to the public water network, while just 44.7% are connected to the wastewater network. The situation has been exacerbated by frequent power cuts, a lack of fuel needed for operations, and unmaintained and damaged water infrastructure, which increases waste and threatens water supplies and sanitation services. Governance in the water sector is fragmented between several actors while a lack of data due to an absence of regular collection and information management systems, hinders effective sectoral planning and development.

There are two main sources of air pollution in Libya: 1. Natural: such as dust and sandstorms. 2. Anthropogenic: activities including stationary sources, such as thermal power generating plants and industrial parks and mobile sources including vehicles, the burning of solid wastes and the effects of water treatment projects, and emissions from various industrial processes.

The pollutants released from the air emissions sources in Libya have been estimated according to field measurements in some sectors and from published or unpublished reports for other activities. However, some industrial activities are left without evaluation due to the lack of necessary data. Most factories cannot quantify the toxic gases emissions because there are no measuring and controlling devices in their industrial units. Libya ranks 53 out of 225 in the list of countries by emissions of carbon dioxide, and ranks 41 out of 225 in the list of countries by emissions of carbon dioxide per capita⁹.

The main uncertainty results from the incomplete available data¹⁰. It is mainly due to a lack of information provided by private industrial establishment. There is no comprehensive national plan to tackle various environmental problems, including air pollution problems; no control against exceeding the permitted levels of pollutants, even from electricity or the environmental authority.

Laws have been issued in Libya for the protection of the environment. Such legislation is mostly focused on the causes of pollution. The legal framework has not been followed by implementation measures mainly for the following reasons:

1. Lack of coordination between the institutions responsible for implementing the current legislation. Overlapping of their tasks;
2. Instability of the administrative bodies and institutions.
3. Lack of public environmental awareness.
4. Lack of capacity building and training in the field of environment protection.
5. The current legislations do not address the new problems of biodiversity and Biosafety; they are outdated.

Strengthening national capacity for the implementation of international environmental obligations could also facilitate the protection of marine and terrestrial habitats and ecosystems.

Energy security and renewable energy

Electricity in Libya is made from polluting, non-renewable sources such as fossil fuel and natural gas, in spite of the country's high potential for renewable energies. In fact, electricity production is the first industrial cause of air pollution in Libya and it creates more carbon dioxide (CO₂) into the air than any other sector. The emissions of Electric power plants contribute to three major environmental issues: acid rain, urban air quality and global climate change.

⁹ <https://www.worldometers.info/co2-emissions/libya-co2-emissions/>

¹⁰ Research & Reviews: Journal of Ecology and Environmental Sciences. *Air Pollution Sources in Libya* by Yasser F Nassar, 2017 Faculty of Engineering and Technology Mechanical Engineering Department Sebha University, Brack, Libya.

The country's electricity production is still based entirely on fossil fuels due to rich oil and natural gas deposits. However, the electricity demand can no longer be met with the existing and inadequately operated fossil power plant park. Of the currently installed power plant capacity of approximately 10 Giga-Watts (GW), only a maximum of 5 GW is currently available. The reasons for this are not only the partially destroyed infrastructure, but also supply shortages of energy sources (especially natural gas) as well as mismanagement in operation and maintenance. Demand, on the other hand, is currently around 7.5 to 8 GW.

The Libyan electricity sector is generally characterised by high state subsidies (up to five billion US dollars annually), extremely low electricity prices, an enormously high and rapidly growing electricity consumption per inhabitant (up to five times higher than in neighbouring countries) and an inefficient and highly loss-making state-owned electricity utility. As a vertically integrated company, the state-owned monopolistic electricity utility (General Electricity Company of Libya, GECOL) has a monopoly on electricity generation, transmission and distribution, and also performs control policy functions in the absence of a Ministry of Electricity. The electricity sector is completely unregulated, and losses incurred by GECOL are compensated by the state budget to an unlimited extent. There is no company or expansion planning for the electricity sector (especially for generation capacities) that is optimised according to operational or even economic criteria. At local level, up to now, municipalities have had no influence on the municipal power supply. Moreover, they have no formalised communication channels to GECOL, which controls the power cuts via a central control room in Tripoli. Due to the fuel shortage caused by the conflict, even diesel generators could not fill the supply gap.

Libya has not yet developed a national strategy document for the implementation of the 2030 Agenda. In 2020, the National Committee for Sustainable Development reported on progress towards achieving the SDGs through Libya's first Voluntary National Review (VNR)¹¹. However, the dire lack of available data in all sectors in Libya prevents Libya to report on SDGs in all sectors including on the climate and environment related SDGs. The conflict resilience of the Libyan electricity sector is low, and the reliable supply of basic public services to the population is not guaranteed. State actors are currently not sufficiently capable of acting and of designing feasible strategies. There is a serious deficit in terms of governance in the sector.

GECOL has so far neither been willing to realise its own (decentralised) solar power plants nor to open up the power generation market for independent solar power producers. At the same time, REAOL does not have the necessary capacities and personnel skills to drive this opening for their part or to develop suitable promotion policy and regulatory proposals for the introduction of solar energy in coordination with GECOL. At the local level, on the other hand, the municipalities do not yet know their options for action to improve their electricity supply situation for the provision of basic public services. No municipality has a strategy or an integrated concept for increasing the conflict resilience of its electricity supply.

Solid waste management

Progress has been made on the transfer of competence of solid waste management to municipalities but there is still a long way to go in order to ensure a sustainable system. For example, recycling in Libya is almost non-existent, with a recycling rate of under 2%, illustrating the need to start from the basics. With the current system being built, it is important to take the opportunity to include environmental approaches in order to ensure a continuous work towards establishing a solid basis for future Zero-Waste environment as a major component of a functioning circular economy in Libya.

Further, there is currently a political will of the Ministry of Local Government to enable municipalities to carry out the task of managing solid waste. Thus providing ample opportunity to further support the establishment of a sustainable decentralised system. A lot of progress has been made in fostering decentralisation reforms, decentralised service delivery and local development, building a basis that can contribute to the stabilisation of Libya. These efforts need to continue in order to guarantee a comprehensive and sustainable decentralisation.

¹¹ <https://digitallibrary.un.org/record/3906086?ln=en>

Identification of main stakeholders and corresponding institutional and/or organisational issues (mandates, potential roles, and capacities) to be covered by the action.

Climate related issues fall under the authority of the Ministry of Environment; the Ministry of Agriculture, Animal and Marine Resources; the Ministry of Planning; the Ministry of Industry and Data; the Ministry of Water Resources; and the Minister of Oil and Gas. Libya coordinates its climate change initiatives through its National Committee for Climate Change under the Ministry of Planning with membership across various ministries, in addition to the General Electricity Company and experts in atmospheric science and climate change.

In the energy sector, the key stakeholders are experts and executives of ministries directly or indirectly involved in RE (e.g. Prime Minister's Office, Ministry of Planning, Ministry of Finance, including corresponding inter-ministerial expert committees or bodies with an advisory function) and subordinate authorities or institutions, e.g. REAOL, GECOL, the state project development company for RE (Renewable Energy Holding Company, REHC) and municipalities. The Center for Solar Energy Research and Studies (CSERS) as well as municipal representatives may play an important role in planning and drafting the regulatory framework. Furthermore, target groups include the inhabitants of partner municipalities and, in line with the Leave No One Behind (LNOB) approach, it should be ensured that particularly vulnerable and disadvantaged population groups are taken into account. This includes notably refugees, internally displaced persons as well as women affected by poverty and violence, young people and people with disabilities.

In the field of solid waste management, the key stakeholder groups are the relevant national government institutions, with the Ministry of Local Government as the leading actor for the decentralisation process, and the regulatory body of the waste management sector. In addition, relevant national institutions include the General Secretariat of the Supreme Council of Local Administration, as well as the Ministries of finance and planning. On the subnational level, key actors are the municipalities, represented by the local councils and mayors as well as the key municipal staff from environmental affairs and solid waste management departments. Furthermore, private sector actors including start-ups and Small and Medium Enterprises (SMEs), as well as civil society organisations will also be involved in the implementation of this action.

2.3. Lessons Learned

The EU involvement in electricity provision in Libya started early 2020 with a feasibility study funded by the Instrument contributing to Stability and Peace (IcSP) for a potential solar power plant in southwest Libya. In January 2021, the scope was expanded to include national level electrical grid stabilisation support and early work on national energy policy and governance. The aim was to contribute to the national stabilisation process through the prevention of energy-related conflicts. This initiative has already secured a significant impact that led to an improved performance of the Libyan national grid in the summer of 2021. It is now time to move from the sole stabilisation angle towards a more global EU approach on energy security, on energy provision and to support Libya in addressing its energy policy climate and environmental impact. To consolidate the gain of the first phase, in 2022 the EU continued the funding of technical assistance notably to support the National electricity Company (GECOL) to develop a plan of grid maintenance and secure its funding by the national budget.

The work on Solid Waste Management in Libya has received EU support since 2017 through several different projects. Under the EUTF projects include Support to Municipalities in Libya - SML I (2017-2020) & II (2021-2023), implemented by GIZ; Strengthening Local Capacity for Resilience and Recovery - SLCRR I (2018-2021) & II (2020-2023), implemented by UNDP; and Recovery, Stability and Socio-economic Development in Libya - RSSD I (2018-2022), implemented by AICS, UNDP and United Nations Children's Fund (UNICEF). Under the European Neighbourhood Instrument (ENI) the following projects have been supported: Libya Local Governance and Stabilisation Project - LGSP (2017-2019), Libya Local Pilot Projects:

strengthening local governance by supporting selected municipalities - LLPP (2018-2021), Improved Service delivery at the Local level - ISAL (2019-2022), implemented by International Cooperation Agency of the Association of Netherlands Municipalities (VNG). Adopting an integrated approach, linking and institutionalising nation-wide decentralisation policy reforms with locally driven initiatives, technical assistance, quick impact measures, and capacity-building has yielded the most sustainable outcomes.

3. DESCRIPTION OF THE ACTION

3.1. Objectives and Expected Outputs

The Overall Objective (Impact) of this action is to: ***Support Libya to combat climate change and protect its environment.***

The Specific Objectives (Outcomes) of this action are to:

- 1 Strengthen national capacity for the implementation of the international climate change agenda and environmental obligations. Improve environment and climate governance.
- 2 Improve the national energy regulation framework, inclusive of renewable energy and improve access of Libyan population to electricity;
- 3 Contribute to the preservation of environment and resources through solid waste management in the framework of the promotion of the decentralisation process.

The Outputs to be delivered by this action contributing to the corresponding Specific Objectives (Outcomes) are:

- 1 Contributing to Outcome 1 (or Specific Objective 1) *Strengthen national capacity for the implementation of the international climate change agenda and environmental obligations. Improve environment and climate governance:*
 - 1.1 The Ministry of Environment and other key ministries involved in climate change and environment protection are supported to design a national climate change strategy, and assist in the formulation of strategic documents, studies, data gathering/analysis and statistical reports. Development of action plans paving the way to a stronger EU-Libya partnership in the sectors. Libya moves forward in the definition of its Intended National Determined Contributions (INDC). Libyan authorities start implementing a response to climate mitigation and adaptation, including water scarcity and other fundamental threats deriving from climate change. Climate and environment are mainstreamed across different sectoral policies;
 - 1.2 Key departments of the different line ministries and national agencies develop technical capacity so to gather data and draft reports on climate change measures and impact. Development of technology innovation and climate change policy;
 - 1.3 Civil society's engagement in the sector of climate change is strengthened. Advocacy in favour of climate change mitigation measures and renewable energy by stakeholders is triggered all over the country. Increased participation of women in the decision making process.
- 2 Contributing to Outcome 2 (or Specific Objective 2) *Improve the national energy regulation framework, inclusive of renewable energy and improve access of Libyan population to electricity:*
 - 2.1 The electricity grids maintenance plan and capacities are further developed and strengthened. GECOL and other key institution mainstream renewable energy models in the national action plan;
 - 2.2 REAOL develops the essential capacities and human resources' skills to drive policy and regulatory proposals for the introduction of solar energy in dialogue with GECOL. Increased number of women access to positions in the chain of policy and decision making;

- 2.3 The capacities of REAOL and GECOL to carry out their respective mandates with regard to the introduction of electricity production from PV are increased. The transition to renewable energy will increase the diversity of electricity sources, and through local generation, contribute to the flexibility of the energy system and its resistance to shocks.
- 3 Contributing to Outcome 3 (or Specific Objective 3) *Contribute to the preservation of environment and resources through solid waste management in the framework of the promotion of the decentralisation process:*
- 3.1 The policy/regulatory system for solid waste management, further supporting decentralisation, is improved.
 - 3.2 Municipalities capacities to deliver solid waste management services in a decentralised context are strengthened, and the notion of circularity is introduced;
 - 3.3 The role of the private sector in solid waste management and environment and resource conservation is strengthened.

3.2. Indicative Activities

Activities related to Output 1.1- 1.3:

Technical Assistance, knowledge sharing, ad hoc expertise mobilised, workshops, studies. Bringing together experts, stakeholders and policy makers to facilitate the transfer of knowledge, the acquisition of insights and their translation into suitable decisions, policies and frameworks on energy.

Activities related to Output 2.1- 2.3: technical assistance, training, discussion fora, exchanges. Contribution to national consultations; contribution to major projects having as objective technical improvement of electricity grids and setting up of RE power plants; academic and research centres' activities in the field of innovation and technology encouraging the cooperation between private sector and research and development. Implementation will include measures ensuring inclusion of migrants and IDPs among the groups of beneficiaries. Transfer of European know-how ensuring that the latest and most applicable insights can be used in policy-making, also to align with the goals of the global energy transition.

Activities related to Output 3.1: Technical support to the Ministry of Local Government; Propositions to modernise the existing regulations including development of white papers, national studies on waste sources and recycling options, etc.; Development of policies and strategies to consolidate the basic level of solid waste management and enable the transformation to advanced levels including promotion of recycling and resource conservation approaches; Propositions for the institutionalisation of regular flows of funds for capital investment to municipalities including investments needed to upgrade the infrastructure facilities of the system; Technical assistance, ad-hoc expertise.

Activities related to Output 3.2: Support to coordination between government and municipalities; support to dialogue between civil society and local authorities; contribution to consultations, formulation of studies and launch of awareness campaigns. Development of technical standards and guides for the use of municipalities and other actors including (waste collection, waste transport, landfill management, recycling, etc.); Supporting municipalities in further improving the solid waste management operations and introducing recycling approaches including institutional support, infrastructure support, and human capacity development for relevant stakeholders; Promoting collaboration between municipalities and private sector actors in managing and processing waste sources including support to start-ups and SMEs; Exchange with EU municipalities on innovative approaches; Implementation of professional education and human capacity development program for selected municipal staff (within the national training centre established by the Ministry of Local Government).

Activities related to Output 3.3 Institutions will be supported, advised and accompanied to engage in multilateral negotiations; and catalysing public-private partnerships; Design of a national awareness raising programme ; Implementation of the programme in selected municipalities in collaboration with schools, Civil Society Organisations (CSOs), etc. Promoting collaboration between municipalities and private sector actors in managing and processing waste sources including support to start-ups and SMEs; Exploring partnerships with relevant EU actors (companies, SMEs, think tanks etc.)

3.3. Mainstreaming

Environmental Protection, Climate Change and Biodiversity

Outcomes of the Strategic Environmental Assessment (SEA) screening (relevant for budget support and strategic-level interventions)

SEA is not required but key environment and climate-related aspects will be addressed during the implementation.

Outcomes of the Environmental Impact Assessment (EIA) screening (relevant for projects and/or specific interventions within a project).

The EIA screening classified the action as Category B (not requiring an EIA, but for which environment aspects will be addressed during design). However, specific EIAs could be elaborated if needed in the course of the action implementation. The action will notably include support to the development of a more conducive environment for investments in the renewable energy sector.

Outcome of the Climate Risk Assessment (CRA) screening (relevant for projects and/or specific interventions within a project).

The CRA screening concluded that this action is high risk (further assessment might be carried out during the implantation of the action.).

Gender equality and empowerment of women and girls

As per OECD Gender DAC codes identified in section 1.1, this action is labelled as G1. The action will focus on the cultural shift needed .At present, women are almost exclusively employed in administrative and service positions throughout the male-dominated electricity sector (public and private).

A Gender Country Profile will inform all forms of contracts and actions carried out in the framework of this action. The action will support: a) increased access to employment related to the three areas of focus, which translates into increased access of women to employment in non-traditional areas; b) Increased participation of women in the decision making process, especially for the component solid waste management; c) adoption of strategies and approaches (mainly through technical assistance) that are more gender empowerment oriented at national and local level; d) acknowledgement of the work of women involved in climate change issues, to counterbalance the predominance of men in the decision making process.

The action will also focus on the intersection of gender and poverty reduction by supporting the adoption of strategies aiming at the increased access to clean energy for women responsible for the household's budget.

Human Rights

The action will adopt the rights-based approach in the three sectors of intervention. Rights of communities at risk will be analysed, taking into consideration threats to their health, food security, water, sanitation, and livelihoods.

Disability

As per OECD Disability DAC codes identified in section 1.1, this action is labelled as D1. This implies that specific actions will examine the impacts of climate change on the rights of people with disabilities and make recommendations about states' human rights obligations in the context of climate action.

The three main components of the action imply broad consultations with CSOs, non-State actors. The participatory approach will be used for the key phases of the action, also triggering a bottom-up decision making/consultation process.

Democracy

The actions implemented under outcome "2" and "3" will also focus on supporting the participatory approach in both policy making (consultations with stakeholders), and local governance.

Conflict sensitivity, peace and resilience

The action will take into account the recent past experience of attacks on and threats against electric and water infrastructures which have been used as a weapon of war. This includes for instance the politically motivated closure of the Man-Made River Project in August 2021, which cut supplies to an estimated three million people.

Declining availability of water in already arid regions, particularly in the south of the country, has the potential to trigger migration towards the north, putting additional strain on urban centres. The fact that neighbouring countries already see impacts of climate change, water scarcity, and desertification would also likely increase poverty and instability in the region, and could drive further mass migration, including into and through Libya. Addressing the emerging environmental and climate change related challenges, including water scarcity and desertification, will require significant time and resources to avert the potential of increased fragility, conflict, and humanitarian needs.

Disaster Risk Reduction

Libya's vulnerability to the impacts of climate change and environmental degradation necessitates proactive measures against their potential consequences. The development and implementation of national disaster risk reduction and climate change adaptation policies and strategies can help mitigate the worst impacts of climate change, including desertification and the protection of coastal urban centres.

Various measures will be needed to address and to ensure equitable and stable access to electricity and water for domestic and economic purposes.

Accelerating the adoption of sustainable forms of consumption and production, including the expansion of renewable energy production, will minimise environmental impacts across all economic sectors. Climate smart agricultural methods should reduce the overuse of water resources and other environmentally damaging practices that contribute to soil erosion and desertification, which further impact productive sectors and food security. Strengthening national capacity for the implementation of international environmental obligations could also facilitate the protection marine and terrestrial habitats and ecosystems.

3.4. Risks and Assumptions

Category	Risks	Likelihood (High/ Medium/	Impact (High/ Medium/	Mitigating measures
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		Low)	Low)	
Risk related to external environment.	Security problem all over the country. Deterioration of the conflict. Limited access to main cities to implementing partners.	M	H	Working by proxy, and maintain the contact to a maximum extent with Libyan key institutions.
	Dependence of the EU on external partners for the coordination with line ministries and the implementation of activities.	L	M	Ensure coordination and timely information sharing with Libyan stakeholders and major potential implementing partners already engaged in climate change and energy sectors
	Lack of clear repartition of competence between the central government and municipalities over solid waste management.	M	H	Constant monitoring and contact with both municipalities and implementing partners.
	Limited decision-making autonomy of municipal governments, weak technical capacities, and low financial resources.	H	M	Close collaboration with the Ministry of Local Government, the General Secretariat of the Supreme Council of Local Administration, and the Ministry of Foreign Affairs. Provide technical support and on-the-job training. Ensure that the selection of municipalities is an informed decision
Risks related to planning, processes and systems	Lack of formulation of initial strategies per sector.	M	H	Constant dialogue with key line ministries and local administrations.
Risk related to people and organisation	Key services of ministries and other stakeholders fail to improve the offices organisation and workflow.	M	H	Dialogue with key line ministries and local authorities involved in the action.
	Poor level of engagement of national staff that may affect the implementation.	M	M	Trainings and information campaigns.
	Gender discrimination	H	H	Coordination with the ministers' gender unit, support to internal dialogue within Libyan institutions. Trainings and awareness campaign. Support to gender balanced representation in terms of management in the implementation of the action.

Risks related to legality and regularity aspects	Risk of prolonged time frame for the implementation of the action. Limited room for action for the implementing partners.	M	H	Monitoring of the action in cooperation with the implementing partners.
Risks related information sharing	No timely information between the EU and implementing partners so to have an impact on the time line of the implementation.	L	M	Constant and timely coordination with implementing partners.
Risks related to conflict sensitivity	Risks due to fluctuating situation and large number of militias, fluctuating coalitions, and armed conflicts.	H	H	Paying particular attention to conflict sensitivity when selecting geographical areas and target beneficiaries. Ensuring implementing partners make continuous assessments of their working environments.

External Assumptions

Key external factors that have to be considered are:

- Sufficient political stability of the country that allows constant dialogue and coordination with Libyan stakeholders;
- Libyan ownership of the intended actions concerning policy making, and effective governance principles;
- Openness of the key institutional stake-holders to cooperate, assist and contribute to a regular collection and information management system, which is actually hindering effective sectoral planning and development;
- Constant commitment, and capacity of key stakeholders already supporting the Libyan authorities in developing a strategic view on the Energy and Renewable Energy;
- Project partners and stakeholders are committed and willing to continue cooperation even in heated conflict areas;
- Travel of staff and partners between Tunis and Tripoli, and within the country remains possible despite the pandemic and security disruptions from time to time;
- Municipalities targeted by the action have legitimate municipal councillors or are replaced in a transparent electoral process;
- Sufficient interest in decentralisation at the Ministry of Local Government.

3.5. Intervention Logic

The underlying intervention logic for this action is that climate change, solid waste management and management of the energy sector are three priorities and urgent challenges that the Libyan government cannot postpone. So far, climate change and protection of the environment have been overlooked at the expense of citizens. Ensuring access to basic services has represented the main priority for a population enduring for more than a decade of conflict, while facing the growing shortage of supplies. Furthermore, the conflict has increased the demographic pressure on the main urban areas of the country causing an increase in energy demand that will be difficult to meet with the existing and inadequately operated power plant park. The country's electricity production is still 100% based on fossil fuels while Libya has almost ideal natural

conditions for the use of renewable energies. IF the government of Libya manages to align with the international agenda and major commitments regarding the fight against climate change, then the formulation of a balanced national environmental and energy strategy may start on solid conditions and inspire the much needed regulation of the three main sectors: Environment, Energy and solid waste management. The creation of a sustainable and conducive legal environment is key to any of the objectives adopted in the framework of this action. Measures facilitating the import of components necessary to RE production, cooperation and partnership between the public and private sectors are key ingredients of any progress in the three main sectors targeted by this action.

If the key initial processes this action aims to trigger are: development of knowledge, increased technical capacity of key institutions, production of regulatory framework and possible development of new efficient electric grid, with the assumption that all the stakeholders will play a growing role in the identification of priorities and objectives, then the action will contribute to the establishment of a more stable energy production system, the adoption of a conducive environmental policy. The action represents a serious opportunity for the EU to support the development of the three sectors through an uncontroversial technical support that might contribute to further confidence building between the EU and Libya in the absence of a cooperation agreement.

3.6. Indicative Logical Framework Matrix

Results	Results chain: Main expected results [maximum 10 @]	Indicators [it least one indicator per expected result @]	Baselines (values and years)	Targets (values and years)	Sources of data	Assumptions
Impact	Support Libya to combat climate change and protects its environment.	1 Number of regulatory documents produced in Libya with the support of EU expertise 2 Number of alignment processes to international treaties and covenants in the sectors of Environment and Energy.	1 “0” 2 “0”	1 “2” 2 “2”	1 National legislation 2 UN/OECD	<i>Not applicable</i>
Outcome 1	Strengthen national capacity for the implementation of the international climate change agenda and environmental obligations. Improve environment and climate governance.	1.1 Number of studies and assessments, and strategies elaborated for greenhouse gas emissions reduction (Ktons CO2eq) with EU support. 1.2 Number of Technical assistance actions requested by the Libyan government.	1.1 “0” 1.2 “0”	1.1 Studies and data gathering and analysis; 1.2 Production of strategic official documents in the environmental and climate change fields; 1.3 Mainstreaming climate change in policy making in key sectors.	1.1 Ministry of Environment 1.2 UN/OECD	Political stability that allows a medium long term dialogue with the trained staff of the key line ministries involved in the process.
Outcome 2	Improve the national energy regulation framework, inclusive of renewable energy and improve access of Libyan population to electricity.	2.1 Renewable energy strategy drafted with EU support. 2.2 GECOL and other key institution integrate renewable energy models in the national action plan;	TBD as soon as the project starts	2.1 and 2.2 Contribution to the updating of the national Energy strategy and/or regulation.	2.1 Libyan Ministry of Environment, GECOL, REAOL	Political stability and strengthened dialogue among major Libyan stakeholders.

		2.3 Further development of Electricity grid		2.3 Concrete projects/interventions on electricity grids.		
Outcome 3	Contribute to the preservation of environment and resources through solid waste management in the framework of the promotion of the decentralisation process.	<p>3.1 Percentage of the population satisfied with essential service delivery (sanitation/waste) (disaggregated by population group, age, sex, and location - urban/peri-urban/rural) **</p> <p>3.2 Amount of waste generated and treated per capita per year, disaggregated by type of waste and treatment type **</p> <p>3.3 Municipal waste recycling rate **</p>	TBD	TBD	Baseline and end line surveys or expert assessments to be commissioned by the intervention.	Sufficient political stability of the country that allows constant dialogue and coordination with Libyan stakeholders, Municipalities targeted by the action have legitimate municipal councillors or are replaced in a transparent electoral process, Sufficient interest in decentralisation at the Ministry of Local Government.
Output 1 related to Outcome 1	The Ministry of Environment and other key ministries involved in the climate change and environment protection are	1.1.1 Increased capacity of the Staff in the Ministry of Environment to engage in reforms,	TBD	1.1.1 Number of staff benefitting from the	1.1.1 Ministry of Environment and other line ministries.	Political stability.

	<p>supported to design a national climate change strategy, and assist in the formulation of strategic documents, studies, data gathering/analysis and statistical reports. Development of action plans paving the way to stronger EU-Libya partnership in the sectors. Libya moves forward in the definition of its Intended National Determined Contributions (INDC). Libyan authorities start implementing a response to climate mitigation and adaptation, including water scarcity and other fundamental threats deriving from climate change. Climate and environment are mainstreamed across different sectoral policies.</p>	<p>and reporting compliant with international agreements.</p> <p>1.1.2 Number of institutional coordination mechanisms on Inclusive Green Economy (IGE) established with support of the EU-funded intervention.</p>		<p>technical assistance;</p> <p>1.1.2 Adoption of strategic documents.</p>		
<p>Output 2 related to Outcomes 1</p>	<p>1.2 Key departments of the different line ministries and national agencies develop technical capacity so to gather data and draft reports on climate change measures and impact. Development of technology</p>	<p>1.2.1 Reporting initiatives independently launched by the Ministry of Environment.</p> <p>1.2.2 Number of policy makers and other stakeholders trained by the EU-funded</p>	<p>TBD</p>	<p>1.2.1 Reporting and management of data collection.</p>	<p>1.2.1 Ministry of Environment.</p>	<p>Strong engagement of the Ministry of Environment's staff with low degree of volatility in the turn over.</p>

	innovation and climate change policy.	intervention with increased knowledge and/or skills on Inclusive Green Economy (IGE) issues, disaggregated by sex and sector.				
Output 3 related to Outcomes 1	Civil society's engagement in the sector of climate change is strengthened. Advocacy in favour of climate change mitigation measures and renewable energy by stakeholders is triggered all over the country. Increased participation of women in the decision making process.	1.5.1 Number of meaningful actions launched by initiative of CSOs. 1.5.2 Number of Inclusive Green Economy (IGE) policy inputs (e.g. position papers) produced by stakeholders with support of the EU-funded intervention	TBD	1.5.1 Number of awareness campaigns; 1.5.2 Number of consultations of CSOs by the Libyan government with the EU support.	1.5.1/2/Ministry of Environment, key line ministries, CSOs platforms.	Ministry of Environment as well as other line ministries open to coordination and consultation of CSOs and other key non-state stakeholders.
Output 1 related to Outcome 2	Electricity grids maintenance plan and capacities are further developed and strengthen. GECOL and other key institution mainstream renewable energy models in the national action plan.	2.1.1 Increased expertise within the key institutions allowing the programming of a sustainable plan for renewal energy integration in the Energy national plan.	TBD	2.1.1 stakeholders' dialogue	2.1.1 Key Libyan institutions in the energy sector	Political stability
Output 2 related to Outcome 2	REAOL develops the essential capacities and human resources' skills to drive policy and regulatory proposals for the introduction of solar energy in dialogue with GECOL. Increased number of women	2.2.1 Number of technical assistance initiatives in support to REAOL	TBD	2.2.1 Production of studies and drafting of ad regulation targeting RE and its integration in the national energy production plan.	2.2.1 Key Libyan institutions in the energy sector	Political stability

	access to positions in the chain of policy and decision making.					
Output 3 related to Outcome 2	The capacities of REAOL and GECOL to carry out their respective mandates with regard to the introduction of electricity production from PV are increased. The transition to renewable energy will create the diversity of electricity sources, and through local generation, contribute to the flexibility of the energy system and its resistance to shocks.	3.2.1 Definition of competences and mandates of the two institutions and percentage of increased energy production from PV both at national and local level.	TBD	3.2.1 Facilitation of dialogue and coordination between GECOL and REAL; 3.2.2 clear definition of roles between the two institutions.	3.2.1 GECOL, REAOL, national and international stake-holders including private sector.	Political stability
Output 1 related to Outcome 3	The policy/regulatory system for solid waste management, further supporting decentralisation, is improved.	3.1.1 Number of financial policies developed with the support of the EU-funded intervention ** 3.1.2 Level of horizontal coordination on policy framework for integrated urban development ** 3.1.3 Number of staff trained in key institutions; 3.1.4 Number of decrees issued to support decentralisation;	TBD	TBD	3.1.1 Progress reports of the EU-funded intervention 3.1.2 Baseline and end line surveys conducted and budgeted by the EU-funded intervention	Sufficient political stability of the country that allows constant dialogue and coordination with Libyan stakeholders, Sufficient interest in decentralisation at the Ministry of Local Government.

		3.1.5 Number of circular economy recommendations from EU-supported studies/dialogue platforms that are adopted in policy/legal documents. **				
Output 2 related to Outcome 3	Municipalities capacities to deliver solid waste management services in a decentralised context are strengthened, and the notion of circularity is introduced.	<p>3.2.1 Extent to which the EU-funded intervention supported Local Governments, City and Regional administrations in the integration of Circular Economy models and practices into their operations. **</p> <p>3.2.2 Number of people benefiting from waste management systems designed/upgraded by the EU-funded intervention. **</p> <p>3.2.3 Number of beneficiaries trained by the EU-funded intervention with increased knowledge and/or skills in urban waste management, disaggregated by sex. **</p> <p>3.2.4 Proportion of municipal solid waste collected and managed in controlled facilities out of total</p>	TBD	TBD	Baseline and end line surveys conducted and budgeted by the EU-funded intervention	Sufficient political stability of the country that allows constant dialogue and coordination with Libyan stakeholders, Sufficient interest in decentralisation at the Ministry of Local Government , Municipalities targeted by the action have legitimate municipal councillors or are replaced in a transparent electoral process, Project partners and stakeholders

		<p>municipal waste generated in the target city. **</p> <p>3.2.5 Installed capacity for solid waste collection and disposal, per year. **</p>				<p>are committed and willing to continue cooperation even in heated conflict areas, Travel of staff and partners between Tunis and Tripoli, and within the country remains possible despite pandemic and security disruptions from time to time;</p>
<p>Output 3 related to Outcome 3</p>	<p>The role of the private sector in solid waste management and environment and resource conservation is strengthened.</p>	<p>3.3.1 Number of policy makers, consumers, business and civil society representatives reached through Circular Economy awareness activities (events, campaigns, etc.) organized with EU support, disaggregated by sex and sector (public, private, civil society). **</p> <p>3.3.2 Number of policy makers, consumers, business and civil society</p>	<p>TBD</p>	<p>TBD</p>	<p>Progress reports of the EU-funded intervention and</p> <p>Baseline and end line surveys conducted and budgeted by the EU-funded intervention</p>	<p>Sufficient political stability of the country that allows constant dialogue and coordination with Libyan stakeholders, Municipalities targeted by the action have legitimate municipal councillors or</p>

		<p>representatives whose awareness on Circular Economy issues has been raised with EU support, disaggregated by sex and sector (public, private, civil society). **</p>				<p>are replaced in a transparent electoral process, Project partners and stakeholders are committed and willing to continue cooperation even in heated conflict areas, Travel of staff and partners between Tunis and Tripoli, and within the country remains possible despite pandemic and security disruptions from time to time.</p>
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4. IMPLEMENTATION ARRANGEMENTS

4.1. Financing Agreement

In order to implement this action, it is not envisaged to conclude a financing agreement with Libya.

4.2. Indicative Implementation Period

The indicative operational implementation period of this action, during which the activities described in section 3.1 will be carried out and the corresponding contracts and agreements implemented, is 72 months from the date of the adoption by the Commission of this financing Decision.

Extensions of the implementation period may be agreed by the Commission's responsible authorising officer by amending this financing Decision and the relevant contracts and agreements.

4.3. Implementation Modalities

The Commission will ensure that the EU appropriate rules and procedures for providing financing to third parties are respected, including review procedures, where appropriate, and compliance of the action with EU restrictive measures¹².

4.3.1. Direct Management (Procurement)

A service contract will be awarded to implement outcomes under specific objective 1.

4.3.2. Indirect Management with pillar-assessed entities

A part of this action may be implemented in indirect management with pillar-assessed entities (international organisations and/or Member States organisations) which will be selected by the Commission's services using the following criteria: (1) specific technical competence and specialisation, (2) results achieved with previous cooperation in Libya and elsewhere, (3) mandate, (4) capacity to deploy in the field, (5) weight in policy forums.

The implementation by these entities entails the implementation of the outcomes under specific objectives 2 and 3.

4.3.3. Changes from indirect to direct management (and vice versa) mode due to exceptional circumstances

Taking into account the risks in terms of deterioration of the political and security context, part of the action that is foreseen to be implemented in indirect management may be reconsidered to be implemented under direct management modality (grants). Similarly, part of the action that is foreseen to be implemented in direct management (procurement) may be reconsidered to be implemented under indirect management with a pillar-assessed entity.

¹² www.sanctionsmap.eu Please note that the sanctions map is an IT tool for identifying the sanctions regimes. The source of the sanctions stems from legal acts published in the Official Journal (OJ). In case of discrepancy between the published legal acts and the updates on the website it is the OJ version that prevails.

4.4. Scope of geographical eligibility for procurement and grants

The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased as established in the basic act and set out in the relevant contractual documents shall apply, subject to the following provisions.

The Commission's authorising officer responsible may extend the geographical eligibility on the basis of urgency or of unavailability of services in the markets of the countries or territories concerned, or in other duly substantiated cases where application of the eligibility rules would make the realisation of this action impossible or exceedingly difficult (Article 28(10) NDICI-Global Europe Regulation).

4.5. Indicative Budget

Indicative Budget components	EU contribution (amount in EUR)
Implementation modalities – cf. section 4.3	
Objective 1 Strengthen national capacity for the implementation of the international climate change agenda and environmental obligations. Improve environment and climate governance. composed of:	2 000 000
Procurement (direct management) – cf. section 4.3.1	2 000 000
Objective 2 Improvement of the national energy regulation framework, inclusive of renewable energy and improved access of Libyan population to electricity provision composed of:	6 500 000
Indirect management – cf. section 4.3.2	6 500 000
Objective 3 Contribute to preservation of environment and resources through solid waste management in the framework of the promotion of the decentralisation process composed of:	7 500 000
Indirect management – cf. section 4.3.2	7 500 000
Evaluation – cf. section 5.2 Audit – cf. section 5.3	will be covered by another Decision
Communication and visibility – cf. section 6	N.A.
Contingencies	N.A.
Totals	16 000 000

4.6. Organisational Set-up and Responsibilities

Implementing partners will be fully responsible for the implementation of the action. Each partner will be responsible for regular reporting to the EU Delegation - ideally through the establishment of a steering committee involving national counterparts for the specific action. Steering committees for individual actions will meet regularly and be mandated to (1) review implementation against prior established work plans and planned achievements, (2) review work plans where necessary; (3) facilitate the involvement of different stakeholders if pertinent and (4) discuss other issues as relevant to the programme and its environment.

As part of its prerogative of budget implementation and to safeguard the financial interests of the Union, the Commission may participate in the above governance structures set up for governing the implementation of the action.

4.7. Pre-conditions

Political stability

5. PERFORMANCE MEASUREMENT

5.1. Monitoring and Reporting

The day-to-day technical and financial monitoring of the implementation of this action will be a continuous process, and part of the implementing partner's responsibilities. To this aim, the implementing partner shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular progress reports (not less than annual) and final reports. Every report shall provide an accurate account of implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its Outputs and contribution to the achievement of its Outcomes, and if possible at the time of reporting, contribution to the achievement of its Impacts, as measured by corresponding indicators, using as reference the log-frame matrix (for project modality).

The Commission may undertake additional project monitoring visits both through its own staff and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

5.2. Evaluation

Having regard to the nature of the action, a mid-term and a final evaluation will be carried out for this action or its components via independent consultants contracted by the Commission.

The mid-term evaluation will be carried out for problem solving and learning purposes, in particular with respect to the progression in the three main sectors of focus: climate change, energy and renewable energy, and solid waste management. The final evaluation will be carried out for accountability and learning purposes at various levels and in view of greater engagement in policy dialogue.

The Commission shall inform the implementing partners at least 4 weeks in advance of the dates envisaged for the evaluation exercise and missions. The implementing partners shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports shall be shared with the partner country and other key stakeholders following the best practice of evaluation dissemination. The implementing partners and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

The financing of the evaluation shall be covered by another measure constituting a financing Decision.

5.3. Audit and Verifications

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audit or verification assignments for one or several contracts or agreements.

6. STRATEGIC COMMUNICATION AND PUBLIC DIPLOMACY

All entities implementing EU-funded external actions have the contractual obligation to inform the relevant audiences of the Union's support for their work by displaying the EU emblem and a short funding statement as appropriate on all communication materials related to the actions concerned. To that end they must comply with the instructions given in the *Communication and Visibility Requirements of 2018* (or any successor document).

This obligation will apply equally, regardless of whether the actions concerned are implemented by the Commission, the partner country, service providers, grant beneficiaries or entrusted or delegated entities such as UN agencies, international financial institutions and agencies of EU Member States. In each case, a reference to the relevant contractual obligations must be included in the respective financing agreement, procurement and grant contracts, and contribution agreements.

For the purpose of enhancing the visibility of the EU and its contribution to this action, the Commission may sign or enter into joint declarations or statements, as part of its prerogative of budget implementation and to safeguard the financial interests of the Union. Visibility and communication measures should also promote transparency and accountability on the use of funds. Effectiveness of communication activities on awareness about the action and its objectives as well as on EU funding of the action should be measured.

Implementing partners shall keep the Commission and the EU Delegation fully informed of the planning and implementation of specific visibility and communication activities before the implementation. Implementing partners will ensure adequate visibility of EU financing and will report on visibility and communication actions as well as the results of the overall action to the relevant monitoring committees.