REQUEST FOR EXPRESSIONS OF INTEREST
CONSULTING SERVICES

Arab Republic of Egypt
GREATER CAIRO AIR POLLUTION MANAGEMENT AND CLIMATE CHANGE "GCCC" PROJECT - PROJECT (P172548)

Assignment Title: Developing Technical regulations and policy framework and Standard Operation Procedures (SOP) that assure and support effective and sustainable E-Waste management, models, and solutions services in Egypt " .

Reference No.: EG-EEAA-455983-CS-CQS

The Greater Cairo Air Pollution Management and Climate Change Project (herein "the Project") aims at reducing air emissions from critical sectors and increasing resilience to air pollution in Greater Cairo. The Project aims more specifically at reducing air emissions which is a key step toward the reduction of pollution concentrations and improvement of air quality. The Project will focus on two of the primary sources of air pollution in the Greater Cairo (GC) region (i.e., Cairo, Giza and Qalyoubia Governorates): open burning of solid waste and vehicle emissions; and will include six main components aiming at: (i) enhancing the air quality management framework and decision support system in Egypt; (ii) improving Solid Waste Management services; (iii) reducing air and climate pollutants from vehicle emissions; (iv) furthering stakeholder engagement, awareness and communication; (v) project management and monitoring & evaluation (M&E); (vi) addressing the important issue of unintended emissions of POPs.

Brief description about the Enhanced E-Waste and HCW management for Reduction of uPOPs:

It is an additional finance (AF) to the parent project; this new activity focuses on reduction of unintended persistent organic pollutants (uPOPs) aligns with the "GEF Project Design and Review Considerations in Response to the COVID-19 Crisis and the Mitigation of Future Pandemics". This new component will comprise 3 sub-components.

Sub-component 6.1: Supporting effective E-Waste management, models, and solutions

Activities under this sub-component aim to support the implementation of Egypt National Policy Framework and Legal Directive on E-Waste and piloting solutions and models for E-Waste management and recycling to reduce air pollution and climate pollutant emissions. Activities are designed to support the country in a life-cycle approach to e-waste from understanding upstream issues, such as causes and generation of e-waste to safe recycling and safe extraction of precious commodities.

Specific activities will include: (i) strategy development and guidance for used electronic equipment, particularly at the household level including batteries and electrical appliances and

their integration into existing strategies for the refurbishment, recycling, disposal and/or take back of equipment/E-Waste and establishment of safe exposure limits for key uPOPs; (ii) technical assistance and capacity building for key public and private sector entities and agencies for the enforcement and implementation of upcoming Extended Producer Responsibility (EPR) schemes for new electronic equipment; (iii) support to recyclers of E-Waste, including: assessment and technical assistance for enhanced efficiency in recycling processes, development of strategies and support for safe and effective recycling of batteries, development of risk assessment studies and risk mitigation strategies and capacity building for recyclers to ensure safer/cleaner processing for improved human and environmental health; (iv) support for alignment with the globally harmonized system on waste and E-Waste, particularly with regard to developing train-the-trainer programs and other training/educational tools and products; (v) support for updating and monitoring of E-Waste data and utilization of the uPOPs tool kit and E-Waste calculator for E-Waste processing and needs assessment for establishing an integrated management information system (MIS; (vi) piloting collection, safe dismantling, and recycling of E-Waste, particularly older equipment and household level E-Waste at strategic locations and segregation and hazardous waste disposal, particularly waste which will not be targeted through EPR; (vii) testing of 'take-back' schemes and enhancing engagement with the private sector; (viii) testing of financing tools for start-ups and small and medium enterprises in E-Waste recycling and exploration of supporting enterprises in possible markets for recycled materials (e.g., gold, copper, silver) nationally, regionally, and internationally; and (ix) supporting further integration of informal sector players and those recently 'formalized.'

The requested services covered by these terms of reference are to support the Project Coordination Unit (PCU) and the Technical Implementation Units (TIUs) of "Greater Cairo Air Pollution Management and Climate Change (GGAP&CC) Project" in the implementation of the service of supporting effective E-Waste management, models, and solutions.

The Ministry of Environment (MoE) now invites eligible consultancy firms to indicate their interest in providing the services. Interested suppliers should provide information demonstrating that they have the required qualifications and relevant experience to perform the scope.

The shortlisting criteria are:

#	**Shortlisting criteria**	Percentage
1	● **The consultancy firms expected to have:** ● Proven experience in working on similar projects and assignments, particularly in e-waste, technical regulations, policy development, EPR schemes, and SOP preferably in the E-waste management sectors or related field.	40%

	• Demonstrable experience with stakeholders' engagement in the waste sector, government institutions and other relevant stakeholders. **Excellent knowledge of national and international regulations, conventions, and standards in recycling and waste management.**	
2	The Consultancy firms are expected to have a minimum of 5-7 years of experience providing consulting in the waste management sector, with a strong recommendation for experience in E-waste management.	20%
3	**Key staff are expected to have Extensive experience in managing similar projects with strong leadership skills.**	40 %
Total		100%

Minimum % for qualification 75%

A Consulting Firm will be selected in accordance with the Request for Proposal with the Consultant Qualifications Selection - CQS method" set out in the Procurement Regulations".

Further information can be obtained at the address below during office hours 09:00 to 17:00.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by 23rd February **- 12pm (CLT)**

Greater Cairo Air Pollution Management and Climate Change "GCCC" Project
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The detailed Terms of Reference "TOR" including the scope of work and deliverables for the assignment is found below.

TERMS OF REFERENCE

Developing Technical regulations and policy framework and Standard Operation Procedures (SOP) that assure and support effective and sustainable E-Waste management, models, and solutions in Egypt

I. Background

As part of the "Sustainable Development Strategy (SDS): Egypt Vision 2030", the country committed to halving its fine particulate matter (PM10) air pollution by 2030. Significant improvements have been made towards that goal in recent years. In fact, Cairo's PM10 concentration fell by about 25 percent over the past decade. Despite these improvements, the city's pollution levels are still several times the WHO recommended concentrations and higher than national guidelines as these high levels are taking their toll on the health and quality of life of the population, in particular poor people.

In response to this situation, the World Bank-financed Greater Cairo Air Pollution Management and Climate Change Project (P172548) approved in September 2020, aims at reducing air emissions from critical sectors and increasing resilience to air pollution in Greater Cairo. The Project aims more specifically at reducing air emissions which is a key step toward the reduction of pollution concentrations and improvement of air quality. The Project focuses on the two main sources of air pollution: open burning of solid waste and vehicle emissions and geographically covers Greater Cairo (i.e., Cairo, Giza and Qalyoubia Governorates --GC) region; and includes five main components aiming at: (i) enhancing the air quality decision support system in Egypt; (ii) improving Solid Waste Management services; (iii) reducing air and climate pollutants from vehicle emissions;(iv) furthering stakeholder engagement, awareness and communication ; and (v) Project Management and Monitoring & Evaluation.

In addition to the 5 main component, The Ministry of Environment also received a grant from the Global Environment Facility (GEF) to implement "Improving Management of E-waste and Healthcare Waste to Reduce Emissions of Unintentionally Produced Persistent Organic Pollutants (UPOPS)" project. The project is to be executed under the "Greater Cairo Air Pollution Management and Climate Change Project" (GCAPM&CC or 'parent' project) as an additional financing to the project. The GEF grant will be implemented through activities under Component 6 of the GCAPM&CC project. The activities to be undertaken under the GEF project/Component 6 are complementary to those within the parent project, particularly its solid waste management component, as well as sharing the overall objective of the parent project: to reduce air and climate emissions from critical sectors and increase resilience to air pollution in Greater Cairo.

The activities to be implemented under the GEF project/Component 6 are designed to address the above issues and to expand on the work completed under previous GEF projects in the region to address on-going gaps in the sectors and contribute to the reduction of uPOPs and overall improved air quality in the Greater Cairo region. It comprises 4 subcomponents:

- Subcomponent 6.1: Supporting effective E-Waste management, models, and solutions. This subcomponent will support the implementation of the National Policy Framework and Legal Directive on E-Waste and pilot solutions and models for E-Waste management and recycling to reduce air pollution and climate pollutant emissions. Subcomponent
- Subcomponent 6.2: Supporting effective healthcare waste management, models, and solutions. This subcomponent will support activities to strengthen the enabling environment for sound management of Healthcare Waste and piloting innovative solutions for sound management of Healthcare Waste for reduction of air pollution, climate pollutant and uPOPs emissions to yield long-term results and systems-wide change. This work will be done in close collaboration with Subcomponent 2.2 which is implementing activities focused on creating model hospitals for proper HCWM and long-term changes to create safer hospital and community environments during pandemics and other health emergencies.
- Subcomponent 6.3: Supporting the preparation of Egypt's application to Minamata Convention. This subcomponent will build knowledge and capacity within involved agencies, EEAA, Health, etc. to identify regulatory and policy needs for meeting obligations of Minamata convention and technical needs of agencies to meet Egypt's commitments under the convention.
- Sub-component 6.4: Supporting additional monitoring and evaluation (M&E) and specialized project management costs.

II. Objective of the Assignment

The objective of this assignment is to hire a qualified consulting firm ("the consultant") to support the Project Coordination Unit (PCU) and the Technical Implementation Units (TIUs) of "Greater Cairo Air Pollution Management and Climate Change (GGAP&CC) Project" in the implementation of the service of supporting effective E-Waste management, models, and solutions. This service will support the implementation of the 1st work pillar of subcomponent 6.1, where subcomponent 6.1 has 4 work pillars as indicated below:

Work pillar 1: Polices, legislation and Standard Operation Procedures (SOP)

Work pillar 2: Technical assistant and industry development

Work pillar 3: Train of the Trainer and building capacities

Work pillar 4: adoption of Best available technologies (BAT)/ best Environmental Process (BEP) and pilot solutions and models

III. Scope of Work

The scope of work under this assignment covers the 1st work pillar of subcomponent 6.1 of component 6. The scope of this work pillar is to develop the technical regulation (TR)/legal binding measures and standard Operation Procedures(SOP) for the integrated management of new, used, refurbished and Waste of EEE in compliance with Law 202 of 2020 and its Executive regulation and their integration into existing framework and strategies for the new, used,

refurbishment, recycling, disposal and/or take back of equipment through Extended producers responsibility schemes(EPR)/E-Waste and developing guidance of safe exposure limits for key UPOPs and potential hazardous components /or chemical substances and delivering Technical assistance and capacity building for key public and private sector entities and agencies for the enforcement and implementation of upcoming Extended Producer Responsibility (EPR) schemes for new electronic equipment (ICT waste, batteries and household appliance)

To achieve the scope and objectives of the assignment, the consultant should be completely familiarized with the Greater Cairo Air Pollution Management and Climate Change Project Appraisal Document (GCAP&CC PAD) and the Project paper on the GEF grant (Improved Management of E-Waste and Healthcare Waste for Reduction of UPOPs Emissions (P176688)

The Consultant should also be fully familiar with the outcomes/deliverables of the previous GEF/UNDP project on" Protect human health and the environment from unintentional releases of POPs originating from incineration and open burning of health care- and electronic-waste" which was implemented during the period 2016 to 2021. The consultant should be familiar with international conventions relevant to the management of E-waste specially Stockholm convention and Basel convention. The consultant should be familiar with the all-relevant national legislation and standards and the status of E-waste market at the national and international market to be able set a sustainable framework, models, and guidelines that assure the sustainable management of E-waste in Egypt. In addition to that, the consultant should be aware of the projects that currently implemented in Egypt with similar objectives which are: phase two of Sustainable Recycling Industries (SRI) on E-waste which implemented by CEDARE and the SWITCH to Circular Economy Value Chains (SWITCH2CE) project on E-waste that is being implemented by UNIDO-Egypt.

IV. Detailed Tasks

The following are the detailed tasks to be carried out by the consultant.

Work pillar 1: Polices, legislations and Standard Operation Procedures (SOP)

Task 1: Strategy development and guidance for new, used electronic equipment, particularly at the household level including batteries and electrical appliances and their integration into existing strategies for the refurbishment, recycling, disposal and/or take back of equipment/E-Waste and establishment of safe exposure limits for key uPOPs.

E-waste in Egypt is regulated under the executive regulation of law 202/2020, the "waste management law," under a new waste category which is called under the regulation, 'conditional hazardous waste.' The conditional hazardous waste is defined as: " categories of waste of a special nature that result from specific production activities and processes and require the availability of certain characteristics and requirements in order to acquire the characteristics of being hazardous, the most important of which is the occurrence of external interference, whether by human or nature, and it is not limited to the wastes of electrical and electronic equipment, Residues from recycling operations, used tires, oils, packages of pesticides, industrial, pharmaceutical and pharmaceutical chemicals, asbestos pipes and plates, Freon cylinders and

lead-acid batteries. In addition to other types of hazardous waste with conditions that do not fall under any of the classifications of waste in Chapter One of the Regulations".

Till today, no technical regulation or polices have been issued for 'conditional hazardous waste' nor for E-waste including no regulations pertaining to: definitions, categories, related licenses and permits, handling, management and safe disposal. And according to article 46 of the executive regulation of law 202/2020 and article 53 of law 202/2020 on "waste management law", a technical committee must be formed by a decision of the competent minister headed by the CEO of the Waste Management Regulatory Authority (WMRA). Part of the responsibilities of this committee which related to conditional hazardous waste are:

(1) Determining the responsibilities of the ministries and concerned authorities for each type of conditional hazardous waste

(2) Setting threshold limits for concentrations, quantities and hazardous characteristics to consider what exceeds them as hazardous waste, and for this purpose, the committee uses guidelines to identify and classify hazardous waste and conditional hazardous waste that are prepared by the Environmental Affairs Agency or by being guided by international standards

(3) Determining the types of licenses required according to the intended handling activity (collection - transport - temporary or permanent storage - final disposal).

Based on the above, the consultant will support the TIU, and PCU in developing technical regulation (TR)/legal binding measures for the integrated management of new, used, refurbished and Waste of EEE in compliance with Law 202 of 2020 and its Executive regulation and their integration into existing framework and strategies for the refurbishment, recycling, disposal and/or take back of equipment/E-Waste and guidance of safe exposure limits for key UPOPs and protentional hazardous components /or chemical substances.

This TR/legal binding measures must be developed and reviewed in coordination with all relevant stakeholders (Technical committee of article 35 of law 202 of 2020, WEEE recyclers, EEE manufacturers and retailers, similar funding project implemented in Egypt (SWITCHCE, SRI), etc…) within the overall responsibility of the Waste Management Regulatory Authority (WMRA), the TIU for this 'project.'

In the same context, two workshops will be organized by the consultant, the first to present and discuss the semifinal version of the TR with all stakeholders and the second to present the final version where all stakeholders, PCU, and TIU comments have been considered and taken into account where possible. (Note: The TR related to refurbished equipment is being developed under the UNIDO/SWITCH CE project, so coordination with this project will be important in order to ensure work is not duplicated. However, while the consultant should make every effort to harmonize the work on refurbished equipment with the overall TRs, the consultant should not delay progress or development of the TRs subject to this TOR should there be any delays in the SWITCH CE project)

After finalizing the technical regulations, the consultant is requested to develop Standard Operation Procedures (SOP) on WEEE. The SOP must include and not limited to:

- E-waste and its social and environmental impact

- Assessment of E-waste flow and management in Egypt
- Legal framework (national legislation and international conventions) of Environmental sound management of E-waste
- Standard operation procedure for Handling (Collection and Transport), Management (Dismantling, Segregation, Sorting, Pretreatment, and Storage), and Disposal of E-waste

The consultant while developing the SOP must consider all the guidelines developed by the GEF/ UNDP project (list below) and other guidelines developed by similar projects such as SRI and SWITCHCE projects.
List of Guidelines developed by the aforementioned GEF/UNDP project:

- ✔ A Baseline assessment on POPs, UPOPs, and associated hazardous releases (mercury, lead, cadmium) from E-waste processing.
- ✔ Guidelines for Handling (Collection and Transport), Management (Dismantling, Segregation, Sorting, Pretreatment, and Storage), and Disposal of E-waste Components Containing Heavy Metals and POPs
- ✔ Guidelines for environmental sound management of E-waste and related legal framework

Task 2: Technical assistance and capacity building for key public and private sector entities and agencies for the enforcement and implementation of upcoming Extended Producer Responsibility (EPR) schemes for new electronic equipment

This task includes two sub-tasks:

Sub task 2.1. Explore, cooperate and coordinate with SRI project for further development needed to finalize a common and agreed EPR policy for E-Waste stream (ICT waste) including institutional setting and implementation modalities', and Support Enforcement and implementation

In this sub task, the consultant is requested to cooperate and coordinate with the SRI project for further development needed to finalize a Common and agreed Extended Producer Responsibility (EPR) policy for E-Waste stream (ICT waste) including institutional setting, financial models, and implementation modalities, and Support Enforcement and implementation of the EPR after the closure of SRI project. The SRI project developed a technical document on" EPR Scheme for WEEE in Egypt" with different scenarios and options for implementation. As well, the SRI project developed a technical document on "End of life management cost of selected ICT products" The document suggests different scenarios for management costs. The product covered in SRI project documents are: Desktop Personal Computers (PC), Mobile Phones, Liquid Crystal Display (LCD) Screens, Cathode Ray Tube (CRT) Screens, Notebooks, Routers, and Hard Copy Peripherals (HCP) which includes (printers, photocopiers, and fax machines).

The process of coordination, implementation and enforcement of the policy must and not limited to the following activities:

- ✔ Consultation sessions with all relevant stakeholders (government officials, federation of Egyptian industries/local manufacturers, chamber of commerce/importers, recyclers, etc…) to discuss the different scenarios and its impact on their business, Institutional settings, Financial/cost management models, Implementation and enforcement

modalities, Monitoring and evaluation tools, Social and environmental impact of the adoption of EPR policy, and Roadmap/Time table for transition period and enforcement schedule
- ✔ Workshops for presenting the semifinal policy with all stakeholders (government officials, technical committee of article 35 of law 202 of 2020, WEEE recyclers, EEE manufacturers and retailers, etc…)
- ✔ Draft ministerial decree for the adoption and issuance of the EPR policy

Sub task 2.2. Develop EPR policy in consultation and coordination with all relevant stakeholders for batteries and household appliance including institutional setting, financial schemas and implementation modalities' and support the enforcement

In this Sub task, the consultant is requested to develop EPR policy for all household appliances, and all types of batteries used in the Egyptian market, this includes: Common household batteries used in EEE, batteries used in solar panels farms and wind farms, Electrical cars batteries, and lead acid batteries. The process of developing the policy must include and not limited to:

- ✔ Assessment of voluntary EPR schemes/models adopted in Egypt
- ✔ Consultation sessions with all relevant stakeholders (government officials, federation of Egyptian industries/local manufacturers, chamber of commerce/importers/retailers, recyclers, etc…) to introduce, discuss the different models and its impact on their business
- ✔ Identify the producers, EPR products, etc…
- ✔ Develop Roadmap/Time table for transition period and enforcement schedule
- ✔ Develop Institutional settings
- ✔ Set Management cost/Financial models
- ✔ Implementation and enforcement modalities
- ✔ Set Monitoring and evaluation tools
- ✔ Identify Social and environmental impact of the adoption of EPR policy
- ✔ Organizing workshops for presenting the semifinal policy with all stakeholders (government officials, technical committee of article 35 of law 202 of 2020, WEEE recyclers, batteries and household appliances manufacturers, retailers, and importer, etc…)
- ✔ Draft ministerial decree for the adoption and issuance of the EPR policy
- ✔ Organizing workshops to the defined producers to present the final EPR policy and discuss their adoption modalities

Priority should be given to current waste streams that are impacting or have the risk of impacting human and environmental health.

Task 3: Assessment, Technical guidelines, and Standards Operation license (SOP) of the handling, integrated management and safe disposal of solar panel waste and attached batteries.

As Egypt continues to expand its renewable energy sector, particularly through the widespread adoption of solar panels, the management of solar panel waste has become a critical

environmental and regulatory challenge. The increasing volume of end-of-life solar panels necessitates a comprehensive approach to waste management that ensures environmental sustainability and compliance with national and international standards.

Based on the above, this task outlines the requirements for hiring a consultancy firm to conduct an in-depth assessment and forecasting of solar panel waste quantities in Egypt. The consultancy will analyze the flow of waste, review relevant laws and policies, and list available recycling technologies. Additionally, the consultancy will perform a SWOT analysis to evaluate the potential for localizing recycling technologies, develop financing models, propose effective collection schemes, and identify safe disposal options. The consultancy will also design Extended Producer Responsibility (EPR) schemes and draft Standard Operating Procedures (SOPs) for the handling, management, and disposal of solar panels waste.

The objective of this activity is to provide a strategic framework that supports the sustainable management of solar panel waste in Egypt, promoting environmental protection and resource efficiency.

For this task, the consultant is requested to do the following activities:

- **Assessment & Forecasting and flow analysis of Waste:**

  Assess current quantities of solar panel waste.

  Forecast future quantities based on market trends and lifespan of panels.

  Analyze the flow of solar panel waste from generation to disposal.

- **Recycling Technologies:**

  List and evaluate current recycling technologies for solar panels at national and global level.

  Conduct a SWOT analysis for the localization of recycling technologies.

- **Relevant Laws and Policies:**

  Review and summarize existing laws and policies related to solar panel waste management.

  Propose legal measures to assure the sustainable management of Solar panel waste

  Propose Extended Producer Responsibility (EPR) schemes.

- **Financing Models for safe and integrated management**

  Develop financing models for solar panel waste management.

  Propose effective collection schemes for solar panel waste.

  Identify and recommend safe disposal options.

- **Standard Operating Procedures (SOPs):**

SOPs for handling (collection and transport), management (dismantling, segregation, sorting, pretreatment, and storage), and disposal of solar panels.

V. Duration of the assignment

The Expected duration of the assignment is 18 Months.

VI. Deliverables

The Consultant shall prepare the following reports in English [and in Arabic] in 1 paper copy and complete digital files in format and manner acceptable to the PCU and TIUs. Reports would be prepared initially in draft and finalized within two to three weeks following the receipt of comments from PCU/ TIU. The final reports shall be delivered in the following formats: word, pdf, and ppt files.

Task 1:

Deliverable	Contents	Expected Delivery Date
Inception report and workplan	Inception report with detailed workplan	2 weeks from contract signing
Technical regulations (TR)	Technical regulation (TR)/legal binding measures for the integrated management of new, used, refurbished and Waste of EEE in compliance with Law 202 of 2020 and its Executive regulation and their integration into existing framework and strategies for the refurbishment, recycling, disposal and/or take back of equipment/E-Waste and guidance of safe exposure limits for key uPOPs and protentional hazardous components /or chemical substances	5 months from contract signing
2 workshops	workshop with all stakeholders (Technical committee of article 35 of law 202 of 2020, WEEE recyclers, EEE manufacturers and retailers, etc…) to review the semifinal TR	One month from issuing the reviewed and agreed technical regulations
	workshop to present the final TR to all stakeholders	Within two months after the 1st workshop
Standard Operation Procedures	Standard Operation Procedures (SOP) on WEEE that reflect the legal measures in the technical regulations	4 months from issuing the reviewed and

(SOP) on WEEE		agreed final version of TR
1 workshop	workshop with all stakeholders to present the SOP	1 month After issuing the reviewed and agreed final version of the SOP

Task 2:

Deliverable	Contents	Expected Delivery Date
Sub task 2.1		
Inception report and workplan	Inception report with detailed workplan	2 weeks from contract signing
3 consultation sessions	Consultation sessions with all relevant stakeholders (government officials, federation of Egyptian industries/local manufacturers, chamber of commerce/importers, recyclers, etc…) to discuss the different models and its impact on their business	2 months from contract signing
EPR policy scheme	Final and common agreed EPR policy scheme for ICT Waste stream including institutional setting, financial models, adoption roadmap, and implementation modalities	4 Months from contract signing
1 workshop	Workshop with all stakeholders to present the EPR policy scheme for ICT product	2 months after issuing reviewed and agreed EPR policy
EPR Ministerial decree on ICT waste	Ministerial decree for the adoption and issuance of ICT waste EPR policy	1 months after organizing the above workshop
Sub task 2.2		
Assessment report	Assessment of voluntary EPR schemes/models adopted in Egypt	2 months from contract signing

6 consultation session	● 3 Consultation sessions with all relevant stakeholders (government officials, federation of Egyptian industries/local manufacturers, chamber of commerce/importers, recyclers, etc…) to discuss the introduction of EPR of batteries and different models and its impact on their business ● 3 Consultation sessions with all relevant stakeholders (government officials, federation of Egyptian industries/local manufacturers, chamber of commerce/importers, recyclers, etc…) to discuss the introduction of EPR of household appliances and different models and its impact on their business	4 months from contract signing
EPR policy scheme	● EPR policy scheme for household appliances including institutional setting, financial models, adoption roadmap, and implementation modalities ● EPR policy scheme for batteries including institutional setting, financial models, adoption roadmap, and implementation modalities	8 Months from contract signing
2 workshops	Two workshops with all stakeholders to present the EPR policy scheme. One workshop for batteries and another one for household appliances	2 months after issuing reviewed and agreed EPR policy
EPR Ministerial decrees	● ministerial decree for the adoption and issuance of EPR policy for household appliances ● ministerial decree for the adoption and issuance of EPR policy for household appliances	1 month after organizing the above two workshops

Task 3:

Deliverable	Contents	Expected Delivery Date
Inception report and workplan	Inception report with methodology and work plan	2 weeks from contract signing
Interim technical report with preliminary findings	● Comprehensive assessment of current solar panel waste quantities. ● Forecast of future waste quantities ● Detailed analysis of the flow of solar panel waste. ● Evaluation of current recycling technologies at national and global levels.	3 months from contract signing

	● SWOT analysis for the localization of recycling technologies. ● Summary of relevant laws and policies. ● Proposed Extended Producer Responsibility (EPR) schemes.	
Final technical report & presentation	● Comprehensive final report including all assessments, analyses, legal framework, and recommendations ● Presentation of findings to stakeholders.	2 months after issuing the reviewed and agreed interim technical report
Draft Standard Operating Procedures (SOPs)	SOPs for BEP/BAT for handling (collection and transport), management (dismantling, segregation, sorting, pretreatment, and storage), and disposal of solar panels waste. The SOP must reflect all the technical and legal measures of the final technical report.	3 months after issuing the reviewed and agreed final technical report
Final SOP	● Final SOP guidelines ● Presentation	1 month after issuing the reviewed and agreed SOP

VII. Expertise of the consulting Firm/Organization

- Highly organized entity with the ability to produce quality work and meet tight deadlines.
- Proven experience in working on similar projects and assignments, particularly in e-waste, technical regulations, policy development, EPR schemes, and SOP preferably in the E-waste management sectors or related field.
- Proven track record of client engagement.
- Demonstrable experience with stakeholders' engagement in the waste sector, government institutions and other relevant stakeholders.
- At least 5-7 years of experience in conducting similar assignments.
- Proven track record of having successfully completed at least one similar assignment either at the national or regional level.

VIII. Key Team Members

The nature of the service requires the consultant/firm to assemble a well-qualified and experienced team of experts, of sufficient size and capacity, covering the professional disciplines

required to professionally undertake the assignment, meeting the agreed targets, timelines, quality assurance and standards. The required total minimum person-months input expected is 18 months.

The team shall be a multidisciplinary team comprising at least the following key experts:

#	**Specialist**	**Qualifications**
1	Project Manager/ Team leader	● Minimum of a master's degree in environmental science, environmental management, planning, or any related discipline. ● At least 20 years of professional experience in environmental science and disciplines ● Experience in working in the public sector will be an added advantage. ● Experience in working with various stakeholders (including senior government officials, policymakers, traditional leaders, formal/informal recyclers, etc.) and maintaining professional relationships ● Very Good understanding of the hazardous waste business/value chain sector in Egypt and the region. ● Demonstrable experience to supervise, manage, and advise the team in the implementation of similar assignments. ● Demonstrable experience of cooperation with stakeholders from the waste informal and formal sector, government institutions ● Good ICT skills and data manipulation tools ● Demonstrable qualifications, experience, and skills in the field of waste management (such as development of waste management strategies including life-cycle management, collection systems, waste segregation etc…) ● Demonstrable experience in conducting socio-economic studies in the waste management or e-waste sector or in related fields. ● Strong analytical and problem-solving skills. ● Excellent verbal and written communication skills (in English and Arabic languages), ● Have a demonstrable ability to write concise policy documents, technical regulations and technical documents. ● Project management certifications such as PMP Certification Training or similar are often preferred ● Ability to plan project timelines, manage resources, and multitask effectively ● Ability to evaluate potential problems and develop solutions ● Capable of coordinating team members to keep workflow on track The team leader will manage the entire assignment process and will be responsible for all deliverables, ensuring good quality standards.
2	Policy/Technical regulation senior specialist	● Minimum of a master's degree in public policy, public administration or any relevant discipline.

		● At least 7 years of professional experience working in policy formulation, technical regulation formulation, developing strategies, and implementing plans. ● Experience in working for the public sector will be an added advantage. ● Proven track record in identifying and assessing policy issues, and in playing an active role in dialogue with the government and/or other stakeholders. ● Proven capacity to work with multiple stakeholders, including government entities, formal and informal recyclers, multilateral agencies, development partners, and the private sector. ● Strong capability in English writing, research and policy analytical skills, including ability to write cogently about the environmental costs of pollution; ● Deep knowledge of Egypt environment, Economy, and social challenges and opportunities across sectors ● Very good knowledge in e-waste management ; ● Proven track record in developing EPR policy is a must. ● Proven ability to work in a team and in a politically sensitive intercultural environmental with minimum supervision.
3	Waste economics senior specialist	● An Advanced degree in economics, environmental economics, or a related field ● A minimum of 7 years professional experience conducting economic assessment to support environmental governance, national environmental policy, regulatory frameworks, public administration and/or related fields. ● Experience working in the waste management sector and related knowledge of public-private partnerships is highly desired. ● Demonstrated competence and experience in conducting analysis and identification of sustainable financing mechanisms for the environmental and/or waste management sector is an asset ● Very good knowledge in e-waste management and economics ● Proven track record in developing cost management/financial models of WEEE or other types of waste is highly desired ● Good ICT skills and data manipulation tools

4	Waste management specialist	● A Bachelor's degree in Environmental Science, Environmental Engineering, Waste Management, or a related field. A Master's degree is preferred. ● At least 7-10 years of experience in waste management, with a specific focus on waste assessment and forecasting. ● Proven experience in managing projects related to electronic waste (e-waste) or renewable energy waste, particularly solar panels. ● Proficiency in using waste management software and tools for data analysis and forecasting. ● Strong understanding of waste characterization techniques and methodologies ● Strong analytical skills to assess current waste quantities and forecast future trends based on market data and technological advancements. ● Ability to conduct life cycle assessments (LCA) ● Excellent written and verbal communication skills for preparing detailed reports and presenting findings to stakeholders. ● Strong problem-solving skills and the ability to think critically and strategically. ● High level of organizational skills and attention to detail.
5	Environmental Engineer or Scientist	● An advanced degree in Environmental Sciences, Hazardous Waste Management, Environmental Engineering, Natural Sciences, and/or Natural Resource Management, or any other related field. ● Minimum ten (10) years of experience in the field of Environment Engineering and additional experience for conducting E-Waste Assessment, E-Waste Management and development of relevant SOPs will be considered a plus. ● Excellent writing and communication skills. ● Proven track record in developing technical guidelines or SOP in waste management field or E-waste is highly desired either at national or international level ● Strong interpersonal skills and ability to communicate and work well with diverse people. ● In-depth understanding and knowledge of Egypt Technological Context. ● Good ICT skills and data manipulation tools

6	E-waste expert	● A bachelor's degree in environmental science, chemistry, engineering, or a related field ● Advanced degrees or certifications in waste management or environmental protection can be beneficial. ● At least 5 years of experience in the E-waste management industry and recycling technologies. ● Good understanding of the E-waste business/value chain sector in Egypt and the region. ● Hands-on experience with handling and disposing of E-waste is highly valued. ● Very good understanding of local, and international regulations regarding E-waste management and environmental protection. ● Good understanding of hazardous materials and safe handling practices. ● Experience and past performance on similar assignments. ● Demonstrated experience working with a variety of stakeholders, including senior government officials, private sector officials, formal and informal recyclers, etc ● Strong analytical and problem-solving skills. ● Attention to detail and a commitment to environmental sustainability. ● Good communication skills.
7	Solar panel waste specialist	● A bachelor's degree in environmental science, chemistry, engineering, or a related field ● Advanced degrees or certifications in waste management or environmental protection can be beneficial. ● At least 5 years of experience in the electronics and hazardous waste management industry and recycling technologies. ● Proven experience in technical aspects of recycling solar panels, including dismantling, material recovery, and purification processes ● A very good understanding of the lifecycle of solar panels, from manufacturing to disposal, is essential. ● Knowledge of local and international regulations regarding electronic waste and hazardous materials is essential. ● Experience and past performance on similar assignments ● Demonstrated experience working with a variety of stakeholders, including senior government officials, private sector officials, formal and informal recyclers, etc ● Strong analytical and problem-solving skills. ● Attention to detail and a commitment to environmental sustainability. ● Good communication skills.

8	Administrative assistance	● Bachelor's degree in business administration, management, or a related field ● Excellent written and verbal communication skills for preparing documents and interacting with colleagues and clients. ● Strong ability to manage multiple tasks, prioritize, and maintain an organized workspace. ● Precision in handling tasks and ensuring accuracy in documentation and scheduling. ● Strong verbal and written communication, active listening, and relationship-building skills ● Capable of coordinating workshops, meetings, and writing workshop reports and minutes of meetings. ● Good ICT skills and data manipulation tools ● Background in administrative support is beneficial.

IX. Administrative and Reporting Arrangements

The Consultant will report to the Project Coordinator of the Greater Cairo Air Pollution Management and Climate Change Project and the Senior Advisor for Component 6. The Consultant will work closely with the senior advisor of component 6 at the Project Coordination Unit (the PCU) and with the TIUs, who will also make available to the Consultant all related studies and information and facilitate his task on the ground. The PCU will in that respect provide the following to the Consultant:

- All relevant available documents, reports, and data related to the project activities.
- Facilitate for the Consultant, any required meeting with various stakeholders, as well as the consultations and validation workshops.