Technical Assistance Response Plan – Terms of Reference

Country:	**Mexico**
Request ID#	2021000049
Title:	*Analysis of the current situation of the construction and demolition sector in respect of the Circular Economy in Mexico City, for the development of a Marketplace platform for materials derived from construction and demolition waste in the city, as a scalable pilot project for Mexico*
NDE	*National Institute of Ecology and Climate Change, INECC* *Dr Amparo Martínez Arroyo* *Director General* *direccion.general@inecc.gob.mx* *Address for correspondence: Boulevard Adolfo Ruiz Cortines núm. 4209, Col. Jardines en la Montaña, Alcaldía Tlalpan. C.P.14210, CDMX, Mexico*
Proponent	*Name of the organization: Secretariat of the Environment, SEDEMA.* *Contact name: Leticia Gutiérrez Lorandi* *Title: General Director of Policy Coordination and Environmental Culture* *Email: leticiagl@cdmx.gob.mx* *Address for correspondence of proponent organization: Tlaxcoaque 8, Col. Centro de la Ciudad de México, Cuauhtémoc, Ciudad de México, Mexico*

Summary of the CTCN technical assistance

The objective of the assistance is to provide technical support from specialists in the field of the Circular Economy and the technologies of Industry 4.0 for the development of a platform for the interchange of materials derived from construction and demolition, for the transition towards the circular economy in Mexico City. The Marketplace-type platform is expected to serve as a pilot project for application at the national level.

Sustainability is one of the guiding axes of the Mexico City Governance Plan, 2019-2024. In this vein, the circular economy is a driver of development that will make it possible to take advantage of opportunities for the revalorization of materials flows, which will contribute to the mitigation of socio-environmental impacts and generate direct economic benefits for businesses and local communities.

The assistance includes an analysis of the current situation of the construction and demolition sector from the perspective of the circular economy; the development of a proposed business model based on the analysis of the political, regulatory and incentive environment; and the creation of monitoring indicators. The platform's prototype will be trialled in a pilot and manuals for its users and administrators will be developed. In addition, a sectoral work group will be created to consult on key assistance inputs.

The duration of the technical assistance will be 12 months.

Agreement:

(If possible, please use electronic signatures in Microsoft Word file format)

National Designated Entity to the UNFCCC Technology Mechanism

Name:
Title:
Date:
Signature:

Climate Technology Centre and Network (CTCN)

Name: Jukka Uosukainen
Position: CTCN Director
Date:
Signature:

CTCN
CLIMATE TECHNOLOGY CENTRE & NETWORK

Technical Assistance Response Plan – Terms of Reference

1. Background and context

The construction industry is currently responsible for more than 23% of the world's greenhouse gas emissions and for 30% of global resource consumption. Maintaining this pattern in this sector, which depends on carbon-intensive machinery and materials, threatens to put the world on a fast track towards a global temperature rise of 3°C or more by 2050. (C40, 2020). According to the Mexican National Inventory of Emissions of Greenhouse Gases and Compounds, the industry sector contributes 17.3% of national emissions and the subsectors that generate the most emissions are those of cement, iron and steel, and chemicals (INECC, 2015).

In Mexico City, 65% of construction and demolition waste (CDW) reported in terms of impact (461,276.61 m^3/year) were sent to final disposal sites (SEDEMA, 2020). In addition, the 2016 edition of the Mexico City Emissions Inventory, reported that this sector contributed 5.05 tonnes of emissions of toxic compounds per year. These figures reveal the significant losses incurred, year after year, of valuable materials, products and components and the economic losses and negative effects on the entire materials value chain. In addition to the above, the poor disposal of this type of waste causes strong environmental impacts, especially in areas of environmental value, such as ravines, where waste is deposited illegally, while it also generates additional emissions from its transportation, because much of this waste is dumped in neighbouring states, since Mexico City has no final disposal sites.

Sustainability is one of the guiding axes of the Mexico City Governance Plan, 2019-2024. This establishes that Mexico City requires an urban and economic development model that will reduce pollution, conserve and restore its natural resources, reduce the generation of the greenhouse gases that cause climate change, and generate mitigation and adaptation strategies through the sustainable management of resources. In this vein, the circular economy is one of the strategic axes to mitigate GHG emissions, in order to promote the reintegration of resources into the economy, generate low-carbon economic growth, develop inclusive, sustainable employment opportunities, and bring about a green economic recovery.

In addition to the problems mentioned above, the ongoing health emergency caused by Covid-19 has highlighted the unsustainability and fragility of the current linear economic model in supply chains, productivity and practically every area of development. Given this context, and in alignment with the needs that countries must address in the short and medium terms in respect of sustainability, economic development and the creation of quality employment, the circular economy is a driver of development that will make it possible to benefit from the opportunities for the revalorization of materials flows from construction and demolition. As mentioned above, this would contribute to the mitigation of socio-environmental impacts and generate direct economic benefits for businesses and local communities.

2. Problem statement

SEDEMA has no experience in the creation of platforms for the trade and exchange of materials or products or of the digital infrastructure to connect different actors within the territory of Mexico City. The launch of a Marketplace platform of this type, with an initial focus on handling rubble and other materials from construction and demolition will allow the linking of product-waste processes and establish a new type of business and productive circle.

Another benefit of this platform will be the generation of statistical data on the production and

recycling of waste. These data will be indispensable for evaluating the monitoring and progress of initiatives taken forward by the city's authorities and also for the calculation of emissions reductions from the interchange of materials. The information currently available is based on estimates and is only physically found in the files of the Secretariat.

3. Logical Framework for the CTCN Technical Assistance

(Guidance: Please note that multiple activities lead to one Output, and multiple Outputs lead to one Outcome. There can be several Outputs, but only one Outcome description capturing the CTCN technical assistance. Deliverables are the products or services to be delivered to the NDE/Proponent/CTCN based on the Activities and the Outputs.)

	Month											
	1	2	3	4	5	6	7	8	9	10	11	12
Objective: Technical support from specialists in circular economy and technologies of Industry 4.0, for the development of a platform for the interchange of materials between private parties and public administration entities (a Marketplace) in alignment with the public policy of sustainable development and the regulatory framework.												
Outcome: Platform for the interchange of materials from construction and demolition for the transition towards the circular economy in Mexico City, to serve as a pilot project for application at the national level.												
Output 1: Development of implementation planning and communication documents												
Activity 1.1: *All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.* i) A detailed work plan of all activities, deliveries, outputs, deadlines and responsible persons/organisations and detailed budget to implement the Response Plan. The detailed work plan and budget must be based directly on this Response Plan; ii) Based on the work plan, a monitoring and evaluation plan with specific, measurable, achievable, relevant, and time-bound indicators used to monitor and evaluate the timeliness and appropriateness of the implementation. The monitoring and evaluation plan should enable the implementer to complete the CTCN Closure and Data Collection Report at the end of the assignment (please refer to item iv below and section 14 in the Response Plan); iii) A two-page CTCN Impact Description formulated in the beginning of the technical assistance and update/revised once the technical assistance is fully delivered (a template will be provided); iv) A Closure and Data Collection Report completed at the end of the technical assistance (a template will be provided).												
Deliverable 1:												
i) Detailed work plan	X											
ii) Monitoring and Evaluation Plan	X											
iii) CTCN Impact Description	X											X
iv) Closure and Data Collection report												X
Output 2: Analysis of the current situation of the construction and demolition sector with regard to the circular economy, its potential to mitigate GHG emissions and a typology of key actors												

Activity 2.1: Compilation and analysis of available public information on materials from the construction and demolition sector and their interaction with the urban systems of Transport/Mobility, Urban Development, Waste Management and Promotion of SMEs												
Activity 2.2: Identification of main political, economic, social and environmental stakeholders related to the handling of materials from the construction and demolition sector												
Activity 2.3: Identification of current and potential actions for the circularity of Construction and Demolition Waste (CDW) and the stakeholders involved in its implementation and scaling, by means of the collation of sector reports and other secondary information												
Activity 2.4: Preliminary estimate of the potential of GHG emissions reductions scenarios associated with the circularity of materials flows in the construction and demolition sector												
Deliverable 2:												
i) Report of the analysis from information available of waste in the construction and demolition sector in Mexico City and its interaction with urban systems: Transport/Mobility, Urban Development, Waste Management and Promotion of SMEs	X											
ii) Stakeholder matrix (political, economic, social and environmental) for the CDW Marketplace-type materials platform initiative	X											
iii) Matrix of GHG mitigation actions linked to the circularity of construction and demolition materials and an estimate of potential reductions		X										
Output 3: Proposed business model for the Marketplace, based on the analysis of the political, regulatory and incentive environment												
Activity 3.1: Analysis of the Supply-Demand relationship that would support the business model for the Marketplace-type materials platform												
Activity 3.2: Compilation and analysis of public policies, regulations and incentives for the reporting of information and handling of materials in the construction and demolition sector												
Activity 3.3: Preparation of a proposal to establish regulatory mechanisms and/or incentives for the collection of baseline information for the platform and to promote the circularity of materials in the sector. Existing mechanisms will be taken into account and, if necessary, new or improved strategies will be proposed												
Activity 3.4: Recommendations for the financing and financial sustainability of implementation and subsequent maintenance of the Marketplace-type platform												
Activity 3.5: Consultation and adjustments to the proposed business model and sustainability of the Marketplace, by means of virtual workshops with the Mexican National Designated Entity and the Secretariat of the Environment (SEDEMA). The gender equity of workshop attendees will be sought												
Deliverable 3:												
i) Report with a proposed business model for the sustainability of the Marketplace, including regulatory mechanisms and/or new or improved incentives				X								

ii) Reports of workshops with the Designated National Entity of Mexico and the Secretariat of the Environment (SEDEMA) and gender-disaggregated list of participants				X								
Output 4: SWOT analysis and dissemination of the platform's business model by means of a sectoral work group												
Activity 4.1: Identify and validate, with the Designated National Entity of Mexico and the Secretariat of the Environment (SEDEMA) focal point, which stakeholders (maximum of 6 organizations) will make up the work group that will provide essential inputs for the conduct of the technical assistance												
Activity 4.2: Invitation to stakeholders identified in the previous activity to be part of the work group. The gender equity of participants will be sought. Dissemination among its members of scope of work group The gender equity of workshop attendees will be sought												
Activity 4.3: Dissemination of and improvements to the platform's business model with members of the work group, with respect to regulatory mechanisms and/or incentives for the operation and sustainability of the platform, and to promote the circularity of materials in the sector. Face-to-face meeting if Covid-related safety conditions permit or, if not, a virtual workshop												
Activity 4.4: Virtual workshops (two or three workshops) with members of the work group to identify strengths, weaknesses, opportunities and threats to the development and implementation of a platform for the interchange of materials from construction and demolition												
Activity 4.5: Proposals of strategies to overcome the main barriers identified and/or to take advantage of the most-significant opportunities in the construction and demolition sector, in respect of GHG mitigation and the transition towards the circular economy												
Deliverable 4:												
i) Minutes and gender-disaggregated attendance lists for the work group					X							
ii) SWOT analysis of the priority sectors for the transition towards a circular economy model and development of a revalorization market for CDW flows					X							
iii) Proposals of strategies to overcome the main barriers identified and/or to take advantage of the most-significant opportunities in the construction and demolition sector, in respect of GHG mitigation and the transition towards the circular economy					X							
iv) Final report on the development of the business model for the implementation and maintenance of the Marketplace-type platform to be used as an example for application in other regions					X							
Output 5: Establishment of indicators												
Activity 5.1: Preparation of proposed circularity and SDG indicators for the construction and demolition sector in Mexico City (CDMX)												
Activity 5.2: Preparation of proposed monitoring indicators to evaluate the effectiveness of the platform												
Activity 5.3: Virtual dissemination of indicators to focal points of the Designated National Entity of Mexico, the												

Secretariat of the Environment (SEDEMA) and work group members, for later use and update by the institutions made responsible for the administration of the platform												
Deliverable 5:												
ii) Minutes and gender-disaggregated attendance lists from the indicator dissemination virtual workshop							X					
iii) Matrix of circularity and SDG indicators and for monitoring the effectiveness of the CDW platform							X					
Output 6: Development of a prototype CDW market platform to be used as a trial pilot with potential for scaling												
Activity 6.1: Structure the characteristics of the platform for the interchange of materials from construction and demolition, in which suppliers and users can come into contact and sell or exchange their products or services online, facilitating communication between supply and demand. This includes, but is not limited to, a typology of users; an input and output data matrix; structuring the data warehouse required by the platform to create reports and analyse data; defining responsibilities for data governance or the management of the availability, quality and security of the data managed by the platform; and other descriptive components of the technical concept, elements and tools. The data structure shall be aligned with the current classification of waste by the sector's authorities in Mexico City												
Activity 6.2: Development of the prototype Marketplace-type platform												
Activity 6.3: Piloting the platform with information from members of the work group formed in previous steps of this assistance. The group will include two to three members from the materials-supply side and two to three members from the demand side. Work group members who have expressed interest and can efficiently respond to the requirements for data will be asked for information												
Activity 6.4: Post-pilot adjustments to the platform												
Activity 6.5: Develop a detailed proposal of steps to follow for implementation of the platform, based on the results of the pilot. This should include a step-by-step guide with the platform's information flow, description of standard development and support methodology; and analysis of its implementation costs, data governance, technological requirements and staff training, etc.												
Deliverable 6:												
i) Prototype CDW marketplace platform										X		
ii) Demonstration version, Demo type, with visualisations of reports from the pilot and in PPT format of the scope of the platform and the results of the pilot											X	
iii) Proposed next steps for implementation of the platform with step-by-step guide, analysis of costs, data governance, technological requirements and staff training, etc.											X	
Output 7: Training tools for the platform's administrators and users												
Activity 7.1: Develop digital manuals and/or guides to guarantee the continuity of the project. This includes a												

manual or guide with the description of the platform for users on the demand and supply sides and another guide for the administrators responsible for data governance and the maintenance and development of the platform												
Activity 7.2: Virtual training for the staff of SEDEMA, INECC and other organizations to be made responsible for the procedures associated with the platform's implementation, operation and maintenance. Approximately 20 people trained. The training will include one train-the-trainer module (approximately 10 persons) to develop skills to impart training to users of the platform on the CDW supply and demand sides. The gender equity of training session attendees will be sought												
Activity 7.3: Application of a satisfaction survey of participants in training, based on the guidelines of the Communications Office of the CTCN												
Activity 7.4: Report on lessons learned and recommendations for future platform dissemination workshops and user training events												
Deliverable 7:												
i) A digital manual for platform users (approx. 10 pages)												X
ii) A digital manual for platform administrators (approx. 12-20 pages)												X
iii) Digital training material for institutions (approx. 20 persons trained)												X
iv) Gender-disaggregated list of attendees of training and participant satisfaction survey												X
v) Report on lessons learned and recommendations for future dissemination and training days												X

4. Resources required and itemized budget:

Please provide an indicative overview of the resources required and itemized budget required to implement the CTCN technical assistance, including for M&E-related activities, using the table below. Important to note that minimum 1% of the budget should explicitly target gender specific activities related to the technical assistance (please see section 10 for further information on gender). Once the Response Plan is completed, a Response Implementation partner(s) will be selected by the Climate Technology Centre (CTC). A detailed activity-based budget for the CTCN assistance will be finalized by the CTCN and selected Implementer.

Activities and Outputs	**Input: Human Resources** *(Title, role, estimated number of days)*	**Input: Travel** *(Purpose, national vs. international, number of days)*	**Inputs: Meetings/events** *(Meeting title, number of participants, number of days)*	**Input: Equipment/Material** *(Item, purpose, buy/rent, quantity)*	**Estimated cost** *Please accumulate the costing at Activity and Output level and provide an estimated costing range for each activity and the total Response Plan*	
					Minimum	**Maximum**
Output 1: Development of implementation planning and communication documents	LE 10 EI.1 2 EI.2 2 EI.3 4 EI.4 0 EL.1 2 EL.2 2	None	None	None	10,160	12,800
Output 2: Analysis of the current state of the construction and demolition sector with regard to the circular economy, its potential to mitigate GHG emissions and a typology of key actors	LE 3 EI.1 29 EI.2 0 EI.3 0 EI.4 0 EL.1 25 EL.2 0	None	None	None	24,860	31,700
Output 3: Proposed business model for the Marketplace, based on analysis of the political, regulatory and incentive environment	LE 5 EI.1 2 EI.2 20 EI.3 0 EI.4 0	None	None	None	17,140	21,700

	EL.1 8 EL.2 3					
Output 4: SWOT analysis and dissemination of the platform's business model by means of a sectoral work group	LE 8 EI.1 2 EI.2 5 EI.3 0 EI.4 0 EL.1 10 EL.2 9	International trip for Team Leader and three international experts (EI1, EI2, and EI3) and national trips for two national professionals to attend Activity 4.3	Face-to-face or, if not possible, virtual meeting for Activity 4.3; Dissemination of proposed business model	None	28,920	33,000
Output 5: Establishment of indicators	LE 8 EI.1 2 EI.2 0 EI.3 2 EI.4 0 EL.1 0 EL.2 3	None	None	None	6900	8700
Output 6: Development of a prototype CDW marketplace platform to be trialled as a pilot with potential for scaling	LE 2 EI.1 2 EI.2 2 EI.3 38 EI.4 43 EL.1 0 EL.2 12	None	None	Technologies to be bought (software, cloud servers and controllers)	49,320	61,200
Output 7: Training tools for the platform's administrators and users	LE 11 EI.1 0 EI.2 0 EI.3 16 EI.4 0 EL.1 0 EL.2 11	None	None	Digital manuals or guides as in Activity 7.1 This includes a user manual (approx. 10 pages) and a platform administrator manual (approx. 12-20 pages).	21,140	25,700
Estimated range of costing for the entire Response Plan					**158,440**	**194,800**

5. Profile and experience of experts

Based on the required Human Resources identified in section 4 (Resources required and itemized budget) please provide a description of the required profile of all involved experts for the implementation of the CTCN Response Plan.

Experts required	Brief description of required profile
Team Leader (LE)	Economist, finance expert, engineer, administrator, ecologist or similar with MSc and/or PhD in sustainability and/or environmental management or related areas. Minimum of 18 years' professional experience. Minimum of 4 years' experience in the circular economy, with verifiable knowledge of large-scale climate-change-mitigation policies and measures, extensive experience in the design and implementation of indicators of measures of circularity and SDG monitoring at the regional or national level. Extensive experience leading projects with the participation of actors from the public and private sectors. Experience of working with local governments is an advantage. Experience in the coordination of highly-complex projects involving the leadership of interdisciplinary work teams and consultation with local stakeholders. At least three years' experience of working in Latin America. Fluency in Spanish and English required.
International expert in the construction and demolition sector (EI.1)	Engineer, administrator or similar with MSc and/or PhD in sustainability and/or environmental management or similar areas. Minimum of 12 years' professional experience. Minimum of 4 years' experience in actions for the sustainability of the construction and demolition sector, preferably in structuring and implementing measures for the circularity of materials. Experience with actors from the public and private sectors, experience in estimating potential GHG reductions from the circularity of materials in the construction and demolition sector. At least three years' experience of working in Latin America. Fluency in Spanish and English required.
International advisor in financial evaluation and business models (EI.2)	Engineer, finance expert, administrator, economist or similar with MSc in sustainability and/or environmental management or related areas and training in climate finance. Minimum of 10 years' professional experience. With experience in climate financing mechanisms and formulation and/or monitoring of Public-Private Partnerships. Experienced in environmental financing mechanisms such as incentives, remuneration mechanisms for ecosystem services (MRSE), among others. Experience in the financial structuring of materials circularity strategies will be a major advantage. Experience with local governments is desirable. At least five years' experience of working in Latin America. Full command of English and advanced knowledge of Spanish.
International expert, Technology Director (EI.3)	Engineer and/or professional in information technology or similar. Minimum of 12 years' professional experience. At least ten years' experience in technological systems that facilitate management and processes in organizations. At least three years' experience or in at least three projects for the design and/or development of platforms for the interchange of materials. Experience of work with local government and the industry sector. Fluent Spanish and advanced knowledge of English is required.
Platform developer(s) (1 or 2	Engineer and/or professional in information technologies or similar. Minimum of eight years' professional

professionals) (EI.4/5)	experience. At least five years' experience in the design and/or development of computer solutions involving software development and the use of information platforms. Experience of work with local government and the industry sector. Fluent Spanish and advanced knowledge of English is required. The implementer may choose national or international consultants.
Local expert in national and/or Mexico City regulations in the waster sector and incentives for the circularity of materials (EL.1).	Lawyer with higher university degree (master's or equivalent) in environmental law or related area or, failing that, three years' qualified experience in areas related to the assistance. Minimum of five years' experience in the analysis, evaluation and/or implementation of policy instruments or environmental regulations in Mexico. Knowledge of environmental incentive schemes and corporate social responsibility is an advantage. Native Spanish and intermediate command of English.
Local expert in communications and gender (EL.2).	Communicator, anthropologist, sociologist or similar, with training in gender studies. At least three years' experience or experience of at least three projects in the design and execution of social research, inclusion and gender mainstreaming. Experience in the design of tools and application of interview techniques and surveys, and design and moderation of focus groups. Knowledge of workshop design and group facilitation strategies using virtual means. Experience of working with local governments. Experience in the industry sector and with actors from the public and private sectors of Mexico City is desirable. Native Spanish and intermediate command of English.

6. Intended contribution to impact over time

The outcome of the assistance is the development of a platform for the interchange of materials from construction and demolition for the transition towards the circular economy in Mexico City, to serve as a pilot project for application at the national level.

This project is also expected to have important co-benefits such as the creation of green jobs. In this regard, the government of Mexico City has already promoted a range of incentives to trigger the participation and inclusion of women and other vulnerable population groups in the development of these jobs.

It is also expected that implementation of the platform will bring a reduction in the extraction of material resources and in the generation of waste, having a positive impact on the reduction of GHG emissions and damage to ecosystems. This will, in turn, reduce the financial cost to the city of removing this waste and sending it to final disposal sites in neighbouring states. These savings can be invested in actions that contribute to better waste management in the city.

In the social sphere, this type of action promotes the development of awareness around the environmental, economic and social benefits that circular economy schemes bring, providing alternatives and solutions for the use of waste.

7. Relevance to NDCs and other national priorities

2020 Nationally Determined Contribution

"Mexico commits unconditionally to reduce its Greenhouse Gas Emissions (GHG) by 22% and its black carbon emissions by 51% by 2030 with respect to the baseline constructed in an estimated 2013 business-as-usual (BAU) scenario". In the case of waste, "the NDC takes into account opportunities related to management activities and final destination of solid waste. It also covers the treatment of municipal and industrial wastewater and, as other activities related to its final disposal, reuse, recycling, composting and biodigestion".
Government of Mexico Ministry of the Environment and Natural Resources (2020). Nationally Determined Contribution Mexico. Version updated 2020. Pp 23-28.

Mexico's mitigation measures

1.10 - "To align the planning and policies for urban development, land, sustainable buildings, housing, energy, transport, mobility, green areas, coasts, and the integrated management of waste and water, to reduce the carbon footprint of population centres".

3.8 - "To promote the participation of the private sector in waste separation, reuse and recycling projects..., in the creation of collection centres, subject to the development and strengthening of mechanisms, regulations and markets. The foregoing is intended to encourage investment in the sector and as co-responsibility measures in the generation of waste".

3.9 - "To promote new technologies and infrastructure for the integrated management of solid waste..., through co-investment schemes and economic instruments that facilitate the self-financing of the operation and maintenance of new and existing infrastructure".

ENCC 2013. National Strategy for Climate Change. Vision 10-20-40, Government of the Republic. Pp 27,45,51

Other relevant documents

Assessment of the current status of the circular economy, for development of a roadmap for Brazil, Chile, Mexico and Uruguay INECC-CTCN, 2020.
https://www.gob.mx/cms/uploads/attachment/file/641380/VF_version_ejecutiva_Economia_Circular_2.pdf

Goal of increasing the recycling of CDW from 206 to 6000 tonnes per day and a 4000-tonne

reduction in unused CDW in authorized and unauthorized sites by 2024

SEDEMA (2019). Zero waste. Mexico City Action Plan for a Circular Economy. P.5 https://basuracero.cdmx.gob.mx/

Circular economy and climate action. Goal 1 - "100% of urban waste is used sustainably; new buildings include all sustainability criteria in their designs and at least 50% materials recycled from construction waste."

Mexico City Government. (2021). Mexico City General Development Plan. P. 97.

Mexico City Climate Action Programme, Axis 2, Goal 5. by 2024, 60% of waste from construction and demolition will be recycled

Sedema (2020), PACCM and ELAC. P. 113

https://www.sedema.cdmx.gob.mx/storage/app/media/DGCPCA/PACCM_y_ELAC.pdf

Mexico City Solid Waste Inventory, 2019. Secretariat of the Environment of Mexico City

Sedema (2020), IRS 2019

https://www.sedema.cdmx.gob.mx/storage/app/media/DGCPCA/InventarioDeResiduosSolidosDeLaCiudadDeMexico_2019.pdf

C40 Clean Construction Declaration, 1. Reduce embodied emissions by at least 50% for all new buildings and major retrofits by 2030, 2. Reduce embodied emissions by at least 50% of all infrastructure projects by 2030, 3. Procurement and, if possible, exclusive use of zero emission construction machinery from 2025

C40 (2020), C40 Clean Construction Declaration

https://www.c40.org/clean-construction-declaration

Mexico City Environmental Standard NACDMX-007-RNAT-2019, establishes the classification and specifications for integrated management of construction and demolition waste in Mexico City

http://www.sadsma.cdmx.gob.mx:9000/datos/storage/app/media/gacetas/GOCDMX_21-07-20_SEDEMA.pdf

National Institute of Ecology and Climate Change (INECC) and Ministry of the Environment and Natural Resources (SEMARNAT). 2015. First Biennial Update Report to the UNFCC. INECC/Semarnat, Mexico

https://www.gob.mx/inecc/acciones-y-programas/inventario-nacional-de-emisiones-de-gases-y-compuestos-de-efecto-invernadero

Mexico City Emissions Inventory, 2016 Criteria pollutants, toxic waste and greenhouse compounds

http://www.aire.cdmx.gob.mx/descargas/publicaciones/flippingbook/inventario-emisiones-2016/mobile/inventario-emisiones-2016.pdf

8. Linkages to relevant parallel on-going activities

The Project to assess the current status of the circular economy, for development of a roadmap for Brazil, Chile, Mexico and Uruguay, RFP / UNIDO / 7000003530, identified that in Mexico there is great potential for the revalorization of waste from the construction and demolition materials industry. The main opportunities identified included: 1) The possibility of reducing dependence on the use of virgin raw materials, with the co-benefit of reducing dependence on inputs with highly volatile market prices; 2) the economic revalorization inherent to the sale of these usable materials flows and resources; 3) the reduction or elimination of the costs and GHG emissions currently associated with final disposal of these flows; 4) the diversification of the industry through embarking on new business models focused on the recovery and use of waste.

In addition, within this scenario and taking into account that inter-institutional collaboration is fundamental for achieving the goals set, the Secretariat of the Environment (SEDEMA) is currently working with other international organizations to develop the corresponding analyses to determine the potential to reduce GHG emissions from the city's CDW and to measure the effectiveness of strategies and identify areas of opportunity to help reduce emissions and achieve the goals set in the

Zero Waste programme, with the aim of obtaining relevant information for public policy decision-making on CDW, on the way to cleaner construction criteria in the city with the potential to be replicated in other cities with similar characteristics.

In turn in 2020, the Government of Mexico City launched an invitation to tender for the installation of CDW recycling plants. As a result of this initiative, three projects were assessed as being feasible, including the Integrated Centre for the Recycling of Construction and Demolition Waste (CIREC), which opened that same year and which currently processes 1200 tonnes of mixed construction waste and 2200 tonnes of clean waste, accounting for 24% of the city's estimated total generation of CDW.

Also, in that same year, in July of this year, the update to Environmental Standard NACDMX-007-RNAT-2019 was published, which establishes the classification and handling specifications for construction and demolition waste, with the aim of promoting the recycling and reuse of this type of waste in public and private works.

9. Anticipated follow-up activities after this technical assistance is completed

The entity making the request for assistance and that will coordinate its implementation is the Secretariat of the Environment of the Government of Mexico City *(SEDEMA)*, through its General Director of Policy Coordination and Environmental Culture and it will be responsible for monitoring the results of the technical assistance and for ensuring its replication and scaling.

SEDEMA, together with the work group to be formed under the assistance, will validate the data governance proposal for the platform's operation and maintenance.

10. Gender and co-benefits

Imbedded in design of the activities	The impact on the design of activities is linked to the inclusion of women in the work teams carrying out this technical assistance. As one, but not the only example of this, it will be sought to promote the leadership of women in the sector work group to be established to provide key inputs for the conduct of the assistance.
Gender and co-benefits intended as result of the activities	This assistance is expected to have important co-benefits in the creation of green jobs. In this regard, the government of Mexico City has already promoted a range of incentives to trigger the participation and inclusion of women and other vulnerable population groups in the development of these jobs.

11. Main in-country stakeholders in implementation of the technical assistance activities

In-country stakeholder	**Role in implementation of the technical assistance**
Designated National Entity: National Institute of Ecology and Climate Change, INECC	Support for assistance coordination
Applicant: Secretariat of the Environment, SEDEMA	Coordination with sector stakeholders and local government authorities Will lead on monitoring the outcomes of the assistance

12. SDG Contributions

Goal	Sustainable Development Goal	Direct contribution from CTCN TA (1 sentence for top 1-3 SDGs)
1	End poverty in all its forms everywhere	-
2	End hunger, achieve food security and improved nutrition and promote sustainable agriculture	-
3	Ensure healthy lives and promote well-being for all at all ages	-
4	Ensure inclusive and equitable quality education and promote lifelong opportunities for all	-
5	Achieve gender equality and empower all women and girls	-
6	Ensure availability and sustainable management of water and sanitation for all	-
7	Ensure access to affordable, reliable, sustainable and modern energy for all (consider adding Goal 7 targets)	-
	7.1 By 2030, ensure universal access to affordable, reliable and modern energy services	-
	7.2 By 2030, increase substantially the share of renewable energy in the global energy mix	-
	7.3 By 2030, double the global rate of improvement in energy efficiency	-
	7.a By 2030, enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy, energy efficiency and advanced and cleaner fossil-fuel technology, and promote investment in energy infrastructure and clean energy technology	-
	7.b By 2030, expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries, in particular least developed countries, small island developing States and landlocked developing countries, in accordance with their respective programmes of support	-
8	Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all	-
9	Build resilient infrastructure, promote sustainable industrialization and foster innovation	-
10	Reduce inequality within and among countries	-
11	Make cities and human settlements inclusive, safe, resilient and sustainable	-
12	Ensure sustainable consumption and production patterns	The assistance promotes sustainable consumption and production, since it consists of the development of a platform for exchange and prevents the generation of waste in the construction sector.
13	Take urgent action to combat climate change and its impacts	-
	13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries	-
	13.2 Integrate climate change measures into national policies, strategies and planning	The Marketplace-type platform is a waste management strategy through the promotion of circular actions, led by the environmental authority of Mexico City and that has the potential to be replicated in other sectors and at a national level.
	13.3 Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning	-
	13.a Implement the commitment undertaken by developed-country parties to the United Nations Framework Convention on Climate Change to a goal of mobilizing jointly $100 billion annually by 2020 from all sources to address the needs of developing countries in the context of meaningful mitigation actions and transparency on implementation and fully operationalize the Green Climate Fund through its capitalization as soon as possible	-
	13.b - Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities	-
14	Conserve and sustainably use the oceans, seas and marine resources for sustainable development	-
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	
16	Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels	-
17	Strengthen the means of implementation and revitalize the global partnership for sustainable development	-

13. Classification of technical assistance

Please tick all relevant boxes below	*Primary*	*Secondary*
☐ 1. Decision-making tools and/or information provision	☐	☐
☐ 2. Sectoral roadmaps and strategies	☐	☐
☐ 3. Recommendations for law, policy and regulations	☐	☐
☐ 4. Financing facilitation	☐	☐
☐ 5. Private sector engagement and market creation	X	☐
☐ 6. Research and development of technologies	☐	☐
☐ 7. Feasibility of technology options	☐	☐
☐ 8. Piloting and deployment of technologies in local conditions	☐	X
☐ 9. Technology identification and prioritization	☐	☐

Please note that all CTCN technical assistance contributes to strengthening the capacity of in-country actors.

14. Monitoring and Evaluation process

Upon contracting of the implementing partners to implement this Response Plan, the lead implementer will produce a monitoring and evaluation plan for the technical assistance. The monitoring and evaluation plan must include specific, measurable, achievable, relevant, and time-bound indicators that will be used to monitor and evaluate the timeliness and appropriateness of the implementation. The CTCN Technology Manager responsible for the technical assistance will monitor the timeliness and appropriateness of the Response Plan implementation. Upon completion of all activities and outputs, evaluation forms will be completed by (i) the NDE about overall satisfaction level with the technical assistance service provided; (ii) the Lead Implementer about the knowledge and learning gained through delivery of technical assistance; and (iii) the CTCN Director about timeliness and appropriateness of the delivery of the activities and outputs.