Technical Assistance Closure Report Template

Objective of the technical assistance (TA) Closure Report:

- To communicate publicly in one document a summary of progress made and lessons learned during the TA towards the anticipated impact (sections 1-4).
- To document qualitative and quantitative data collected during TA, for use in donor and UN reporting (Annex 1).

Steps for completing the TA Closure report:

1. The lead TA implementer submits the closure report at the end of the technical assistance as a final deliverable. The TA closure report will capture outputs, outcomes and impacts of all activities conducted under the TA. Please copy and summarise relevant material from previous TA outputs/deliverables and the Response Plan, as relevant.
2. A CTCN Manager will review and revise the closure report before final approval by the CTCN Deputy Director.

Important note on public and internal use of the closure report:
Once approved by the CTCN Deputy Director, the TA closure report will be a public document available on the CTCN website www.ctc-n.org. Selected content will be used for targeted communication activities. Annex 2 is for internal use only and will not be publicly available.

Closure Report for CTCN Technical Assistance

1. Basic information

<table>
<tr><td>Title of response plan</td><td>Assessment of the current status of the circular economy for developing a roadmap for each requesting country</td></tr>
<tr><td>Technical assistance reference number</td><td>2019000007</td></tr>
<tr><td>Country / countries</td><td>Ecuador, El Salvador, Cuba, Paraguay y Dominican Republic</td></tr>
<tr><td>NDE focal point and organisation</td><td>
<table>
<tr><th>Country</th><th>Organisation</th><th>NDE focal point</th></tr>
<tr><td>Ecuador</td><td>Subsecretaría de Cambio Climático, Ministerio del Ambiente</td><td>Ricardo Proaño
Coordinador de Proyectos DPE
Especialista en Políticas de Cambio Climático</td></tr>
<tr><td>El Salvador</td><td>Ministerio de Medio Ambiente y Recursos Naturales</td><td>Luis Eduardo Menjívar Recinos Coordinador Unidad de Análisis y Desarrollo Geoespacial</td></tr>
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	<table><tr><td>Dominican Republic</td><td>Dirección de Cambio Climático, Ministerio de Medio Ambiente y Recursos Naturales</td><td>Pedro García Brito Director</td></tr><tr><td>Cuba</td><td>Dirección de Ciencia, Tecnología e Innovación, Ministerio de Ciencia, Tecnología y Medio Ambiente</td><td>Armando Rodríguez Batista Vice-Ministro</td></tr><tr><td>Paraguay</td><td>Secretaría del Ambiente</td><td>Gustavo Evelio Gonzalez Coordinador de Proyectos DPE</td></tr></table>
Proponent focal point and organisation	*MAATE (Ecuador),* *MARN (El Salvador),* *MIMARENA (Dominican Republic),* *MADES (Paraguay),* *CITMA (Cuba)*
Designer of the response plan	Climate Technology Centre and Network (CTCN) - ONUDI
Implementer(s) of technical assistance	Servicios de Ingeniería Deuman Limitada
Beneficiaries	Government, Business, Entrepreneurship, Academia, Civil Society Organisations, NGOs, Multilateral Organisations
Sector(s) addressed	Manufacturing
Technologies supported	a) Recycling b) Unconventional renewable energy c) More efficient industrial technologies and redesign of process
Implementation period and total duration in months	**Implementation start date:** January 2020 **Implementation end date :** August 2022 **Total duration :** 32 months

Total budget for implementation	US$ 249,452.00
Description of delivered outputs and products as well as the activities undertaken to achieve them. In doing so, review the log frame of the original response plan and refer to it as appropriate	Below is the summary of products 1-6 corresponding to the original response plan. In addition, the description of the outputs is incorporated below the subtitles. **Output 1: Development of the work plan and related communication documents** In summary, the output is related with the develop of a work plan, reports and plans about the monitoring and evaluation by indicators. Also, the output includes a document which content the closure report and data collection associated with the develop of the project. ***1.1 Work plan*** 1***.2 Monitoring and evaluation plan*** ***1.3 Description of impacts document (initial and final version)*** ***1.4 Closure and data collection report*** **Output 2: Diagnosis of key actors and existing circular economy initiatives in the participating country** The develop of the output includes an initial presentation of the technical assistance plan with the main objective of recollect information about the participating countries. After that, the diagnosis is elaborated with the national and local information about the current status of economic sectors (he evaluation is based on economic indicators and climate tools). The priorization of the economic sectors define between three and five sectors. Also, the identification of key actors and initiatives related with the prioritized sectors. **2.*1 Meeting reports***. A total of 5 reports will be submitted for the meetings in Ecuador, El Salvador, Dominican Republic, Cuba and Paraguay. ***2.2 Evaluation report to identify and define the key actors*** to participate in the development of the Circular Economy Road Map in each participating country, describing their experience in each participating country, describing their experience, capacities and commitments. This report should emphasize the degree of adoption of the circular economy in the applicant country, including existing sectoral roadmaps. **Output 3: Identification of the perceived value of the circular economy and of benefits, weaknesses, opportunities and challenges in each participating country** The development of the output includes the analysis of the benefits recognized in the circular economy by the different key actors of the applicant country identified in Product 2. After that, the next step is the analysis of strengths and opportunities that the applicant country will have if they adopt the circular economy according with the END. Finally, the analysis of weaknesses and barriers is developed; and, in addition to the analysis, the generation of a matrix of indicators associated to the reality of the applicant countries.

	3.1 Report presenting a map of the main economic activities in each participating country that are likely to be most impacted by the circular economy and quantification of the main economic activities of each country that are likely to be most impacted by the circular economy and quantification of the economic, social and environmental economic, social and environmental benefits, their impact on the NDCs and SDGs ***3.2 Report on the strengths and opportunities identified.*** ***3.3 Report on identified weaknesses and barriers.*** ***3.4 Report with matrix of indicators*** **Output 4: Compilation of international experiences** In summary, the product is associated with the review of success cases of general, sectoral and specific circular economy processes, similar to those identified by the NDEs, in other countries that stand out for their adoption of 4.0 technologies. This was followed by an analysis of the conditions and opportunities that have favoured the development of circular models in international success cases. Finally, an analysis of regional and international experiences was carried out in order to visualize possible exchanges and initiatives for and international experiences that allow visualizing possible exchanges and south-south cooperation initiatives in order to be used in Output 6. 4.1 Report presenting in general terms the main cases of countries that have been successful in the application of a general, sectoral or specific circular economy model. 4.2 Report presenting the lessons learned such as what were the main barriers, challenges and opportunities and what policies, incentives or conditions were developed for a successful application of the circular model. 4.3 Report with comparative matrix of experiences. **Output 5: Mapping of successful cases of application of industry 4.0 in favour of the circular economy at the international level and adoption of some practices at the local level taking into account technological developments in these countries.** Product development involves the assessment of the situation of each participating country respect to the current status of the framework of the fourth industrial revolution and, in particular, the situation and stage of development of the relevant actors identified in Product 2. After this, the product involves the general diagnosis of the level of development of Industry 4.0 in each participating country and the analysis of the main technologies of the fourth industrial revolution. Finally, circular economic activities defined in Product 2 are identified that can be enhanced by the incorporation of Industry 4.0 technologies, allowing them to make their production processes and services more efficient, optimize the use of resources and energy, and develop new business models. Below, the description of the subproducts is developed according to response plan. 5.1 Report presenting a general diagnosis of the level of development of Industry 4.0 in each participating country and analysis of the main technologies of the fourth

	industrial revolution (big data, 3D printing, advanced manufacturing, cloud computing, internet of things, artificial intelligence, virtual/augmented reality, robotics, sensors and blockchain). 5.2 Report presenting the benefits of leveraging the actors and initiatives identified in Output 2 with new circular disruptive business models (remanufacturing, circular design, circular sourcing, resource recovery, life cycle extension, shared platforms and product-as-a-service) with the technologies identified in Activity 5.1. **Output 6: Identification of potential projects in the circular economy for each applicant country, prioritizing specific territories** The realization of the subproducts of Product 6 involve all the products before, to elaborate a draft version about roadmap for the implementation of the circular economy for each country is the first step to introduce the circular economy in economic sectors. For that, the roadmap is focused on one sector. In the case of all the countries, the priorized sector is Manufacturing. Also, the document proposes strategies grouped in four strategies lines: Innovation, Sustainable Production, Responsible Consume and Cooperation. Each strategy is relationated with monitoring indicators. Also, one of the subproducts involve the develop of a pilot plan. The pilot is focused on one sector of manufacturing. Each country chooses the subsector and the pilot is proposed like a concept note. The next step after the technical assistance is the execution of the pilot plan and the implementation of the roadmap. Below, the description of the subproducts is developed according to response plan. 6.1. Assessment report to identify and define potential projects agreed with the NDT in each participating country, describing their potential benefits in economic, social and environmental terms. 6.2 Preparation of a draft roadmap for the implementation of the circular economy for each country. 6.3 Material for the final workshop to present the results to the NDEs and applicant organizations and a report of the meeting. As well as a draft MoU for the creation of a regional circular economy platform and alternatives for south-south cooperation. 6.4 Material for the presentation of results at an event or forum and list of participants. Report on the successes of the event.
Methodologies applied to produce outputs and products	*<u>Diagnostic methodology:</u> for the prioritization of the economic sectors, the review of instruments and indicators was carried out, for the prioritization of actors we based ourselves on the evaluation of each actor in 4 criteria: power, experience, commitment and capacity. Similarly, to quantify the initiatives, the SDGs and the approach that the circular economy had with each initiative were considered.* *<u>Evaluation of barriers and opportunities</u>: for this evaluation, a workshop was held in each country where, through 4 strategic axes, innovation, sustainable production, responsible consumption and cooperation, a SWOT was obtained, which we then transformed into strategies for the country in the prioritized sector.*

	<u>International experiences</u>: the methodology used was through 3 perspectives, one national through roadmaps from different countries in Europe, Latin America and Asia. A second perspective of analysis were sectoral documents where a more detailed look at the objectives of the sector was obtained and finally business strategies and experiences in circular economy were evaluated. *<u>The circular economy and industry 4.0</u>: to evaluate the current level of development, we had a review section of academic studies where an evaluation of industry 4.0 had already been carried out in several countries around the world with a ranking of its technological progress, with this later we went on to evaluate the companies that were selected within the diagnostic (Output 2) and they were evaluated in 4 criteria according to the information found and a survey provided to them, Adoption of I4.0 technologies, Digitization of processes, Integration of data in the chain of value, Traceability of products throughout the value/supply chain and Lean or Lean Manufacturing*
Deviations	In Output 6, specifically in Deliverable 6.2, the roadmap for the implementation of a circular economy in each country is focused on the manufacturing sector. In the response plan, the subproduct proposes the development of a roadmap with national scope. The change was proposed for the development of circular strategies in the prioritised sector in each country and to facilitate the implementation of the roadmap in the first stage.
Anticipated follow-up activities and next steps	The next steps after the conclusion of the technical assistance needs to be focused on the implementation of the roadmap (in the final version) and the promotion of the financial assessment and near implementation of the pilot project to give benefits in high scale.

2. Lessons learned

	Lessons learned	**Recommendations**
Lessons learned from the CTCN TA process	a) The support and participation of the person in charge of the CTCN was important for the monitoring and continuation of the technical assistance. b) Participation of the focal points was essential in the call for projects, achieving a greater scope of responses.	a) The call of the interested parties must be made in conjunction with the focal points, which would guarantee a greater participation of these in the workshops held. b) Consider the following of the next steps in all the countries of the TA. The implementation of the roadmap is associated with the application of the project pilot. So, the financial support of the application could be promoted by CTCN or another enterprise.

Lessons learned related to climate technology transfer	The development of workshops and launching events of interested parties to show the response plan, the phases of the project and to receive the perception about the current status of each country, helped to provide greater knowledge and reduce uncertainties in the current status of the economic sectors on the develop about the implementation of circular economy in strategies.	It is recommended in the medium term to be able to generate the roadmap for the implementation of a circular economy in other sectors like manufacturing. Also, the development of new project pilots could generate opportunities to accelerate the implementation of circular economy in manufacturing and at national scope.

3. Illustration of the TA and photos

For communication purposes, please provide 2-4 PowerPoint slides, including illustrations or charts, describing barriers, opportunities, methodology, activities, outputs and achieved results. The illustrations must be copied into the TA Closure report but must also be delivered as powerpoint files. Also, please provide at least five high-resolution pictures in jpg format, capturing technical assistance. The pictures should illustrate how the TA has impacted the lives of the beneficiaries in particular and the communities in general.

PowerPoint Slides Link
https://docs.google.com/presentation/d/1-Fz51t-H89h3EaALJYPMFXKDZpi6s9zp/edit?usp=sharing&ouid=109885727602449956668&rtpof=true&sd=true

Figure 1 Technical assistance outputs

Figure 2 Methodology used in the outputs

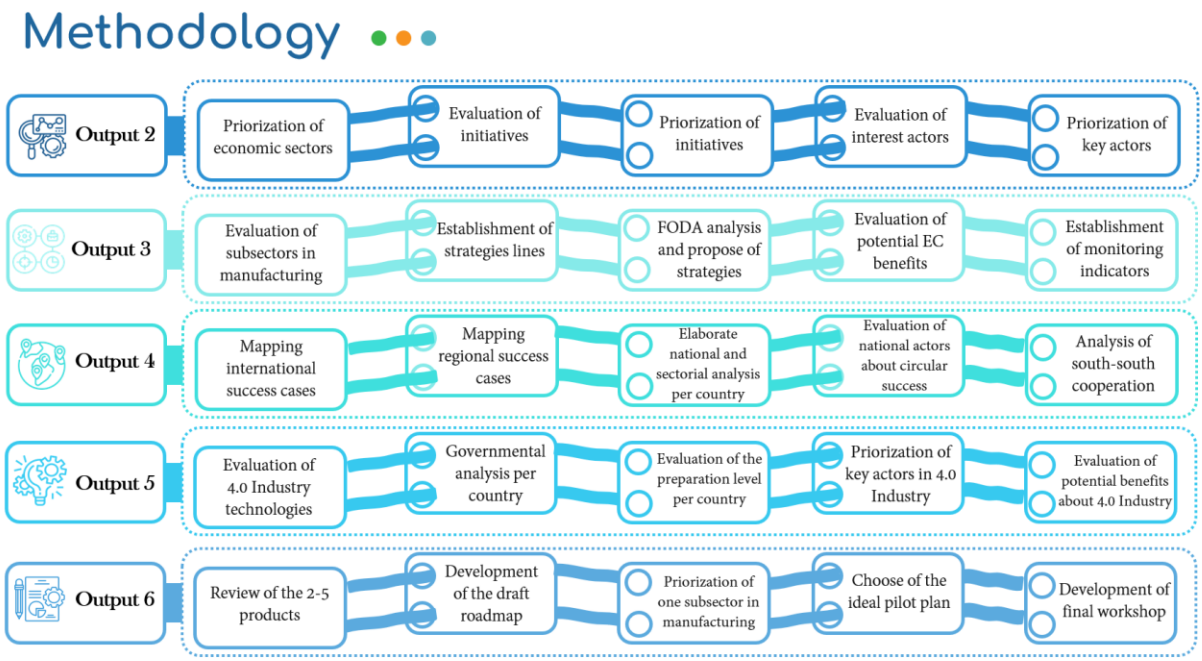


Figure 3 Identification of barriers and opportunities

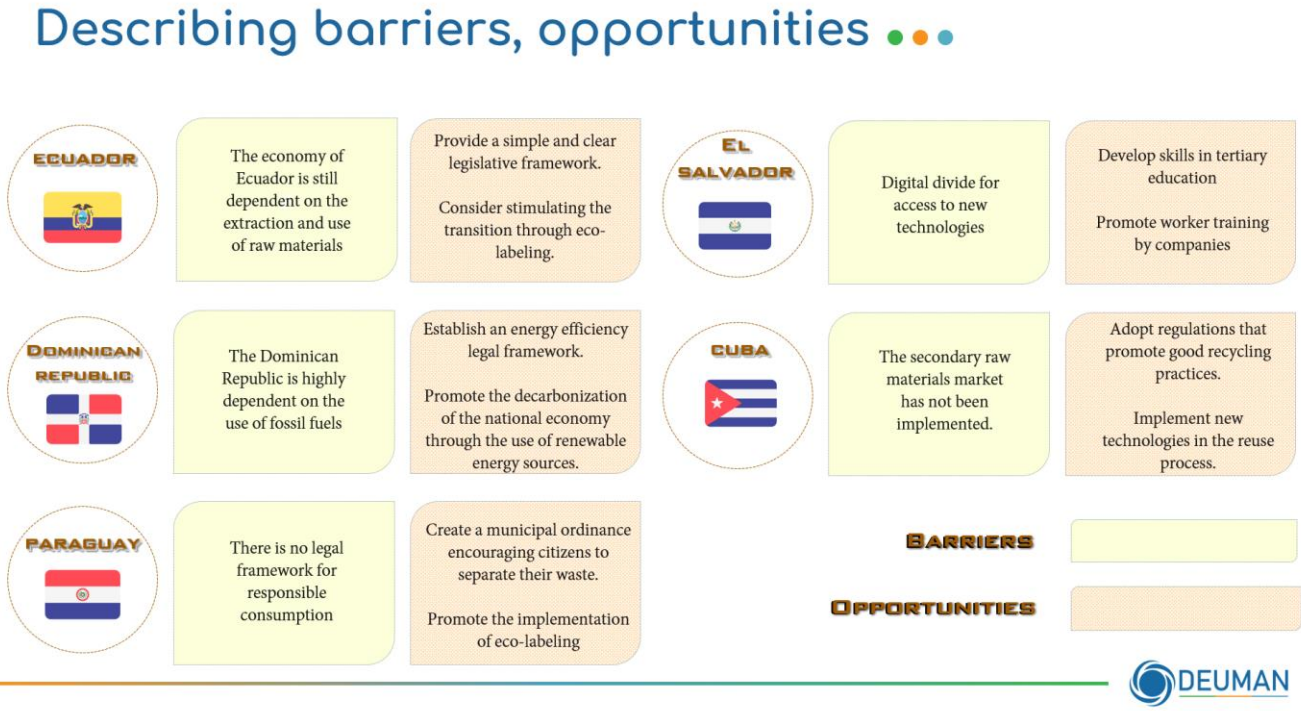


Figure 4 Steps for the elaboration of the pilot project

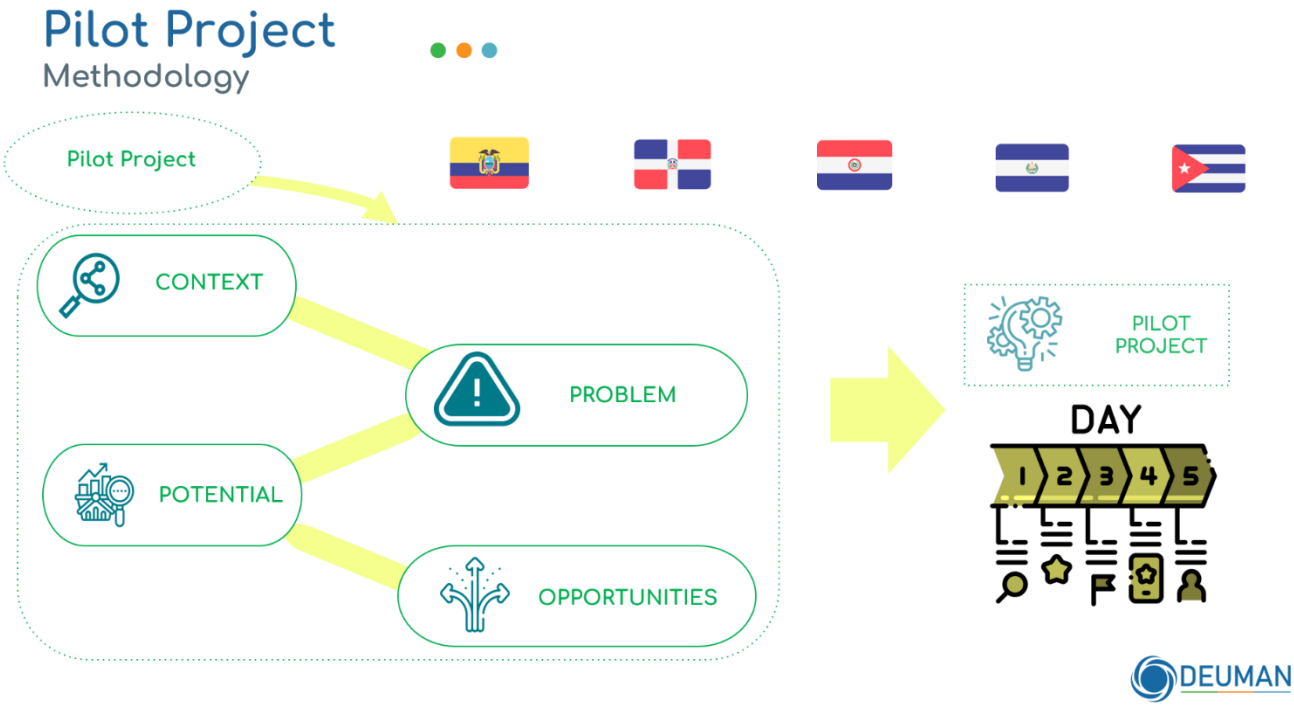


Figure 5 Workshop on the perception of the Circular Economy for the manufacturing sector in El Salvador

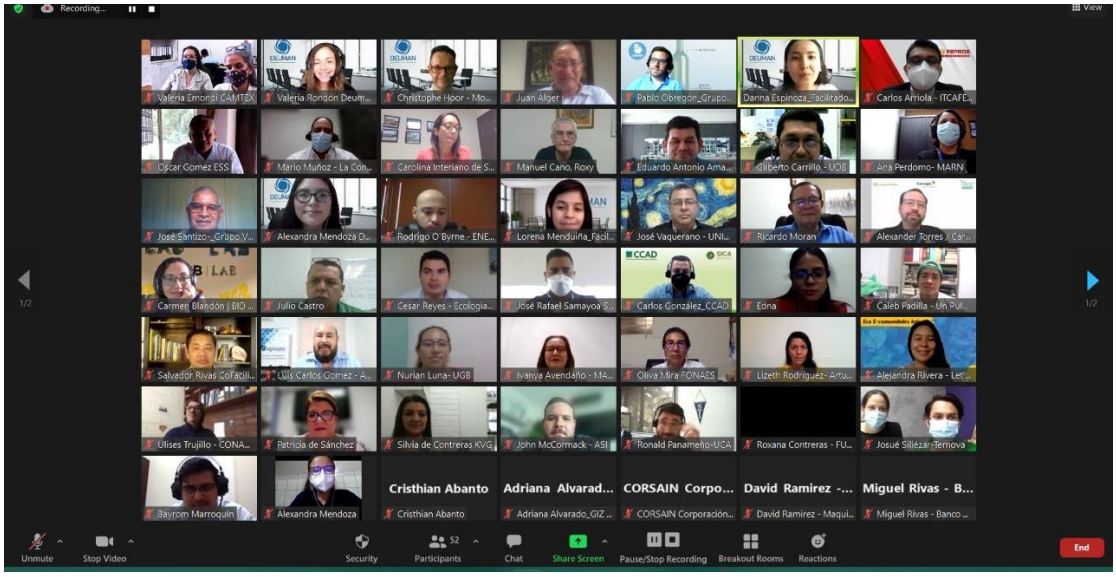


Figure 6 Workshop on the perception of the Circular Economy for the manufacturing sector in Cuba

Figure 7 Workshop on the perception of the Circular Economy for the manufacturing sector in Ecuador

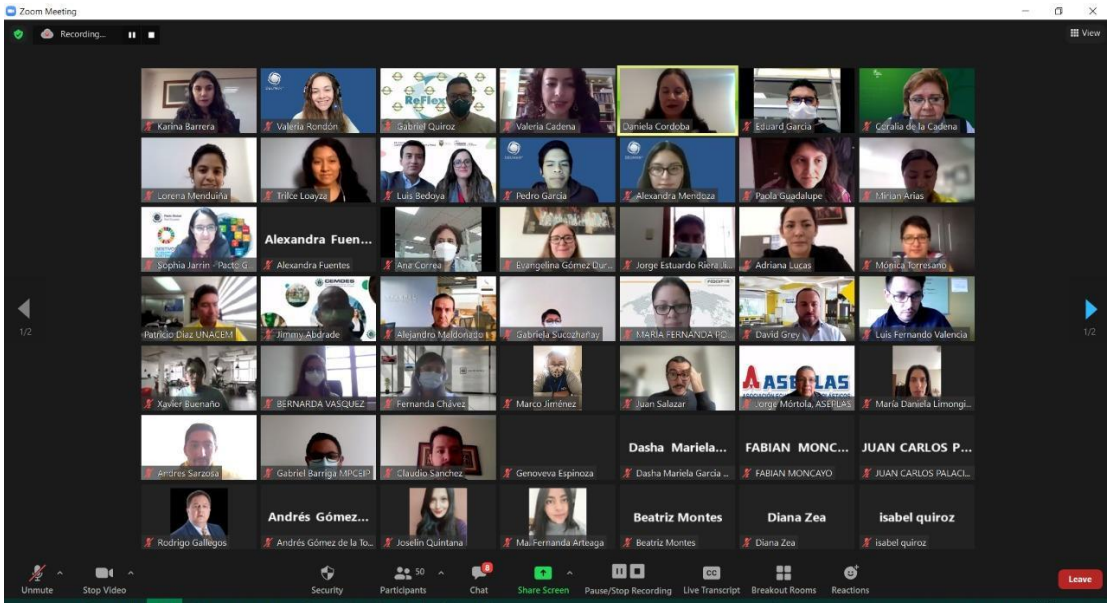
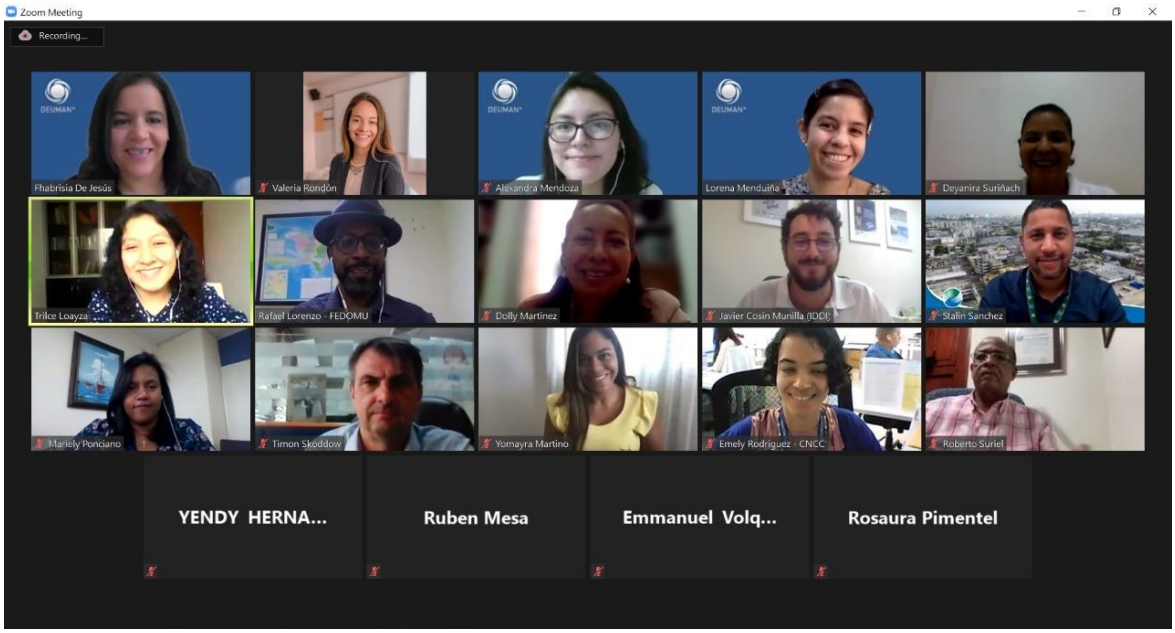


Figure 8 Workshop on the perception of the Circular Economy for the manufacturing sector in Paraguay

Figure 9 Workshop on the perception of the Circular Economy for the manufacturing sector in Dominican Republic



4. Impact Statement

The information in the table below will be used to communicate results and anticipated impacts of this technical assistance publicly. Please copy information from the impact statement developed in the M&E Plan and update as relevant.

Challenge	Ecuador, Dominican Republic, Paraguay, El Salvador and Cuba have different context about the current status on implementing circular strategies. Also, the circular initiatives have different scale in the countries. The necessity of having a roadmap to guide all the actors and economic sectors is relevant for accelerate the transition of circular economy and the implementation of new strategies focused on sustainable mechanisms. In addition, the development of a roadmap in five countries have the potential to promote south-south cooperation to accelerate the transition.
CTCN Assistance	- Diagnosis of the current situation of the circular economy of each requesting country - Roadmap of General Circular Economy, sectorial and / or of a specific process relevant to climate change for access to financial mechanisms that can scale up the work of this TA. - Provide tools for innovation, technology transfer and combat climate change, complying with NDC and SDG of each requesting country.
Anticipated impact	Expected increase in the economy and social welfare through the future generation of new jobs and enterprises. Providing tools for innovation and incorporation of technologies, maintaining competition and reducing the environmental impact of their productive activities
Co-benefits: Achieved or anticipated co-benefits from the TA	*The co-benefits associated with improved food security, the resilience the project provides to climate change impacts and how it engages sustainable development at the local and national level.*
Gender aspects of the TA	*The impact of limiting gender gaps in the circular transition is significant, since the diversification of human capital in the areas of innovation in the main productive sectors of the countries will increase the range of alternatives to be implemented and the improvement in decision making will increase significantly.*
Anticipated contribution to NDC	*The circular economy has a direct impact on consumption and production models, turning the linear economy into an economy that closes loops and generates greater social and economic opportunities.* *In this sense, reorienting production models through the implementation of renewable energy sources, energy savings and optimization of the use of natural resources contributes significantly to the achievement of the NDCs proposed by each country that is part of the technical assistance.*
The narrative story	*The development of technical assistance products has made it possible to inform the countries of their level of progress in the transition to a circular economy in their productive sectors.* *In general, it has allowed them to learn about major barriers such as conventional consumption and production models, issues associated with improper waste management, which often leads to poorly managed landfills that generate deplorable environmental health conditions.*

	In this sense, and based on the opportunities mapped internally and internationally, the assistance countries have been able to learn about the range of opportunities that can be offered by adapting to new business and production models that will generate, in the country's key economic activities, greater resilience to face the problems caused by climate change as the main factor. *Through the promotion of pilot models and the implementation of its roadmap with the active and transversal participation of its key stakeholders, the transition process towards the circular economy, and the generation of co-benefits that it entails, will be presented in a more accelerated manner at environmental, economic and social levels.*
Contribution to SDGs A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/	*SDG 11: Make cities and human settlements inclusive, safe, resilient and sustainable* *- Provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons* *- Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning* *SDG 12: Ensure sustainable consumption and production patterns* *- Achieve the sustainable management and efficient use of natural resources* *- Achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment* *SDG 13: Take urgent action to combat climate change and its impacts* *- Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries.* *- Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries, including focusing on women, youth and local and marginalized communities*

CTCN
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Annex 1 Technical assistance data collection

Please add quantitative and qualitative values for the indicators selected in the M&E plan and monitored throughout the technical assistance in the tables below. Indicators which have been monitored in addition to the proposed indicators below may be added at the end of table A. Non-relevant indicators should be left blank.

A. Output and outcome indicators

Indicator	Quantitative value	Qualitative description
1. Events (other than trainings) held as part of the assistance		
Total number of events organized by proponents and implementing partners	15	5 Launched Events 5 Workshops Output 3 5 Closed Events
Number of participants in events organized by proponents and implementing partners	*63* *84* *90* *96* *66*	*Ecuador* *Dominican Republic* *Paraguay* *El Salvador* *Cuba*
a) Number of men	*22* *29* *36* *46* *26*	*Ecuador* *Dominican Republic* *Paraguay* *El Salvador* *Cuba*
b) Number of women	*39* *55* *64* *50* *40*	*Ecuador* *Dominican Republic* *Paraguay* *El Salvador* *Cuba*
Number of climate technology RD&D related events	-	-
Number of participants in climate technology RD&D events	-	-
a) Number of men	-	-
b) Number of women	-	-
2. Training and capacity building activities conducted during the assistance		
Number of trainings organized by proponents and implementing partners	-	-
Number of participants in trainings organized by proponents and implementing partners	-	-
a) Number of men	-	-
b) Number of women	-	-
Total number of institutions trained	-	-
a) Governmental (national or subnational)	-	-

Indicator	Quantitative value	Qualitative description
b) Private sector (bank, corporation, etc.)	-	-
c) Nongovernmental (NGO, University, etc.)	-	-
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)	-	-
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)	-	-
a) Percentage of men	-	-
b) Percentage of women	-	-
3. Tools, technical reports and information material supported by the assistance		
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	-	-
Number of communication materials, including news releases, newsletters, articles, presentations, social media postings, etc.	-	-
Number of tools and technical documents strengthened, revised or developed	-	-
Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)	-	-
Number of working tables executed with Authorities of the ministry of environment and energy	-	-
4. Diagnosis of key actors		
Total, number of meetings with stakeholders	-	-
Number of participants in interviews	-	-
a) Number of men	-	-
b) Number of women	-	-
Total, number of minutes of the meetings of the interview	-	-
Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	-	-
a) Adaptation related	-	-
b) Mitigation related	-	-

Indicator	Quantitative value	Qualitative description
c) Both adaptation- and mitigation related	-	-
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA	-	-
a) Adaptation related	-	-
b) Mitigation related	-	-
c) Both adaptation- and mitigation related	-	-
Anticipated number of technologies transferred or deployed as a result of CTCN support	*3*	a) Recycling b) Unconventional renewable energy c) More efficient industrial technologies and redesign of process
Anticipated number of collaborations facilitated or enabled as a result of technical assistance	*5*	-
a) Number of South-South collaborations	**5**	-
b) Number of RD&D collaborations	-	-
c) Number of private sector collaborations	-	-
Number of countries with strengthened National System of Innovation as a result of CTCN support	-	-

B. Core impact indicators

Please fill in the tables for anticipated impacts of the CTCN assistance. Every technical assistance should contribute to at least one of the indicators below. For guidance on how to report on core indicators see the 'M&E Guidance Document for TA Implementers'.

Core indicator 1	**Anticipated metric tons of CO_2 equivalent (CO_2e) emissions reduced or avoided as a result of CTCN TA**	
	Anticipated metric tons of CO_2, equivalent emissions reduced or avoided as a result of the TA **on annual basis**	Anticipated metric tons of CO_2, equivalent emissions reduced or avoided as a result of the TA **in total**
Quantitative value	-	-
Unit	-	-

Methodology Explain the method or process of verifying the indicator and how data was gathered	-	-
GHG assessment boundary Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions	-	-
Baseline candidates Define alternative technologies or practises used in baseline calculation to represent possible alternatives to the project activities	-	-
Baseline emissions Describe baseline scenario and emissions calculated	-	-
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	-	-

Core indicator 2	**Anticipated number of direct and indirect beneficiaries as a result of the TA**		
	Direct beneficiaries	**Indirect beneficiaries**	**Means of verification**
Adaptation related	-	-	-
Mitigation related	-	-	-
Both adaptation-and mitigation related	5	-	-

Core indicator 3	**Amount of funding/investment leveraged (USD) as a result of TA (disaggregated by public, private, national, and international sources, as well as between anticipated/confirmed funding)**		
	Quantitative value Value and currency	**Qualitative description** List the various elements corresponding to the quantitative value as well as expected timelines and responsible institutions	**Methods** Describe method use for quantification of funds leveraged including assumptions made and attention paid to causality, attribution and avoidance of double-counting
Total anticipated amount of funding/investment mobilised or leveraged (USD) as a result of the TA	-	-	-
Anticipated amount of **public funding** mobilised from **national sources** (USD)	-	-	-
Anticipated amount of **public funding** mobilised from **international and regional sources** as a result of the TA	-	-	-
Anticipated amount of **private investment** mobilised (in USD) from **national sources** as a result of the TA	-	-	-
Anticipated amount of **private investment** mobilised (in USD) from **international and regional sources** as a result of the TA	-	-	-

Annex 2 (for internal use – to be filled in by the CTCN)

CTCN evaluation

This section will be completed by the relevant CTCN Technology Manager.

- Evaluation of the timeliness of the TA implementation as measured against the timeline included in the response plan;
- Evaluation of TA quality as defined in the response plan;
- Overall performance of the Implementers;
- Overall engagement of the NDE and Proponent;
- Lessons learned on the CTCN process and steps taken by the CTCN to improve.