Country | South Africa  
---|---
Request ID# | 2021000036  
Title | Development of an STI-led cross-sectoral Circular Economy Roadmap for abating GHG emissions in South Africa  
NDE | Dr Henry Roman  
NDE  
Department of Science and Innovation  
South Africa  
Proponent | Department of Science and Innovation  
DSI Building (Building No. 53)  
(CSIR South Gate Entrance),  
Meiring Naudé Road  
Pretoria, South Africa  

Summary of the CTCN technical assistance

The Circular Economy is crucial in order to achieve the Paris Climate Goals. It has been evaluated that Circular Economy strategies could lead to a reduction of about 39% in global emissions and 28% in virgin resource extraction. South Africa is has identified the great potential of the Circular Economy in combating climate change. A Circular Economy approach aligns to the National Development Plan goals and other key strategic documents of South Africa and can be seen as a means for achieving Climate Change commitments (in addition the NDCs) and the Sustainable Development Goals (SDGs).

The Circular Economy has been identified as a cross cutting opportunity in which Science, Technology and Innovation (STI) plays a critical catalytic role. Whilst the Department of Science and Innovation (DSI) has embarked on a process to position the Circular Economy in its implementation of the STI White Paper and the Department of Environment, Forestry and Fisheries (DEFF) have included the Circular Economy in project elements of the National Waste Management Strategy, there is no overarching national circular economy policy strategy to encourage coordination and collaboration amongst the government departments and its major stakeholders, including the private sector.

This technical assistance will assist the DSI in establishing the appropriate process and modalities, and cooperation, to develop an STI-led Circular Economy Roadmap for South Africa based on evidence-led and knowledge based policy making to drive the transition to a circular economy.

Agreement:
Technical Assistance Response Plan –
Terms of Reference

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

National Designated Entity to the UNFCCC Technology Mechanism
Name: Dr Henry Roman
Title: NDE, Department of Science and Innovation
Date: 22/06/22
Signature:

Proponent (signature of the Proponent is optional)
Name: Georgina Ryan
Title: Deputy Director Green Economy,
Department of Science and Innovation
Date:
Signature:

UNFCCC Climate Technology Centre and Network (CTCN)
Name: Rose Mwebaza
Title: CTCN Director
Date: 24.06.2022
Signature

Signed by Henry James Roman
Signed at: 2022-06-22 09:53:49 +02:00
Reason: Witnessing Henry James Roman

Signed by Henry James Roman
Signed at: 2022-06-22 09:53:49 +02:00
Reason: Witnessing Henry James Roman

Signed by Rose Mwebaza
Signed at: 2022-06-24 10:53:49 +02:00
Reason: Witnessing Rose Mwebaza

Signed by Rose Mwebaza
Signed at: 2022-06-24 10:53:49 +02:00
Reason: Witnessing Rose Mwebaza
1. Background and context

The UNFCCC has identified the Circular Economy as ‘crucial for Paris Climate Goals’ (UNFCCC, 2021). Based on the findings of the annual Global Circularity Gap Report (2021), Circle Economy calculated that 62% of GHGs (excluding those from land and forestry) are released during the extraction, processing and manufacturing of goods society needs; with only 38% emitted in the delivery and use of products and services. On the premise that there is a strong link between climate change and materiality, the GCR argues that additional contributions to the National Determined Contributions (NDCs) can be made by implementing dematerializing and decoupling Circular Economy strategies globally. These could be as much as a 39% reduction in global emissions and reducing virgin resource extraction by 28% through implementing circular economy strategies. There is clearly a case for adding the Circular Economy to the climate change agenda and acknowledging this strong link between production and sustainable growth.

According to South Africa’s Nationally Determined Contribution (NDC), it has ‘transitioned its international mitigation commitment from a relative “deviation from Business-as-usual” to an absolute peak, plateau and decline greenhouse gas emissions trajectory range’ And South Africa is committed to addressing climate change based on science and equity. The coal-intensity of its power sector is acknowledged as a key driver of carbon emissions and while a low carbon strategy is imperative, the country must continue to address poverty, inequality and unemployment. The latest NDC for South Africa was submitted on 27 September 2021. The table below captures the update overview of the updated NDCs based on the country’s national GHG inventory:

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Corresponding period of implementation</th>
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</thead>
<tbody>
<tr>
<td>2025</td>
<td>South Africa’s annual GHG emissions will be in a range from 398-510 Mt CO₂-eq.</td>
<td>2021-2025</td>
</tr>
<tr>
<td>2030</td>
<td>South Africa’s annual GHG emissions will be in a range from 350-420 Mt CO₂-eq.</td>
<td>2026-2030</td>
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</table>

Note: “GHG emissions” are defined as total net GHG emissions as specified in the national inventory report for 2025, including all sectors, and excluding emissions from natural disturbances in the land sector.

Source: Updated NDCs for South Africa, 2021

A Circular Economy approach aligns to the National Development Plan goals for South Africa and can be seen as a means for achieving Climate Change commitments (in addition the NDCs) and the Sustainable Development Goals (SDGs). South Africa is amongst the countries that identified the role of the Circular Economy in combating climate change. In the Cabinet approved Low Emissions Development Strategy (2020), it states that ‘a circular economy framing has positive benefits in terms of reducing greenhouse gases’ (LEDS, 2020 p.38). It also cross references the latest long term science policy ‘recognizing the role of a circular economy in driving the shift to a green economy by accelerating eco-innovation. (LEDS, 2020, p.55). The Circular Economy has been identified as an opportunity for economic growth in key South African government policies and plans. Amongst these are the White Paper on Science, Technology and Innovation (2019) and more recently the 3rd National Waste Management Strategy. In South Africa’s Foresight Exercise for Science, Technology and Innovation for 2030 (NACI, 2019), four priority areas (thrusts) were identified for the Circular Economy which include: (1) waste management (reducing, reusing and recycling waste); (2) ensuring sustainable water, energy and food (agriculture) security; (3) low-carbon and climate-resilient economy and (4) smart connectivity and mobility in communities. This shows that Circular Economy is a cross cutting opportunity in which STI can play a critical catalytic role. For this reason, an STI-led strategy in the form of a Roadmap for Circular Economy presents a strong policy coordination and planning tool for national departments to clarify their contributions and responsibilities.

The DSI has embarked on a process to position the Circular Economy at the centre of STI and economic development overall. In 2018, DSI has published the White Paper on Science, Technology and Innovation in which adopts the circular economy as a leading concept for sustainable development. In 2019, DSI
commissioned a research from GreenCape South Africa to propose an approach for the development of a circular economy research, development and innovation (RDI) Strategy and Plan. In the context of the SA EU Dialogue Facility, an STI Framework for Circular Economy was drafted as a first attempt to map STI themes and recommendations for a transition to a circular economy. At the same time, the Department of Environment, Forestry and Fisheries (DEFF) has included the Circular Economy in project elements of the National Waste Management Strategy. However, there is no overarching national circular economy policy strategy to encourage coordination and collaboration amongst the government departments and its major stakeholders, including the private sector.

This technical assistance will assist the DSI in establishing the appropriate process and modalities, and cooperation, to develop a detailed STI-led Circular Economy Roadmap for South Africa based on evidence-led and knowledge based policy making to drive the transition to a circular economy. The focus of this technical assistance will be to build on top of existing initiatives (STI4CE Framework) and to develop the detailed and operational STI4CE Roadmap in a stakeholder inclusive process with clear government ownership.

2. Problem statement

One of the key factors driving the linear nature of the current economy of South Africa relates to its structure and especially its resource intensity. Some of the technology barriers emanating from the structure of the economy are large investments leading to stranded assets in the coal sector for example and the significant impact of the energy investments that have had significant financing impacts. There is also a lack of government funding for technology investment, and lack of an enabling environment to incentivize private sector investment.

The skills for Circular Economy road mapping have not emerged in South Africa and at the moment there is a fragmentation of policies and programmes from government departments and stakeholders to drive the circular economy transition. More importantly there are evidence gaps in understanding the social, environmental and economic opportunities that a CE can provide in South Africa. This relates to determining the climate change contribution of sectors and particular value chains where there are circular economy opportunities.

The technology barriers relate to limited practical knowledge and skills with regards to the economic, financial and policy planning elements of the design and delivery and a national Circular Economy Roadmap. Translating the results of a Material Flow Analysis into a practical strategy and plan for driving greater Circularity, lies at the heart of the challenge in CE road mapping activity for the country. A Roadmap that would target the best opportunities for improved circularity and sustainable resource management must also be based on sound evidence and take into account the knowledge and capabilities required to drive the Circular Economy Transition. To position a roadmap as STI-led is important for the transition. Such an STI-led roadmap would present an opportunity for collaboration, innovative finance, knowledge sharing and cooperation. It is critical that the research needs and capabilities and capacity and skills be a focus on the STI-Led Circular Economy Roadmap.

The DSI acknowledges the role of the CTCN in unlocking the Circular Economy potential on the African continent. Most of the Circular Economy applications to the CTCN from African countries have related predominantly to the waste sector. This technical assistance is focused on taking a systems approach beyond the waste sector to look more broadly at the implications of national material flows. It therefore relies on approaching Circular Economy strategies for South Africa from a systems perspective and in taking into account the results of Material Flow Analysis.
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.)

**Objective:** To establish a clear and effective Science, Technology and Innovation (STI)-led Circular Economy Roadmap (STI4CE Roadmap) and pilot project under the Department of Science and Innovation based on scientific and market evidence, as well as stakeholder alignment, which supports the larger national effort to transition towards a circular economy.

**Outcome:** The Department of Science and Innovation is a key driver for the transition to a circular economy in South Africa through clear science, technology and innovation support.

<table>
<thead>
<tr>
<th>Output 1: Development of implementation planning and communication documents</th>
<th>Month</th>
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<tr>
<td></td>
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<tr>
<td>Activity 1: All implementers must undertake the following activities at the beginning and at the end of the CTCN technical assistance.</td>
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<tr>
<td>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;</td>
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<tr>
<td>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 apply selected indicators from the Closure and Data Collection report template and enable the lead 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);</td>
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<td>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);</td>
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<tr>
<td>iv) A Closure and Data Collection report completed at the end of the technical assistance (a template will be provided).</td>
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<tr>
<td>Deliverable 1:</td>
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<tr>
<td>i) Detailed work plan</td>
<td>X</td>
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<tr>
<td>ii) Monitoring and evaluation plan</td>
<td>X</td>
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<tr>
<td>iii) CTCN Impact Description</td>
<td>X</td>
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<tr>
<td>iv) Closure and Data Collection report</td>
<td>X</td>
</tr>
</tbody>
</table>

**Output 2: Diagnosis of the Circular Economy Landscape in South Africa**
Activity 2.1: Organization of a kick-off meeting

A kick-off meeting will be organized with key stakeholders to present the technical assistance, and discuss implementation modalities as well as the workplan. The stakeholders invited to this kick-off meeting will be the DSI working group which will be closely consulted throughout the technical assistance.

The DSI working group will consist of a maximum of 25 participants from DSI staff. An equal representation of women amongst the participants of the stakeholder working group should be achieved.

This meeting will be hosted at the DSI with local consultants joining in-person and international consultants joining virtually. No DSA or travel compensation will be disbursed to working group participants.

Activity 2.2: Identification and schematization of CE-related policies, stakeholders, and initiatives

Existing research, initiatives, policy instruments, institutional frameworks, stakeholders and partnerships in the area of and related to circular economy will be identified, whilst updating the map of actors and processes for South Africa based on the MFA study (2020/21) and CE RDI Needs Assessment study (2019). This will be done through consultations and interviews with various stakeholders, including (a) Government / Public Sector, (b) Private Sector Companies, (c) Civil Society Organizations, (d) Academia, (e) Entrepreneurs, and (f) Financial institutions. Existing banks of knowledge and documents from the DSI, ACEN Foundation, EU and further stakeholders should be used.

In terms of scope, circular economy will be considered holistically from a sustainable resource management perspective rather than only waste management, and thus spanning into economic sectors such as energy, water, agriculture, manufacturing, human settlements, mobility, construction (roads, residence and commercial office space) and mining. All waste streams will be considered.

Furthermore, available data from initial material flow analyses for South Africa will be analyzed to identify valuable information, and to draw connections to relevant economic activities.

The updated scheme of actors and processes should highlight their relationships and interactions in form of an ecosystem. STI-related actors and processes should be particularly set forth. Actors should be classified by categories (as above), economic activities, and their skills and capabilities.

During this exercise, stakeholders should be identified who are interested in engaging during the STI4CE
Roadmap development and implementation.

**Activity 2.3: Analysis of benefits, strengths, weaknesses, opportunities, and barriers of CE in South Africa**

An analysis on the benefits, as well as strengths, weaknesses, opportunities and barriers of circular economy in South Africa will be conducted. Parallel ongoing assessments within CSIR will be integrated and informed vis-versa.

The *perceived benefits* will be drawn from stakeholder consultations and interviews (Activity 2.2) and results of parallel assessments. In that context, the circular economy should be looked at holistically from a sustainable resource management perspective and with specific focus on STI.

In terms of *strengths and opportunities*, findings will be sorted along the following segments:

1. Industrial, and technological infrastructure
2. Entrepreneurship and innovation
3. Innovation support
4. Corporate and academic research
5. Policies or regulations related to climate change and circular economy
6. Governance and leadership
7. Alignment of public and private agendas (commitment of government, companies, organizations, academia and society)
8. Impact on NDCs, SDGs and other national strategies (incl. National Development Plan, Decadal Plan) in South Africa
9. Macroeconomic objectives

The *weaknesses and barriers* will be classified along the following segments:

1. Regulatory and governance (policy coherence -national, provincial and local government)
2. Market
3. Cultural
4. Entrepreneurship support
5. Financing and capital
6. Industrial, technological, and research
7. Recovery of products or materials (logistics, collection, repair, and remanufacturing)

**Deliverable 2:**
## Technical Assistance Response Plan – Terms of Reference

| Deliverable 2.1: Kick-off meeting report, list of stakeholder working group | X |
| Deliverable 2.2: Circular Economy Diagnosis Report, including policies, stakeholders and initiatives, as well as SWOB | X |

### Output 3: Identification of circular economy priority areas and activities for STI in South Africa

#### Activity 3.1: Analysis of STI-related activities of the DSI and other institutions related to circular economy

Activities within the DSI and other relevant institutions that are relating to circular economy will be mapped and analyzed related to their impact. Required alignment with relevant policies, strategies and plans will be identified. Besides desk research, interviews with DSI officials from different sectors and other relevant institutions will be conducted. Initiatives that are under way that are not categorized as circular economy but nevertheless related to it should be carefully mapped.

#### Activity 3.2: Consultation workshop on the role of STI in circular economy in South Africa

A 2-day consultation workshop with a broader stakeholder group (as identified under 2.2) will be organized with the objectives to identify their expectations towards STI for circular economy, understanding synergies and guaranteeing alignment between the STI4CE Roadmap and agendas of other stakeholders.

During the first workshop day, results of Activities 2.2 and 2.3 will be presented whilst phrasing the high-level focus of the DSI in the circular economy context.

The second workshop day will focus on identifying expectations towards STI activities for circular economy, whilst identifying synergies to the agendas of other stakeholders.

The workshop will host a maximum of 50 participants from the larger stakeholder ecosystem. An equal representation of women amongst the participants of the stakeholder workshop should be achieved.

Workshop facilities will be procured and DSA as well as travel compensation will be disbursed to workshop participants. Local and international consultants will join in-person.

#### Activity 3.3: Identification of international STI-led circular economy initiatives

International STI-led circular economy initiatives will be identified, analyzed, and categorized. The identified initiatives will be evaluated on their appropriateness for the South African context. Relevant and feasible
international best practices with high impact potential in South Africa will be considered in the further work on identifying and detailing circular economy priority areas and activities for STI in South Africa.

**Activity 3.4: Stakeholder workshop to define circular economy priority areas and activities for STI in South Africa**

A 1-day workshop with the DSI working group will be organized to present findings from Activities 2.2 – 2.3 as well as 3.1 – 3.3, and to define circular economy priority sectors and activities for STI in South Africa. This meeting will be hosted at the DSI with local consultants joining in-person and international consultants joining virtually. No DSA or travel compensation will be disbursed to working group participants.

**Deliverables 3:**
- Deliverable 3.1: STI4CE Analysis Report
- Deliverable 3.2: Consultation workshop report
- Deliverable 3.3: Report on international initiatives and ongoing DSI activities
- Deliverable 3.4: Stakeholder workshops report, including priority areas and activities

**Output 4: Development of an STI4CE Roadmap**

**Activity 4.1: Development of a draft STI4CE Roadmap**

The STI4CE Roadmap has the aim to guide an effective transition to a circular economy in a systemic way, enabled by STI. A draft STI4CE Roadmap will be developed in close coordination with the stakeholder working group, and based on the insights of the general Circular Economy Diagnosis (Activities 2.2 and 2.3) as well as the identified circular economy priorities for STI in South Africa (Output 3).

The roadmap should include, inter alia:
- Objectives and goals
- Role of STI in general, and the DSI specifically, in circular economy
- Priority areas and activities
- Governance and Management
- Collaboration and stakeholder inclusion
- Timeline (short-, and medium-term, final year 2030)
- Finance and Resource requirements
- Environmental, social and GHG reduction potential
### Technical Assistance Response Plan – Terms of Reference

- Metrics, Monitoring and Evaluation
- Alignment with NDCs, SDGs, national strategies (incl. National Development Plan, Decadal Plan) and parallel projects

A specific focus on gender, youth and private sector involvement should be given.

**Activity 4.2: Public consultation and stakeholder meeting on the draft Roadmap**

The draft Roadmap will be shared with the larger stakeholder group for public consultation. A meeting with key stakeholders will be held to review and collect further feedback on the draft STI4CE Roadmap.

A maximum of 50 participants from the larger stakeholder ecosystem will be invited to the stakeholder consultation meeting. An equal representation of women amongst the participants of the stakeholder workshop should be achieved.

Workshop facilities will be procured and DSA as well as travel compensation will be disbursed to workshop participants. Local and international consultants will join in-person.

**Activity 4.3: Finalization of the STI4CE Roadmap**

Based on the feedback of the public consultation and the stakeholder meeting, the STI4CE Roadmap will be finalized. A meeting with the DSI working group will be held to present the final version which will be adopted by the DSI.

This meeting will be hosted at the DSI with local consultants joining in-person and international consultants joining virtually. No DSA or travel compensation will be disbursed to working group participants.

**Deliverables 4:**

- Deliverable 4.1: Draft STI4CE Roadmap
- Deliverable 4.2: Stakeholder meeting report
- Deliverable 4.3: Final STI4CE Roadmap and meeting report

**Output 5: Identification and preparation of a Circular Economy Pilot Project**

**Activity 5.1: Identification of a circular economy pilot project**

Different economic activities and/or productive processes identified and assessed under Activity 2.2 and further
prioritized under Outputs 3 and 4 will be reviewed for conceptualizing different pilot project options. These will be evaluated based on their feasibility (supply, demand), cost, impact/relevance, and stakeholder interest. Specific attention should also be given to gender and youth.

**Activity 5.2: Preparation of a pilot project implementation plan**

Together with key stakeholders, one pilot project will be prioritized. An implementation plan will be developed for the prioritized pilot project.

This implementation plan will include:
- Objectives, context and activities (incl. business model if applicable)
- Implementation timeline
- Budget plan (or business plan if applicable)
- Environmental, social and GHG reduction potential
- Stakeholders involved

If relevant, a concept note for project funding through GCF, GEF or other financing mechanisms will be developed.

**Deliverables 5:**
- Deliverable 5.1: Overview on pilot project options
- Deliverable 5.2: Pilot project implementation plan

**Output 6: Capacity Building and Closure**

**Activity 6.1: Organization of a final stakeholder workshop**

A final stakeholder workshop will be delivered in order to present the results of the technical assistance and provide capacity building on an STI-led circular economy. Beyond the DSI working group, relevant stakeholders from the network of DSI can be invited at this occasion.

A maximum of 50 participants will be invited to the final stakeholder workshop. An equal representation of women amongst the participants of the stakeholder workshop should be achieved.

Workshop facilities will be procured and DSA as well as travel compensation will be disbursed to workshop participants. Local and international consultants will join in-person.
### Deliverables 6:
Deliverable 6.1: Final stakeholder workshop report

#### 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.

<table>
<thead>
<tr>
<th>Activities and Outputs</th>
<th>Input: Human Resources (Title, role, estimated number of days)</th>
<th>Input: Travel (Purpose, national vs. international, number of days)</th>
<th>Inputs: Meetings/events (Meeting title, number of participants, number of days)</th>
<th>Input: Equipment/Material (Item, purpose, buy/rent, quantity)</th>
<th>Estimated cost Minimum</th>
<th>Maximum</th>
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<tbody>
<tr>
<td>Output 1:</td>
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<td>USD 3,500</td>
<td>USD 3,850</td>
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<td>Closure and Data Collection report.</td>
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</table>
| **Output 2: Diagnosis of the Circular Economy Landscape in South Africa** | IE1: 17  
IE2: 16  
IE3: 8  
IE4: 6  
NE1: 22  
NE2: 21  
NE3: 1  
NE4: 5 |  |  | USD 33,900  
USD 37,290 |
| **Activity 2.1: Organization of a kick-off meeting** | Kick-off meeting (1 day).  
Hybrid meeting with stakeholder working group (maximum 25 individuals).  
Local consultants will host meeting in person at DSI. International consultants will connect virtually. |  |  | USD 3,500  
USD 3,850 |
| **Activity 2.2: Identification and schematization of CE-related policies, stakeholders, and** | Local travel (maximum 5 days) for NE1 and NE2 for stakeholder meetings |  |  | USD 22,200  
USD 24,420 |
### Technical Assistance Response Plan – Terms of Reference

<table>
<thead>
<tr>
<th>Initiatives</th>
<th>Benefits, strengths, weaknesses, opportunities, and barriers of CE in South Africa</th>
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<tr>
<td>Activity 2.3: Analysis of benefits, strengths, weaknesses, opportunities, and barriers of CE in South Africa</td>
<td></td>
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</table>
| Output 3: Identification of circular economy priority areas and activities for STI in South Africa | IE1: 15  
| | IE2: 12  
| | IE3: 19  
| | IE4: 6  
| | NE1: 22  
| | NE2: 12  
| | NE3: 4  
| | NE4: 6  
| | USD 8,200  
| | USD 9,020  
| Activity 3.1: Analysis of STI-related activities of the DSI and other institutions related to circular economy | Local travel (maximum 5 days) for NE1 and NE2 for stakeholder meetings  
| | USD 14,200  
| | USD 15,620  
| Activity 3.2: Consultation workshop on the role of STI in circular economy in South Africa | International travel for international consultants (IE1, IE2, IE3).  
| | Local travel for NE1, NE2, NE3, NE4 and 50 stakeholders.  
| | Priority consultation workshop (2 days).  
| | In-person meeting with larger stakeholder group (maximum 50 individuals).  
| | USD 38,320  
| | USD 42,152  
| | USD 64,320  
| | USD 70,752  
|
### Technical Assistance Response Plan - Terms of Reference

| Activity 3.3: Identification of international STI-led circular economy initiatives | Priority identification and validation meeting (1 day). Hybrid meeting with stakeholder working group (maximum 25 individuals). Local consultants will host meeting in person at DSI. International consultants will connect virtually. | USD 8,300 | USD 9,130 |
| Activity 3.4: Stakeholder workshop to define circular economy priority areas and activities for STI in South Africa |  | USD 3,500 | USD 3,850 |
| Output 4: Development of an STI4CE Roadmap | IE1: 27<br>IE2: 17<br>IE3: 17<br>IE4: 6 |  | USD 63,460 | USD 69,806 |
| Activity 4.1: Development of a draft STI4CE Roadmap | International travel for international consultants (IE1, IE2, IE3). <br>Local travel for NE1, NE2, NE3, NE4 and 50 stakeholders. | Public consultation workshop (1 day). <br>In-person meeting with larger stakeholder group (maximum 50 individuals). <br>Meeting hosted at a selected location. Local consultants and international consultants will be present in person. | USD 22,900 | USD 25,190 |
| Activity 4.2: Public consultation and stakeholder meeting on the draft Roadmap | | | USD 26,460 | USD 29,106 |
| Activity 4.3: Finalization of the STI4CE Roadmap | Roadmap validation and adoption meeting (1 day). <br>Hybrid meeting with | | USD 14,100 | USD 15,510 |
Technical Assistance Response Plan – Terms of Reference

stakeholder working group (maximum 25 individuals).

Local consultants will host meeting in person at DSI. International consultants will connect virtually.

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>IE1: 8 IE2: 8 IE3: 8 IE4: 4 NE1: 15 NE2: 8 NE4: 2</td>
<td></td>
<td></td>
<td>IE1: 3 IE2: 3 IE3: 3 IE4: 5 NE1: 5</td>
</tr>
<tr>
<td>USD 19,000 USD 20,900</td>
<td>USD 11,200 USD 12,320</td>
<td>USD 7,800 USD 8,580</td>
<td>USD 30,560 USD 33,616</td>
</tr>
<tr>
<td>Activity 6.1: Organization of a final stakeholder workshop</td>
<td>International travel for international consultants (IE1, IE2, IE3).</td>
<td>STI4 CE Roadmap and closure workshop (1 day).</td>
<td>In-person meeting with larger stakeholder group (maximum 50 individuals).</td>
</tr>
<tr>
<td>----------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
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</tr>
</tbody>
</table>

**Estimated range of costing for the entire Response Plan**

| | USD 214,714 | USD 236,214 |

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.

<table>
<thead>
<tr>
<th>Experts required</th>
<th>Brief description of required profile</th>
</tr>
</thead>
<tbody>
<tr>
<td>International consultants</td>
<td></td>
</tr>
</tbody>
</table>
**Technical Assistance Response Plan – Terms of Reference**

<table>
<thead>
<tr>
<th>Roleerson</th>
<th>Qualifications</th>
</tr>
</thead>
</table>
| Team leader and circular economy expert (IE1) | - Master’s degree or higher in economics, engineering or similar with focus on circular economy  
- At least 10 years of experience in a lead role in implementing national and international development projects related to circular economy and sustainable resource management  
- Experience in developing circular economy roadmaps at a national, regional and/or sectoral level  
- Experience with coordinating and liaising with multiple national and international stakeholders  
- Experience in Southern Africa highly desirable |
| Circular economy engineer (IE2) | - Master’s degree or higher in industrial or mechanical engineering, material science or similar with focus on circular economy  
- At least 10 years of experience in circular economy and sustainable resource management, including experience with lifecycle assessments and industrial processes across multiple sectors, including energy, waste, mobility, construction, agriculture and/or manufacturing  
- Experience in developing circular economy roadmaps at a national, regional and/or sectoral level  
- Experience in Southern Africa highly desirable |
| STI expert (IE3) | - Master’s degree or higher in economics, engineering, political science or similar with focus on science, technology and innovation in the context of sustainable development and/or circular economy  
- At least 10 years of experience in evaluating STI activities and performance as well as developing STI-led roadmaps in the area of sustainable development and/or circular economy  
- Experience with coordinating and liaising with multiple national and international stakeholders  
- Experience in Southern Africa highly desirable |
| Project management and finance expert (IE4) | - Master’s degree or higher in economics, management, finance or similar in the context of sustainable development  
- At least 10 years of experience in project management and finance, including the engagement of stakeholders, drafting budget and financing plans, and preparing funding proposals (i.e. GCF, GEF, etc.)  
- Experience with coordinating and liaising with multiple national and international stakeholders  
- Experience in Southern Africa highly desirable |
### National consultants

<table>
<thead>
<tr>
<th>Role</th>
<th>Requirements</th>
</tr>
</thead>
</table>
| Circular economy expert (NE1) | - Bachelor’s degree or higher in economics, engineering or similar with focus on circular economy  
                                - At least 7 years of experience in implementing national development projects related to circular economy and sustainable resource management  
                                - Experience in developing circular economy roadmaps at a local, national, regional and/or sectoral level  
                                - Experience with coordinating and liaising with multiple national and international stakeholders  
                                - Detailed knowledge of the national circular economy context  
                                - Based in South Africa                                                                 |
| Circular economy engineer (NE2)| - Bachelor’s degree or higher in industrial or mechanical engineering, material science or similar with focus on circular economy  
                                - At least 7 years of experience in circular economy and sustainable resource management, including experience with lifecycle assessments and industrial processes across multiple sectors, including energy, waste, mobility, construction, agriculture and/or manufacturing  
                                - Experience in developing circular economy roadmaps at a national, regional and/or sectoral level  
                                - Detailed knowledge of the national circular economy context  
                                - Based in South Africa                                                                 |
| Capacity building expert (NE3) | - Bachelor’s degree or higher in communication, education, or related fields in the context of sustainable development and/or circular economy  
                                - At least 7 years of experience in organizing multi-stakeholder capacity building workshops in the area of sustainable development and/or circular economy  
                                - Based in South Africa                                                                 |
| Gender expert (NE4)            | - Bachelor’s degree or higher in gender studies or related fields in the context of sustainable development  
                                - At least 7 years of experience in mainstreaming gender benefits in development programs  
                                - Knowledge of national gender-related programmes, regulations and strategies  
                                - Based in South Africa                                                                 |
6. Intended contribution to impact over time

Through this technical assistance, a market study will be conducted, a STI4CE Roadmap will be developed, and a pilot project will be prepared. Both of these outputs will be operationalized following the implementation of the technical assistance, as indicated under Section 9. The intended impact of these activities is as follows:

- Improved CE-stakeholder engagement, communication and collaboration through transparent stakeholder and activities map
- Increased capacity and knowledge on CE through effective development of research and knowledge materials by DSI
- Enhanced CE innovation capacity and activity in South Africa through targeted support of RD&D and innovation by DSI
- Reduction of waste material and of virgin resource utilization through RD&D and innovation to close material loops
- Increase of renewable energies share through RD&D and innovation on CE concepts
- Reduction of GHG emissions through RE increase and reduction of virgin resource utilization

Several of these intended contributions to impact over time will be further defined as performance indicators under the STI4CE Roadmap and pilot project.

7. Relevance to NDCs and other national priorities

**Updated Nationally Determined Contributions (2021)**

The updated NDCs set more stringent targets in terms of GHG reductions for South Africa up until 2030. Key mitigation areas include Energy, IPPU, AFOLU and Waste which are all linked to circular economy concepts.

**South Africa’s Low-Emission Development Strategy 2050 (2020)**

The SA-LEDS has been developed in response to Article 2 and 4 of the Paris Agreement, with the vision that “South Africa follows a low-carbon growth trajectory while making a fair contribution to the global effort to limit the average temperature increase, while ensuring a just transition and building on the country’s resilience to climate change”. The role of circular economy has been recognized at several stages of the SA-LEDS as an important driver for the shift to a green economy through eco-innovation.

**National Development Plan 2030 (2012)**

The National Development Plan 2030 (NDP) is a strategic framework the sets out a coherent and holistic approach to confronting poverty and inequality with actions across several areas, including economy and employment, infrastructure, environmental sustainability and resilience, and inclusive rural economy, amongst others. Reference to sustainable production and consumption is in particular made under the environmental sustainability and resilience section with regards to waste management, recycling and renewable energy generation.

**STI Decadal Plan 2021 - 2031 (2022)**

The STI Decadal Plan builds on top of the established National System of Innovation, in order to derive maximum impact to help address South Africa’s challenges and reach an inclusive sustainable development. Amongst the societal grand challenges, climate change and sustainability
has been recognized, and more particularly technologies for the circular economy are seen as central element.

8. Linkages to relevant parallel on-going activities:

The DSI has been leading in areas of research and investigating the policy coordination around the topic of the Circular Economy, with the intent of ensuring policy development is Science, Technology and Innovation (STI) led. There are a range of programmes and projects that speak to achievements in the Circular Economy. The department is also in the fortunate position that it has clear policy intent and direction with regard to the role of the Circular Economy in South Africa through the White Paper on Science, Technology and Innovation. This means there is an opportunity for awareness raising and knowledge sharing that should take place to highlight to role of ongoing Circular Economy activity and success to inform future policy and planning. Bringing stakeholders and policy makers closer in terms of their mandates and contributions is critical for an STI-Led roadmap process.

**National Waste Research, Development and Innovation Roadmap (2021)**

Through the implementation of the National Waste Research, Development and Innovation Roadmap, the DSI has begun investing in key capabilities for a national Circular Economy Transition. Amongst these investments is an international collaboration on the first Material Flow Analysis for South Africa, done by the University of Cape Town in partnership with BOKU in Austria. In addition, the Waste RDI Roadmap also invested in full life cycle sustainability assessment capacity development.

**RDI Needs Assessment on Circular Economy (2019)**

The DSI also commissioned GreenCape to conduct an RDI Needs Assessment on Circular Economy for South Africa in 2019. This study provided valuable inputs on the research landscape and a snapshot of existing evidence on circularity in the country. To have a cross sectoral, evidence based and systems approach to Circular Economy transitioning, the DSI would be well positioned to initiate the STI-led component of a National Roadmap for Circular Economy. It is also an opportune time for this type of intervention to be positioned in the 2020-2030 Decadal plan of the department as Circular Economy features as an economic growth priority. The roadmap process would be far more consultative and result in intergovernmental conceives strategies and plans. Fortunately, the DSI is familiar with the process of road mapping from the research, development and innovation perspective- as can be seen by the ten-year strategies for RDI in water and waste were started five years ago, and have ten-year time horizons. The DSI has also undertaken mapping and understanding its STI role in promoting the SDGs.

**STI Framework for the Circular Economy (2019/20)**

An STI Framework for the Circular Economy was developed in the SA EU Dialogue Facility in 2019/20. Through the stakeholder engagement and awareness of the policy and project landscape relevant to the Circular Economy in South Africa, the DSI has become a thought leader in Circular Economy. Whilst the DSI has embarked on developing an STI framework on Circular Economy, this process does not automatically lead to the development of an STI Roadmap for Circular Economy. There is also currently a need for a government department to play a coordinating and leading role in Circular Economy awareness and evidence base for Circular Economy.


The CSIR Report entitled “The Circular Economy as Development Opportunity” had the objective to present CSIR’s position and interpretation of the circular economy, and use it to drive discussions on where immediate circular economy opportunities are achievable in South Africa.

**CSIR Research (planned)**

In addition, the Council for Scientific and Industrial Research, will also be embarking on a research project entitled “Identifying opportunities for a more circular South African economy”. As a resource-rich country, with a heavy extractive-based economy, understand South Africa’s resource availability and constraints, i.e., is South Africa using its resources efficiently, effectively and in the best interest of its economic development. Based on the outcomes of the study, identify opportunities for further CSIR...
Planned ProDoc with UNDP (planned)
In parallel to the preparation of this response plan, the DSI is also preparing a ProDoc together with UNDP on “Enhancing the Circular Economy Value Chain and Waste SMME sector”. As stated in the document, the ProDoc aims to support the development of circular economy value chains and the waste SMME sector nationally through:

• Research, development, and innovation to design valuable products from waste and transfer this technology to entrepreneurs which will support the development of circular economy value chains;
• Enterprise development to address poverty and job creation, supporting a vibrant waste SMME sector, with a particular focus on women and youth;
• Capacity support to local governments for effective implementation of circular economy solutions and embedding circular economy practices in the District Development Model;
• Creation of multisectoral partnerships in order to ensure a whole-of-society approach.

Since this ProDoc is planning activities over the timeline of 5 years, the technical assistance results will provide guidance on the later years of the ProDoc implementation. An alignment with UNDP colleagues will be guaranteed throughout the implementation of this technical assistance.

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

The development of the STI4CE Roadmap and the pilot project will build the basis for several follow-up activities. Following the completion of this technical assistance, these activities will be pursued:

• Operationalization of the STI4CE Roadmap, including the establishment of partnerships and instruments, the identification of financing options, etc.
• Communication and promotion of the roadmap at a government, business, academic and social organization level.
• Continuous measurement of STI4CE performance indicators and periodic reporting.
• Production of research and knowledge material.
• Implementation of the pilot project concept.

10. Gender and co-benefits:

| Imbedded in design of the activities | The project aims to actively involve women at each stage of its implementation and ensure that their participation is brought in at all levels of decision making. This technical assistance will facilitate women’s participation in the following ways:
<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Decision making</strong>: Active involvement in decision making processes of female professional within the various institutions participating in stakeholder workshops and roadmap development.</td>
<td></td>
</tr>
<tr>
<td><strong>Capacity building</strong>: All workshops and capacity building activities will include women participants at an equitable basis.</td>
<td></td>
</tr>
<tr>
<td><strong>Gender perspective in outputs</strong>: All activities under this technical assistance will be developed integrating a gender perspective. This refers to the market assessment, identification of best practices, development of the STI4CE roadmap and the pilot project.</td>
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</tr>
</tbody>
</table>
Challenges and potential benefits for women will be mapped out at each stage.

Gender and co-benefits intended as result of the activities:

As a result of the technical assistance, the following co-benefits for women, youth and other vulnerable groups are expected:

- Ongoing capacity building and skills enhancement will be provided to women in sectors linked to the circular economy, especially in the context of RD&D and innovation activities
- Business opportunities for women in the circular economy will be set forth

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

Using the table below, please list and describe the role of in-country stakeholders, participants and beneficiaries who will be involved in or directly consulted during implementation of the assistance.

<table>
<thead>
<tr>
<th>In country stakeholder</th>
<th>Role in implementation of the technical assistance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department of Science and Innovation (National Designated Entity)</td>
<td>Providing strategic direction and sourcing of appropriate technical assistance according to project plan</td>
</tr>
<tr>
<td><em>NDE, Dr Henry Roman</em></td>
<td></td>
</tr>
<tr>
<td>Department of Science and Innovation (Project Proponent)</td>
<td>Coordinating function and project implementation</td>
</tr>
<tr>
<td><em>Deputy Director Green Economy, Georgina Ryan</em></td>
<td></td>
</tr>
<tr>
<td>Council for Scientific and Industrial Research (CSIR)</td>
<td>With extensive knowledge on the waste sector and circular economy in South Africa should be considered the key expert in policy and CE knowledge in the country</td>
</tr>
<tr>
<td><em>PMU for the Waste RDI Roadmap, Prof Linda Godfrey</em></td>
<td></td>
</tr>
<tr>
<td>National government departments</td>
<td>National government departments that have an explicit CE focus and will design and deliver CE strategies. The Green Economy Action Group can also be consulted on this project. The group is currently coordinated by DEFF with support from WWF and GIZ.</td>
</tr>
<tr>
<td>- Department of Forestry, Fisheries and Environment, Chief Directorate Waste and Chemicals, Kgauta Mokoena</td>
<td></td>
</tr>
<tr>
<td>- Department of Trade Industry and Competition, Chief Director Green Industries, Gerhard Fourie</td>
<td></td>
</tr>
<tr>
<td>- Department of Science and Innovation, Circular Economy STI Group, Rebecca Maseramule</td>
<td></td>
</tr>
<tr>
<td>GreenCape, CE lead Saliem Hader and Sam Smout NBI, Steve Nicolls</td>
<td>This group of stakeholders represent a key group to consult in checking the approach and methodology of the TA itself. Select members of this group will also be consulted in the TA process.</td>
</tr>
<tr>
<td>Economic Advisor to the Presidential Climate Change Coordinating Commission (PCCCC)-cabinet approved in September 2020 and 24 appointments for the PCCCC to be made</td>
<td>A selection of the PCCC members will be relevant for this project for consultation purposes</td>
</tr>
</tbody>
</table>
12. SDG Contributions:

Instructions: Please complete the grey section below for a maximum of three SDGs that will be advanced through this TA. A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Sustainable Development Goal</th>
<th>Direct contribution from CTCN TA (1 sentence for top 1-3 SDGs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>End poverty in all its forms everywhere</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>End hunger, achieve food security and improved nutrition, and promote sustainable agriculture</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Ensure healthy lives and promote well-being for all at all ages</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Achieve gender equality and empower all women and girls</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Ensure availability and sustainable management of water and sanitation for all</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Ensure access to affordable, reliable, sustainable, and modern energy for all (consider adding targets for 7)</td>
<td></td>
</tr>
<tr>
<td>7.1</td>
<td>By 2030, ensure universal access to affordable, reliable and modern energy services</td>
<td></td>
</tr>
<tr>
<td>7.2</td>
<td>By 2030, increase substantially the share of renewable energy in the global energy mix</td>
<td></td>
</tr>
<tr>
<td>7.3</td>
<td>By 2030, double the global rate of improvement in energy efficiency</td>
<td></td>
</tr>
<tr>
<td>7.a</td>
<td>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</td>
<td></td>
</tr>
<tr>
<td>7.b</td>
<td>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 land-locked developing countries, in accordance with their respective programmes of support</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</td>
<td>The circular economy concept is a leading approach for sustainable and inclusive economic growth. This technical assistance will provide a clear STI-led roadmap for a transition to a circular economy.</td>
</tr>
<tr>
<td>9</td>
<td>Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Reduce inequality within and among countries</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Make cities and human settlements inclusive, safe, resilient and sustainable</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Ensure sustainable consumption and production patterns</td>
<td>The circular economy concept favours efficient resource management that leads to sustainable consumption and production patterns across industries.</td>
</tr>
<tr>
<td>13</td>
<td>Take urgent action to combat climate change and its impacts</td>
<td>All TAs should indicate relevance to Goal 13 and at least one target below (13.1 to 13.b).</td>
</tr>
<tr>
<td>13.1</td>
<td>Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</td>
<td>The technical assistance will develop an STI for Circular Economy Roadmap adopted by the Department of Science and Innovation which will also highlight policy areas in which the circular economy should be integrated.</td>
</tr>
<tr>
<td>13.2</td>
<td>Integrate climate change measures into national policies, strategies and planning</td>
<td></td>
</tr>
<tr>
<td>13.3</td>
<td>Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning</td>
<td></td>
</tr>
<tr>
<td>13.a</td>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>
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 indicate primary type of technical assistance. Optional: If desired, indicate secondary type of technical assistance. |
| Please tick off the relevant boxes below | Primary | Secondary |
| □ 1. Decision-making tools and/or information provision | □ | X |
| □ 2. Sectoral roadmaps and strategies | □ | X |
| □ 3. Recommendations for law, policy and regulations | □ | □ |
| □ 4. Financing facilitation | □ | □ |
| □ 5. Private sector engagement and market creation | □ | □ |
| □ 6. Research and development of technologies | □ | □ |
| □ 7. Feasibility of technology options | □ | □ |
| □ 8. Piloting and deployment of technologies in local conditions | □ | □ |
| □ 9. Technology identification and prioritisation | □ | X |

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 the (i) 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.
Annex 1: Guidance Note for the Response Plan template

Annex 1: Guidance note for designing a Response Plan (to be deleted when submitting the Response Plan)

1. Objective of the Response Plan

The Response Plan is developed by CTCN specialists in response to a country request for technical assistance. It constitutes the Terms of Reference of the CTCN technical assistance that will be provided to the country and it provides the formulation of and subsequent basis for the monitoring and evaluation of the Response Plan implementation, as well as its expected outcomes and anticipated impacts.

2. Results chain and Logical Framework Approach to be defined in the CTCN Response Plan

The result chain is the causal sequence that stipulates the necessary flow of actions and processes to achieve desired objectives and results – beginning with inputs, moving through activities and outputs, and culminating in individual outcomes. The outcome will contribute to the desired impact in the society. The Logical Framework Approach is an analytical process used to support objectives-oriented project planning and management. It provides a set of pre-defined concepts which are used as part of an iterative process to aid structured and systematic analysis and management of the CTCN technical assistance.

![Diagram of result chain and Logical Framework Approach](image-url)
3. Role of the Response Planning Design Team

The Response Planning Design Team is selected by the Climate Technology Centre (CTC). The composition of the team depends on each particular request but may include the National Designated Entity (NDE), the request Proponent, Climate Technology Manager of the CTCN, experts from the CTCN Consortium, UNIDO and UNEP experts from regional offices and other experts as needed.

The role of CTCN Consortium experts is to lead the design of the Response Plan. The NDE will provide overall guidance on national context and priorities whereas the request Proponent will provide more detailed information on the sector, barriers and requested assistance. The Climate Technology Manager of the CTCN will provide quality assurance of timeliness and appropriateness of the Response Plan.

The Response Planning Design Team will draft all sections of the Response Plan template building on the information contained in the CTCN Request, based on expertise on the given topic and potentially further data collection, as required. This will be done by the CTCN Consortium Experts in consultation with the NDE, request Proponent and relevant stakeholders. The Response Plan has to be agreed to and approved by the NDE and the CTCN Director. This Response Plan will serve as the basis to identify, select and engage an expert institution from the Climate Technology Network or Consortium to lead the implementation of the CTCN Response Plan in the requesting country.

To the extent possible, staff from UNEP and UNIDO Regional, Sub-Regional and/or National Offices should be involved in all stages of formulation of the Response Plan to maximize synergies and avoid overlap with ongoing initiatives, as well as ensure relevance to regional and national context.

4. Process for designing the Response Plan

The Response Planning process should be completed over a period of up to 60 working days (12 weeks). Indicative steps and related timelines are laid out below:

- **Step 1:** Preliminary desk assessment, internal call between Consortium Experts and CTCN followed by a kick-off call with the NDE, request Proponent, Consortium Experts and the CTCN.
- **Step 2:** Data collection, technical dialogue and possible in country meetings between CTCN Consortium Experts and country counterparts to get clarity on the baseline situation, national needs and required interventions.
- **Step 3:** Formulation of the draft Response Plan. Once drafted, the CTCN will provide a review and technical feedback. The Consortium Experts will subsequently share the draft Response Plan with NDES, Proponents and relevant stakeholders.
- **Step 4:** Review and feedback on the draft Response Plan. The Response Planning Design Team will facilitate the review, feedback and editing process until a final version of the Response Plan is achieved and agreed upon by the NDE, Proponents and the CTCN.
- **Step 5:** Final version of the Response Plan is signed by the CTCN Director followed by the NDE.

5. Design Considerations

In order to maximize the impact of the technical assistance provided by the CTCN and provide an effective M&E process, the Response Plan should integrate as much as possible the considerations below:

**Climate Technology focus:** The Response Plan should have a clear focus on climate technologies, and identify activities that enable the identification, development, deployment or diffusion of one or several specific technologies (including equipment, techniques, knowledge and skills).

**Barrier removal / Problem solving:** The activities should contribute to address the specific problem statement identified in the Request. The barriers identified should be those hampering the identification, development, deployment or diffusion of one or several climate technologies or climate actions. Therefore, it may be necessary to limit the CTCN Response Plan to a set of activities for technical assistance commonly agreed with the NDE (and Proponent when needed) compared to the original request submitted. The CTCN will liaise with NDEs and Proponent in case the scope of the technical assistance deviates from the original request.

**Use of the CTCN assistance by stakeholders:** The Response Plan should identify clearly how the products of the CTCN assistance will be used in the short term once support is delivered, by who and when, to ensure it will lead to specific impacts in the country. The activities should engage the stakeholders that will use the concrete results of the assistance to deploy the technologies, including from the private sector, the public sector, research institutions, etc.

**Within the scope of CTCN resources:** The cost of the technical assistance provided by the CTCN cannot exceed USD 250,000 per Response Plan. Therefore, it may be necessary to prioritize activities and limit the CTCN Response Plan to a set of priority activities commonly agreed with the Proponent and the NDE to remain under this value. Under section 4 of the Response Plan template, an indicative activity based budget should be presented. The proposed budget is indicative and should present an estimated costing range per activity, output as well as a total costing range for the delivery of the Response Plan. Once the Response Plan is finalised and published for tendering, interested parties will provide competitive offer against the indicative budget.

**CTCN activities and outputs should be linkable to monitoring and evaluation indicators:** All proposed activities and outputs must be linkable to monitoring and evaluation indicators that are specific, measurable, achievable, relevant, and time-bound. The monitoring and evaluation process and corresponding indicators will be developed by the Lead Implementer as part of the work plan and will allow the CTCN technology Manager to monitor the timeliness and appropriateness of the implementation.

**Synergies with existing efforts:** The Response Plan should focus on activities that are not already being fully supported or that are in the process of being fully supported by another national, regional or international organization. Synergies and complementarity also require that the CTCN assistance is not duplicating past activities. It is possible in the Response Plan to indicate co-financing from the government, the Proponent or another stakeholder, that will maximize the effectiveness of the CTCN assistance.

**Gender mainstreaming:** The CTCN mission is to build or strengthen developing countries’ capacities to identify technology needs, to facilitate the preparation and implementation of technology projects and strategies taking into account gender considerations. The Response Plan must therefore describe how gender considerations will be included and monitored within the proposed activities, and any gender co-benefits that will be gained as a result of implementing the CTCN technical assistance.