

## Instructions to lead Implementers for drafting the Technical Assistance Closure and Data Collection Report

### Objective of the technical assistance (TA) Closure Report:

- To communicate publicly in one synthesis document a summary of progress made and lessons learned under the technical assistance (TA) towards the anticipated impact (main template).
- Compile TA-specific information required for internal use in donor and UN reporting (annex 1).

### Steps for completing the TA Closure report:

1. The lead TA implementer drafts the report at the end of the assignment as a final deliverable /product. The TA Closure report will capture all activities conducted under the TA hence it is expected that duplication of information will occur from earlier documents. Please copy and summarize relevant material from previous TA outputs/deliverables.
2. A CTCN Manager will review and revise the TA Closure Report before final approval by the CTCN Director.

### Important note on public and internal use of the closure report:

Once approved by the CTCN Director, the TA Closure report will be a public document available on the CTCN website. Annex 1 is for internal use only and will not be publicly available.

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## Closure and Data Collection Report for CTCN Fast Technical Assistance

### 1. Basic information

Title	<b>Climate Change Vulnerability and Adaptation Study for the Port of Port Louis in Mauritius</b>
Country / countries	<b>Republic of Mauritius</b>
NDE focal point and organization	<b>Mr. Jogeewar Seewoobaduth Ministry of Environment, Solid Waste Management and Climate Change</b>
Proponent focal point and organization	<b>Requesting organisation:</b> Mauritius Ports Authority (MPA)  <b>National Designated authority (NDA) for the CTCN:</b> Ministry of Finance and Economic Development
Sector(s) addressed	<b>Water, coastal zone, Early Warning and Environmental Assessment</b>
Technologies supported	<i>Adaptation planning, protection, hazard mapping, early warning system</i>
Implementation period and total duration	<b>From 12-11-2018 to 15-12-2020</b>
Total budget for implementation	<b>268,400 USD</b>
Planned by / Designer of the response plan	<b>UNEP-DHI Partnership – Centre on Water and Environment (DHI)</b>

Implementer of response plan	<b>Artelia Eau &amp; Environnement, Gibb Mauritius, Climatekos</b>
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## 2. Summary of all activities, outputs and products that contribute to the expected impact of the technical assistance.

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.	The technical assistance was initiated in November 2018 in order to provide a technology needs assessment and identification of adaptive measures to improve the resilience and sustainability of Port Louis harbour. Based on discussions with the MPA and a review of available port infrastructure documentation, the gaps in existing national plans and strategies on the port sector and the port of Port Louis with relation to climate change resiliency were identified and a mapping of the port's vulnerability to climate change was conducted. The results were included in the <b>Context Identification report</b> . Following that, an assessment of the climate change risk of the port of Port Louis was done in order to identify the different climate change scenarios and resulting economic risks. The results of the modelling and risk estimates were included in the <b>Climate Change Risk Estimation report</b> . Appropriate mitigation measures were then identified and prioritised using a MCA together with a pre-feasibility study. The results were included in the <b>Adaptation Actions report</b> . Following that, an action plan was developed for the implementation of the adaptive measures along with a capacity building programme or the stakeholders of the port and port sector. The <b>Action and Investment Plan report</b> includes the capacity building plan, the action and the costs of selected adaptation measures. The selected adaptation measures were included in the draft <b>GCF concept note</b> for a GCF co-funding request.
Partners organizations	Artelia, Gibb and Climatekos PTE.LTD
Beneficiaries	The Mauritius Port Authority (MPA)
Methodologies applied to produce outputs and products	Key stakeholders have been actively involved throughout the implementation of the GCF readiness and CTCN supported activities. During the GCF Readiness and CTCN activities the Ministry of Finance and Economic Development, the Ministry of Environment, the Mauritius Meteorological Service and the Mauritius Port Authority with the technical assistance of UNIDO and the implementer have organized 3 workshops. A number of stakeholder consultations were conducted during the assistance as well. For the selection of the final adaptive measures to be included in the action plan and GCF concept note, a MCA was conducted.
Deviations	<p>The main challenges encountered were related to the availability of data. As a result, initial expected data collection could not be completed. This resulted in a delay in the delivery of initial outputs. Missing data included important data needed for the modelling part (topography, bathymetry), detailed climate data during historical impacts (swell events) and finally technical studies on the port infrastructure (drainage study, flooding and landslide risk.). New bathymetry and wind data were purchased to improve the modelling.</p> <p>Some activities have also been suspended/delayed in light of the Covid-19 situation, including the climate scenario workshop, a key validation milestone that could not be held because of the lockdown in Mauritius (at request of MPA), thus putting the entire project on hold specifically</p>

	<p>between the months of March to May 2020. However, the COVID 19 situation in Mauritius has been effectively contained and the lockdown imposed as a preventive measure. The implementation of the activities resumed at the end of May and the stakeholder workshops that were earlier planned to happen has been changed to virtual consultation, which so far has been successful.</p> <p>Long validation of outputs deliverable by the country stakeholders has been resulting to prolonged validation timeline, thus, resulting to cumulative delays in meeting the planned delivery time. This has largely been a point of concern for the project implementation. However, the implementing partner in collaboration with the local partner has lately had successful engagement with the country focal point.</p> <p>Finally, in recognition of the potential impact of the COVID-19 pandemic on the implementation of activities under the Readiness and Preparatory Support Programme and the Project Preparation Facility, the GCF has granted a further six-months extension of the grant term.</p>
Achieved or anticipated gender benefits from the TA	The executing partner has considered the gender related issues that can be encountered due to the effects of climate change, gender-related aspects were also considered in the planning and designing of adaptive measures. The share of women during the trainings and workshops was close to 36% (11 women and 31 men).
Achieved or anticipated co-benefits from the TA	None
Anticipated follow up activities and next steps	<p>The relevant national stakeholders were identified during the implementation of the assistance, and the majority of the stakeholders have been actively engaged in the workshops and in drafting the GCF concept note.</p> <p>The GCF draft concept note will be finalised. The MPA will use the concept note to apply for GCF co-funding in order to partially finance the adaptive measure that is crucial to protect the port of Port Louis, namely the construction of a breakwater.</p>

### 3. Lessons learnt

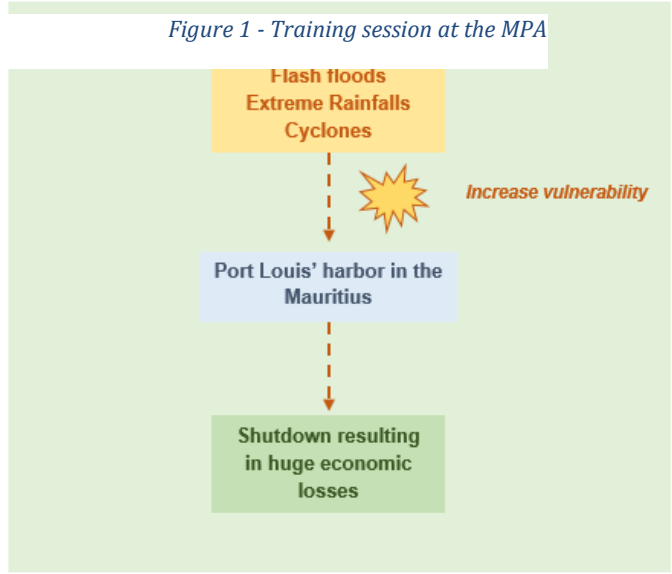
*Instruction: Per lesson, indicate which stakeholders would benefit most from what you have learned. In formulating your lessons, see them as recommendations for those that will be put in a similar situation like yourselves in the future. What would they need to do (or not do) based on your learning? This will enable CTCN to incorporate your lessons in other technical assistances.*

	Lessons learnt	Recommendations
<p>Lessons learnt in the area of the TA</p> <p><i>Instructions: Indicate essential factors contributing to successful implementation, as well as specific challenges. Recommendations include considerations on what would</i></p>	<p>The main challenges encountered were related to the data availability to proceed with the technical study.</p> <p>Getting in touch with the different stakeholders took longer than expected</p>	<p>Facilitate data collection prior to implementation in the countries where the TA is taking place.</p> <p>Better communication between the different stakeholders.</p>

<p><i>need to be in place for increasing success of similar efforts (i.e. regulatory, legal, stakeholders, communication, etc.)</i></p>	<p>sometimes, in particular in view of travel restrictions related to the covid pandemic.</p>	
<p>Lessons learnt related to climate technology transfer <i>Instructions: Indicate Opportunities, challenges and barriers for the use and deployment of the technology or technologies supported by the TA. The objective is to identify specific success factors for technology transfer. This information will feed the CTCN technology library and will contribute to increase learning on specific technologies</i></p>	<p>Climate change awareness at the beneficiary is at an early stage.</p>	<p>The TA and associated training has contributed to raising awareness. Nonetheless, the beneficiary has expressed the need to recruit a climate adaptation expert to implement the action plan.</p>
<p>Lessons learnt related the CTCN process for TA</p>	<p>Reporting and monitoring templates are highly detailed and change over the course of the project.</p>	<p>Simplify TA reporting templates and/or reduce reporting frequency.</p>

#### 4. Illustration of the TA and photos

Figure 1 - Training session at the MPA



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Activity 6  
Monitoring and communication

**Activity 5**  
Development of a preliminary draft of a GCF concept note  
[Draft GCF concept note](#)

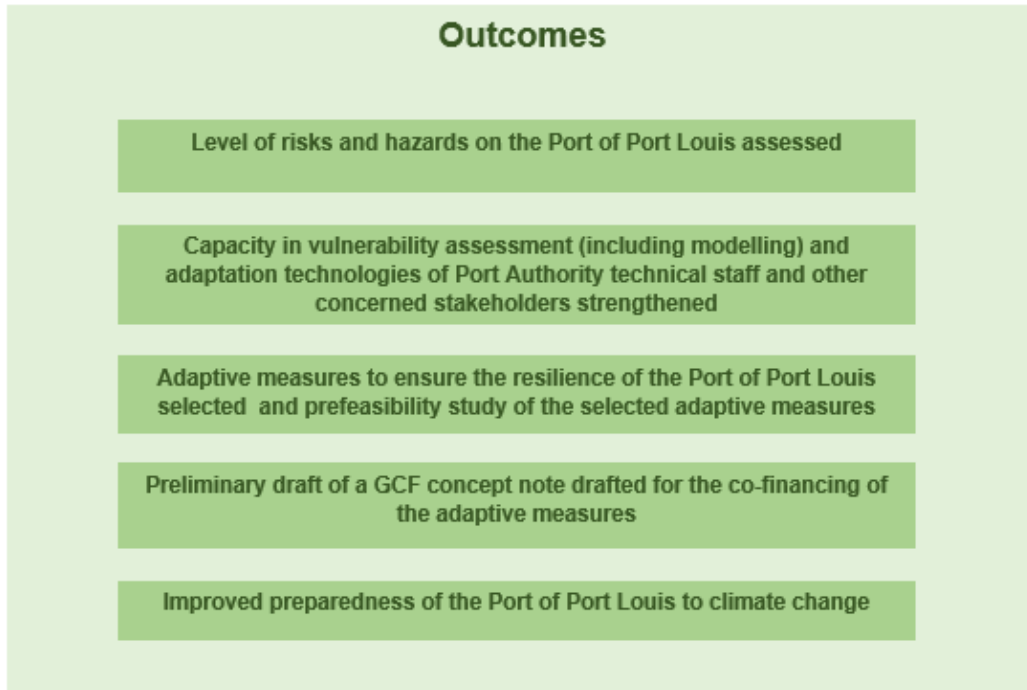


Figure 2 - Technical assistance diagram

**Information for TA impact description (for public use)**

*Instruction: The information in the table below will be used by the CTCN to produce the CTCN TA Impact Description. The TA Impact description is a 2-page summary document for communication purposes. Please copy information from sections above and technical delivery reports as required*

<p><b>Challenge:</b> Approx. 500 characters with spaces</p>	<p>Port Louis harbour is exposed to risks due to impact from weather and climate change effects such as sea level rise, storm surges, wave and wind impact, precipitation and flooding, and water temperature rise. With climate change follows the risk of more frequent stops of operations, just as it carries the risk of increased wear on structures resulting in increased maintenance efforts and costs. In addition to this, there is a risk of increase in siltation rates and hence potentially an increased requirement for maintenance dredging or other mitigating measures around Port Louis harbour.</p>
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<p><b>CTCN Assistance:</b> 2 to 4 bullet points. Approximately 450 characters with spaces</p>	<ul style="list-style-type: none"> <li>• The Identification of gaps in the existing national plans and strategies on the port sector and the port of Port Louis with relation to climate change resiliency and mapping of the port’s vulnerability to climate change</li> <li>• The assessment of the climate change risk of the port of Port Louis</li> <li>• The formulation of an action plan for the implementation of adaptive measures to be included in the draft GCF concept note</li> <li>• The identification of capacity building needs for the stakeholders of the port and port sector</li> </ul>
<p><b>Anticipated impact:</b> 2 to 4 bullet points to summarise anticipated impact. Approximately 250 characters with spaces. As a minimum, please include the impacts described in annex 1B as well as other relevant qualitative and quantitative impacts anticipated after completion of CTCN technical assistance.</p>	<ul style="list-style-type: none"> <li>• Level of risks and hazards on the Port of Port Louis assessed</li> <li>• Capacity in vulnerability assessment (including modelling) and adaptation technologies of Port Authority technical staff and other concerned stakeholders strengthened</li> <li>• Adaptive measures to ensure the resilience of the Port of Port Louis selected and improved preparedness of the Port of Port Louis to climate change</li> </ul>
<p><b>Linkages and contribution to NDC:</b> 2 to 4 bullet points. Approximately 350 characters with spaces</p>	<p>Protecting infrastructure is one of the priority adaptation actions presented in Mauritius NDC (2015). Specifically, the NDC states that the ‘protection of infrastructure will be enhanced against climate change calamities’. Through this TA, the main entry point of the country, i.e. the port of Port Louis physical assets should be protected against climate hazards and the capacity building programme will enhance endogenous capacities to effectively respond to climate change hazards.</p>
<p><b>The narrative story:</b> Approximately 1200 characters with spaces</p>	<p>The Technology Needs Assessment of the Mauritius islands identified the climate risks and hazards on the Port of Port Louis in order to come up with appropriate mitigation measures to protect the port’s physical assets.</p> <p>UNIDO in coordination with the NDA and the Mauritius Port Authorities implemented this technical assistance to select appropriate adaptation technologies for the port of Port</p>



	<p>Louis. The adaptive measures will ensure the resilience of the port and improve the preparedness of the Port of Port Louis to climate change. The TA should prevent the port shutdown and avoid the serious negative impacts of downtime on the Mauritius economy.</p> <p>The objectives of this TA include :</p> <ul style="list-style-type: none"> <li>• Reducing the port vulnerability to climate change by selecting appropriate mitigation measures</li> <li>• Protecting the port’s physical assets</li> <li>• Avoiding economic losses due to downtime</li> <li>• Support in drafting a GCF concept note to apply for GCF co-funding in order to support the construction of a breakwater</li> <li>• Capacity building of the different port stakeholders to raise awareness on climate change risks</li> </ul>
<p><b>Contribution to SDGs:</b> Always include contribution to SDG 13, and to the extent possible, please include contribution to 2 other SDGs, describing the contribution with a few sentences for each SDG concerned. A complete list of SDGs and their targets is available here: <a href="https://sustainabledevelopment.un.org/partnership/register/">https://sustainabledevelopment.un.org/partnership/register/</a></p>	<ul style="list-style-type: none"> <li>• SDG 13 - Climate Action : <i>Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</i></li> <li>• SDG 17 - Partnerships to achieve the Goal : <i>Mobilize additional financial resources for developing countries from multiple sources</i></li> <li>• SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation : <i>Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all</i></li> </ul>

Note: Please see examples of TA Impact Description in adaptation and mitigation at the following link:

<https://www.ctc-n.org/sites/www.ctc-n.org/files/learning-reports/18106-ctcnimpactdescriptionv02.pdf>

[https://www.ctc-n.org/sites/www.ctc-n.org/files/learning-reports/ta\\_impact\\_description\\_2014000002\\_gcai.doc](https://www.ctc-n.org/sites/www.ctc-n.org/files/learning-reports/ta_impact_description_2014000002_gcai.doc)



## **Annex 1 - Standardised CTCN performance indicators for donor and UN reporting**

Please add quantitative values and qualitative descriptions for indicators relevant to the particular FTA in the tables below. Non-relevant indicators should be left blank.

### **A. Activities and outputs supported by CTCN technical assistance**

Please only fill in the table for activities and outputs conducted or produced directly by the CTCN assistance.

<b>CTCN standardised performance indicators</b>	<b>Quantitative value</b>	<b>Qualitative description</b> <i>List the various elements corresponding to the quantitative value</i>
<b>Overview</b>		
1. Number of work days of the international expert team spent on the implementation of the technical assistance	<b>231</b>	<b>Workshops Consultations and meetings Financial and engineering expertise</b>
2. Number of work days of the locally-contracted expert team spent on the implementation of the technical assistance	<b>56</b>	<b>Consultations by national experts</b>
3. Number of external communication and outreach activities conducted to showcase the assistance (news release, newsletters, articles on website, events presenting the results of the technical assistance, social media postings, and presentations at events outside the technical assistance etc.)		<b>N.A.</b>
<b>Events (other than trainings) held as part of the assistance</b>		
4. Total number of events other than trainings (Aggregation of numbers in categories below)	Aggregation of numbers in categories below	
5. Number of international and multi-country (at regional or sub-regional level) technology and knowledge sharing events		<b>N.A.</b>
6. Number of participants in the events above		<b>N.A.</b>
7. Number of national technology and knowledge sharing events (national events held including national consultations)	<b>4</b>	<b>Inception meeting Various meetings with the stakeholders to discuss the project</b>
8. Number of participants in the events above	<b>42</b>	
9. Number of public-private events related to technologies		<b>N.A.</b>
10. Number of participants in the events above		<b>N.A.</b>
<b>Training and capacity building activities conducted during the assistance</b>		
11. Number of training sessions and capacity strengthening activities	<b>2</b>	<b>Capacity building meetings</b>
12. Number of people who received the training		
a) Number of men	<b>31</b>	
b) Number of women	<b>11</b>	

13. Total number of organisations trained		
a) Number of research organisations, laboratories and universities	2	Mauritius Meteorological Services, Mauritius Oceanography Institute
b) Number of private companies	1	MSSNSESD
c) Number of cities and local government		
d) Number of communities		
e) Number of ministries	2	Ministry of Finance, Ministry of Environment
f) Number of specialised governmental institutions	1	MPA
g) Number of non-profit organisations		
14. Number of participants that were significantly or moderately satisfied after the training (from CTCN training feedback form).	42	
15. Number of participants that significantly or moderately increased their capacities thanks to the training (from CTCN training feedback form).	42 (the CTCN training feedback form wasn't used)	
a) Number of men	31	
b) Number of women	11	
<b>Tools, technical documents and information material supported by the assistance</b>		
16. Total number of tools, technical documents and information material supported by the assistance (excluding mission, progress and internal reports)		
a) Number of tools strengthened, revised or developed (including tools, methodology, software, calculation systems, etc.)	2	Port flooding model Climate change cost estimation tool
b) Number of technical documents strengthened, revised or created	5	<ul style="list-style-type: none"> <li>Context identification report</li> <li>Climate change risk estimation report</li> <li>Adaptation actions report</li> <li>Action and investment plan report</li> <li>GCF draft concept note</li> </ul>
c) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)		
<b>Policies, laws and regulations supported by the assistance</b>		
17. Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance		N.A.
a) Number of policies, strategies, and plans drafted addressing climate change adaptation	2	Adaptation action plan for the port of Port Louis GCF draft concept note
b) Number of policies, strategies, and plans drafted addressing climate change mitigation		Included above
c) Number of documents developed to inform other policies, strategies, and plans on climate		

change adaptation (sectoral strategies, national development plans, etc.)		
d) Number of documents developed to inform other policies, strategies, and plans on climate change mitigation (sectoral strategies, national development plans, etc.)		
e) Number of laws, agreements, or regulations drafted addressing climate change adaptation		
f) Number of laws, agreements, or regulations drafted addressing climate change mitigation		
g) Number of documents developed to inform laws, agreements, or regulations on climate change adaptation	3	Context identification report Climate change risk estimation report Adaptation actions report
h) Number of documents developed to inform laws, agreements, or regulations on climate change mitigation		
<b>Institutional strengthening supported by the assistance</b>		
18. Total number of institutional arrangements supported to support climate change planning		
19. Number of organisations with increased awareness and knowledge among countries to better own and drive national adaptation planning processes	6	MPA, MSSNSESD, Mauritius Meteorological Services, Mauritius Oceanography Institute, Ministry of Environment and Ministry of Finance
20. Number of organisations with increased awareness and knowledge among countries to better own and drive national mitigation planning processes		
<b>Partnerships and cooperation</b>		
21. Number of private companies directly engaged in the assistance (that partnered with the proponent, the beneficiaries or the CTCN to implement the assistance) (Excluding the role of the CTCN and TA implementers)		
22. Number of South-South collaborations enabled during or through the assistance, when stakeholders from other countries were involved in the assistance (Excluding the role of the CTCN and TA implementers)		
23. Number of North-South collaborations enabled during or through the assistance, when stakeholders from other countries were involved in the assistance (Excluding the role of the CTCN and TA implementers)		
24. Number of Triangular collaborations enabled during or through the assistance, when stakeholders from other countries were involved in the assistance (Excluding the role of the CTCN and TA implementers)		
<b>UNFCCC planning/support processes</b>		
25. Number of National Adaptation Plans (NAPs) developed as part of the technical assistance		

26. Number of Nationally Appropriate Mitigation Actions (NAMA) developed as part of the technical assistance		
27. Number of Technology Needs Assessments (TNAs) developed as part of the technical assistance		

## B. Impacts anticipated after completion of CTCN technical assistance: core indicators

Every technical assistance should contribute to at least one indicator below.

CTCN core indicators	Quantitative value	Unit	Methodology Explain the method or process of verifying the indicator and how data was gathered	Assumptions Indicate assumptions made during quantification	Expected timeline Indicate when the indicator and value are expected to be achieved
28. <b>Total</b> anticipated amount of funding/investment mobilised (in USD) as a result of the TA	301,550,000	USD			
a) Anticipated amount of <b>public funding</b> mobilised (in USD) from <b>national sources</b> as a result of the TA	45,232,500	USD	Consultations with the MPA and the Ministry of Economy and Finance	15% of the total amount will be financed by the MPA and Mauritius government	
b) Anticipated amount of <b>public funding</b> mobilized (in USD) from <b>international and regional sources</b> as a result of the TA	256,317,500 (of which GCF 150,775,000 and AfDB 105,542,500)	USD	Consultations with the MPA and the Ministry of Economy and Finance following an initial consultation with the AfDB		When the GCF proposal and funding proposals are approved by the GCF board and loan acceptance from AfDB
c) Anticipated amount of <b>private investment</b> mobilised (in USD) from <b>national</b>					

<b>sources</b> as a result of the TA					
d) Anticipated amount of <b>private investment</b> mobilised (in USD) from <b>international and regional sources</b> as a result of the TA					
29. Anticipated number of beneficiaries as a result of a <b>mitigation</b> TA					
30. Anticipated number of people with increased resilience as co-benefits as a result of the TA	<p><b>25 000 persons (2%) directly impacted; more people indirectly impacted</b></p> <p><b>2 207 729 USD/day daily economic losses</b></p>	<p>People</p> <p>Gross Value added</p>	<p>In order to quantify the increased resilience an indirect approach was used: the daily economic losses and the number people affected by the port downtime were quantified (i.e. if no adaptive measures are implemented). Through the TA, appropriate adaptive measures were selected and will be implemented in the future increase thus the resilience of the people and port activities.</p>		
31. Anticipated average the <b>total</b> GHG reductions in metric tons of CO <sub>2-e</sub> , as a result of the TA					
32. Anticipated average <b>annual</b> GHG					

reductions in metric tons of CO <sub>2-e</sub> , as a result of the TA					
33. Anticipated and projected greenhouse gas emissions reduced or avoided through 2030, in metric tons of CO <sub>2-e</sub> , from adopted laws, policies, regulations, or technologies related to clean energy/sustainable landscapes as a result of the TA					

**C. Outputs and impacts anticipated after completion of CTCN technical assistance: standardised performance indicators**

<b>CTCN standardised performance indicators</b>	<b>Quantitative value</b> Insert the request value and unit	<b>Content</b> List the elements included in the number provided	<b>Expected timeline</b> Indicate when the indicator and value are expected to be achieved	<b>Responsible institution</b> Indicate the institution(s) that will play leading role(s) in enabling the indicators and anticipated values to be achieved
34. Anticipated number of <b>policies, strategies, plans</b> , addressing climate change <b>mitigation</b> officially proposed, adopted, or implemented as a result of the TA				
35. Anticipated number of <b>policies, strategies, plans</b> , addressing climate change <b>adaptation</b> officially proposed, adopted, or implemented as a result of the TA.	2	Action plan for the implementation of adaptation options in relation to climate change for the port sector, with specific action targets and time frames GCF Concept Note		The Mauritius port authority (MPA), the GCF, the AfDB
36. Anticipated number of <b>policies, strategies, plans</b> , addressing climate change on <b>both adaptation and</b>				

<b>mitigation</b> officially proposed, adopted, or implemented as a result of the TA				
37. Anticipated number of <b>laws or regulations</b> addressing climate change <b>mitigation</b> officially proposed, adopted, or implemented as a result of the TA.				
38. Anticipated number of <b>laws or regulations</b> addressing climate change <b>adaptation</b> officially proposed, adopted, or implemented as a result of the TA.				
39. Anticipated number of <b>laws or regulations</b> addressing climate change <b>both adaptation and mitigation</b> officially proposed, adopted, or implemented as a result of the TA				
40. Anticipated number of public-private partnerships and collaboration created (Excluding the role of the CTCN and TA implementers)				
41. Anticipated twinning arrangements created as a result of the TA				
42. Anticipated number of technology projects to support action on low emission and climate-resilient development	1	Construction of the breakwater to increase the port's resilience		AfDB, MPA, Government of Mauritius and the GCF
43. Anticipated number of strengthened National Systems of Innovation and technology innovation centres in recipient country				
44. Anticipated Clean Energy Generation Capacity in kWh supported by the TA				
45. Anticipated technology types effectively deployed in the country				
46. Anticipated UNFCCC processes implemented as a result of the TA (NAMA, NAPA, NDC, etc.)				
47. Anticipated Technology Needs Assessments (TNA)				



and technology Action Plans (TAP) as a result of the TA				
48. Anticipated cooperative research, development and demonstration programmes within and between developed and developing country Parties facilitated as a result of the TA				
49. Anticipated improved climate change observation systems and related information management in developing country Parties.				

**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.