Technical Assistance Closure Report Template

Objective of the technical assistance (TA) Closure Report:

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

Steps for completing the TA closure report:

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

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

Closure Report for CTCN Technical Assistance

1. Basic information

Title of response plan	**Assessment of the current status of the circular economy in the waste sector for developing a waste stream specific roadmap in Malawi**
Technical assistance reference number	**2020000022**
Country / countries	**Malawi**
NDE organisation	**National Commission for Science and Technology (NCST)**
NDE focal point	**Mr. Fredrick Munthali**
NDE contact information	**fmunthali@ncst.mw**
Proponent focal point and organisation	**Mr. Lyson Kampira, NCST, lkampira@ncst.mw**
Designer of the response plan	**Valentin Rudloff, CTCN, Valentin Rudloff, valentin.rudloff@un.org**
Implementer(s) of technical assistance	**TNO Netherlands, SIB_KEPSA, Nairobi, Kenya, local consultants Andrew Chinyepe, Chandirekera Mutubuki-Makuyana (both from Harare, Zimbabwe)**
Beneficiaries	**NCST, Ministry of Environment, Ministry of Finance, Malawi Polytechnic, City Councils (Lilongwe, Blantyre, Mzuzu)**

Sector(s) addressed	**Waste management/municipal solid waste**
Technologies supported	**Municipal waste identification** **Waste collection and separation** **Conversion technologies for plastic waste** .
Implementation start date	**(01/02/2021)**
Implementation end date	**(31/04/2022)**
Total budget for implementation	**USD 243,950**
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	**Output 1 : Development of implementation plan and communication documents** **Output 2 : Analysis of existing circular economy initiatives and key players in Malawi** **Output 3 : Identification of the perceived value of the circular economy and of the benefits, weaknesses, opportunities and challenges in Malawi's waste sector** **Output 4 : Circularity analysis of one prioritized waste stream** **Output 5: Development of a circular economy roadmap and identification of a potential circularity pilot project**
Methodologies applied to produce outputs and products	**Stakeholder mapping, questionnaires and interviews, data gathering and analysis, SWOT analysis, (semi-) structured interviews, field visits, technology assessment, literature review**
Reference to knowledge resources	**The UNFCC TEC documents were reviewed but no direct use was made of TEC knowledge products was made** *Link to TEC knowledge database:* *https://unfccc.int/ttclear/tec/documents.html*
Deviations	**No major deviations, except a one month later delivery of results and final reports**
Anticipated follow-up activities and next steps	The Ownership of the project results is with NDE, Mr.F.Munthali, National Commission for Science and Technology (NCST) and focal point for this project and Mr. Lyson Kampira, Director of Research Services, NCST and NDE. The anticipated timeline of the proposed pilot concept is 1-3 years. Key stakeholders have been identified. During the final stakeholder workshop, it was jointly determined that the roadmap should be used as starting point to further develop an implementation plan, by the mandate of MEPA. It was discussed this should be done in a tiered approach. First, by setting up a key Working Group, including at least MEPA, NCST, representatives of the Waste Team of at least one Local Authority, a private party (collector or recycler) and a civil society actor (non-

	profit based actor involved in collection, separation, recycling or awareness creation on waste). This initial group should consist of not more than 5 actors and has the responsibility the ensure continuation of the roadmap. Steps that can be taken by the Working Group are to set an agenda based on the roadmap, to determine what can already be done with current available resources and where additional resources are needed. Moreover, the Working Group is responsible for the implementation of a Taskforce - a broader group of stakeholders involved for implementation of the roadmap. The Working Group can take several steps to develop such a Taskforce: (1) define necessary actors to a the Taskforce, (2) define the right individuals per actor, that play a connecting role, (3) divide leads per domain as indicated in this roadmap, (4) set up a larger Advisory group (i.e. for review and feedback). Amongst the stakeholders that were present during the April stakeholder group there were multiple parties interested to form the initial Working Group as well as to be part of the Taskforce. The Taskforce will implement all future activities related to this roadmap, to allow for harmonization of efforts, as well as ensure continuation. It is advised this Taskforce meets on a regular basis. The roadmap will subsequentlybe operationalized, defining targets for the intervention areas. The focus will be on the short term actions defined (e.g. one-stop-shop information points on waste management for citizens, training of public officers working with waste and circularity, assessing current policies on the development of KPI's. Moreover, continuous monitoring of the implementation of the roadmap interventions is crucial. This was defined as a task of the action group as well. The pilot concept that has been selected as appropriate intervention in the Malawi context is the decentralized integrated waste transfer and recycling station (DIWRS). After the feasibility study it can be determined whether the project can be implemented or not. In short, the proposed steps include: **1. Implementation and roll-out of the roadmap, to start with the 8 interventions defined on the short term**

	2. Feasibility study for the DIWS (a decentralized integrated waste transfer station) pilot **3. Implementation of a DIWS pilot**

2. Lessons learned

	Lessons learned	Recommendations
Lessons learned from the CTCN TA process	**The TA process was well prepared, however implementation on the ground was challenged by sometimes bad communication means, COVID restrictions. As a consequence, data gathering on the ground was a challenge that took more time to complete than anticipated**	**Recommendations include :** • **Facilitating the data gathering (interviews, questionnaires, workshops) from stakeholders should be given more priority early in the process.** • **Preparation of the stakeholder interaction process, including smooth facilitation (e.g. remuneration of travel costs, time).**
Lessons learned related to climate technology transfer	**Clearly define the interventions to be made and the main actors for these interventions**	**Recommendations include** • **Risk mitigation measures** • **Identified opportunities for over-coming barriers** • **Long-term sustainability (e.g. building endogenous capacities, funding opportunities, etc.)**

3. Illustration of the TA and photos

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

Figure 1: TNO-SIB-K team at the Ministry of Local government and Rural Development

Figure 2: TNO-SIB-K team after a visit to the landfill in Lilongwe, Malawi

Figure 3: Collection of plastics by a recycler in partnership with waste pickers from the informal sector

Figure 1 . Waste delivery truck disposing off waste, at a dump site in Lilongwe, Malawi

Figure 5: A visible challenge of the glass bottles with no deposit being a challenge at the dumpsite

	Intervention	Lead actor
1	Improve policy and regulatory enforcement and evaluation	MEPA, Ministry of Local Government, Department of Environmental Affairs, local authorities
2	Redesign of policies for sustainable plastic (waste) management	MEPA, Ministry of Local Government, Department of Environmental Affairs, local authorities
3	Development of domestic funding instruments/acquisition of external funding for critical infrastructure	MEPA, Ministry of Local Government, local authorities
4	Expand local trade and foster market development	Ministry of Finance, MEPA, Ministry of Industry and Trade
5	Develop a policy and legal framework for EPR for plastics	MEPA, private sector
6	Improve public-private collaboration and engagement	MEPA, local authorities, Ministries of Industry and Trade, private sector
7	Include the informal sector	MEPA, local authorities
8	Include women and young entrepreneurs	Ministry of Industry and Trade, Ministry of Gender and Community Development, private sector, NCST, LA's
9	Improve cross-sectoralcollaboration	MEPA, private sector

Figure 2. Professor Elijah Wanda at last stakeholder meeting , April 2022

	Intervention	Lead actor
10	Increase public awareness and information sharing	Ministry of Information and Digitalization, MEPA, NCST, local authorities, NGO's
11	Invest in R&D and innovation	NCST, academia
12	Prepare for and foster human capacity building	NCST, academia
13	Increase collection levels	local authorities, Ministry of Local Government, private sector
14	Increase dry/wet separation and full-post collection separation	local authorities, Ministry of Local Government, Ministry of Health (Public Health), Ministry of Water and Sanitation, MEPA, private collectors, DIWS entrepreneurs
15	Enhance the valorization of (plastic) waste	local authorities, Ministry of Local Government, Ministry of Trade and Industry, MEPA, private recyclers, NCST, academia
16	Improve waste disposal options	local authorities, MEPA, Ministry of Local Government, Environmental Affairs Department
17	Increase data availability	Ministry of Information and Digitalization, MEPA, local authorities

Description pilot concept

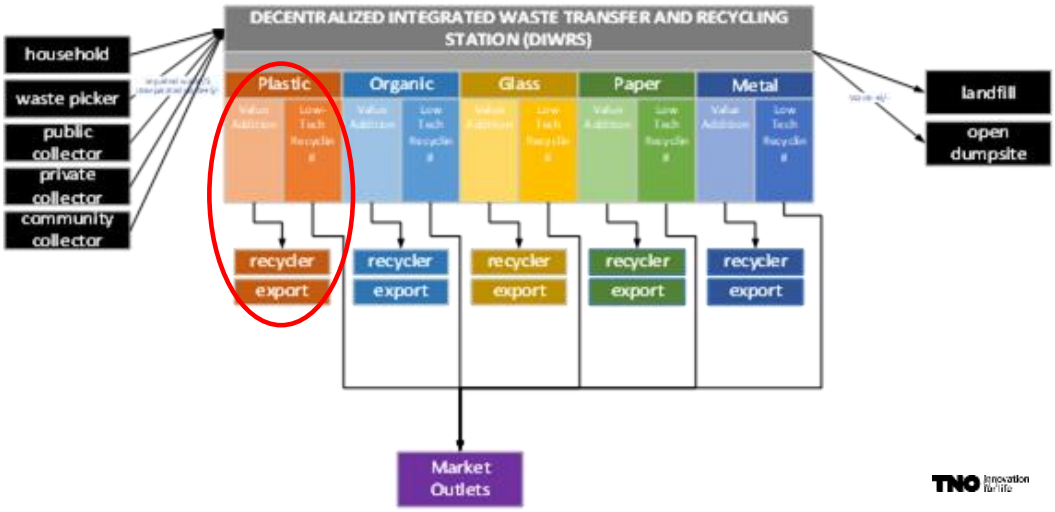
DECENTRALIZED INTEGRATED WASTE TRANSFER AND RECYCLING STATION

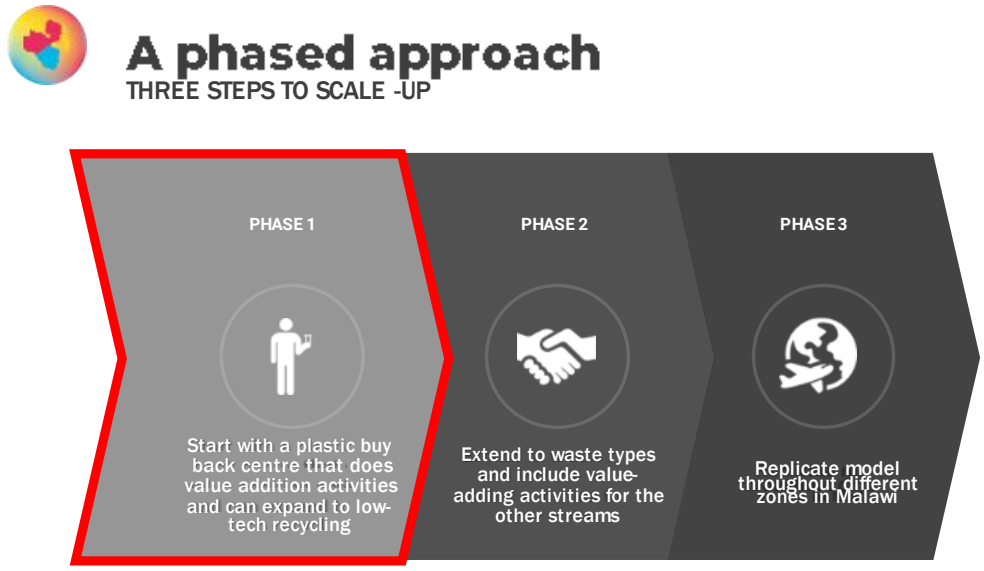
What is it?

- Start ups functioning as Waste Transfer Stations are starting to emerge throughout south-eastern Africa. They aim to provide better waste management and valorize waste. However, margins are low, since most value is added during processing. A DIWS aims to address this by:
  - Including value addition activities for each waste stream (e.g. washing and shredding plastics, crushing glass, shredding metals)
  - Including low-tech recycling activities for some of the waste streams (e.g. moulding plastic products, composting for organics)
  - To scale the upstream part of the value chain, since value is better distributed along the actors (e.g. informal waste workers, waste transfer stations etc.)

Description pilot concept

ACTOR RELATIONS



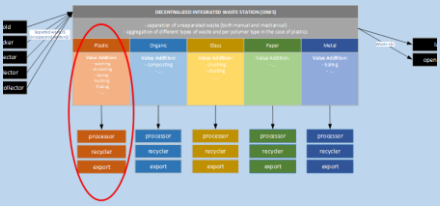


4. Impact Statement

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

Challenge	**Malawi faces a complex and interrelated environmental challenges, mainly driven by population growth and climate change . Population growth places enormous demands on natural systems. It leads to increased waste generation, with more land converted to agriculture and more forests being harvested for the wood fuel supply. The country has 18.6 million people; Malawi's four major cities (Lilongwe, Blantyre, Zomba, and Mzuzu) have 1.5 million people and generate over 1000 tons of solid trash per day . In 2019, the capital city of Lilongwe alone was producing approximately 250 metric tonnes of waste per day . According to research, Malawi's waste management infrastructure and public**

	awareness are insufficient to handle the volume of waste produced
CTCN Assistance	• **The Climate Technology Centre and Network (CTCN) was engaged through the National Commission for Science and Technology to provide technical assistance in the '*Assessment of the current status of the circular economy in the waste sector for developing a waste stream specific roadmap in Malawi*' project.** • **The first part of the project sought to analyze the status quo of the household waste management system in Malawi, focusing on plastics, metal, paper, glass and urban organic and small scale agricultural organic waste. A first stakeholder meeting on this was held last October, 18, Lilongwe. During this meeting a decision had to be made on which waste stream to focus on for the remainder of the project. The chosen waste stream is plastics. In January 2022, a second stakeholder meeting was held to validate the results of the deep dive into the plastic waste system in Malawi. Based on the results of the baseline assessment and the deep dive, a roadmap and a pilot concept have been developed that address the key gaps identified.** • **The roadmap is based on four pillars of enhancing the institutional framework, promoting constructive collaboration, increasing knowledge and awareness and improving the physical infrastructure. Within each pillar, interventions and action points are defined on the short, medium and in some cases long term. Additionally, it is identified for the interventions whom the lead actors are to further take up responsibility of the execution of the intervention. The interventions are supported by more detailed sub-interventions, however operationalization and quantification**

	of the roadmap is beyond the scope of this project and is suggested as a follow-up activity. • **The pilot concept is based on the realization of a decentralized integrated waste transfer station (DIWS) :**  • **This DIWS will have to be implemented in phases to reduce risks and minimize costs. The first phase will have to be focused on a Plastic Buy Back Centre that will bay back plastic polymer waste from all types of collectors and will prepare this waste steam to sell to recycling industry or as export product.**
Anticipated impact	**The anticipated impact of a DIWS is plentiful. A DIWS reduces the waste that ends up at legal and illegal dumpsites, since waste that has value is processed. Only waste that does not have value anymore, or of which value extraction is difficult, ends up at waste disposal sites. The decentralized character of a DIWS helps to reduce transport distances, since waste is managed within the community. Only after value addition steps, materials are transported over longer distances, but by this time there is more value to be extracted thus the prices for the materials are higher, which means the costs of transport is easier to bear.**
Co-benefits: Achieved or anticipated co-benefits from the TA	**As c-benefit, a DIWS provides a clear aggregation point for the whole value network. For households a DIWS is a point where they can bring their unseparated waste to or sell their separated waste to, thus providing them with an alternative to illegal dumping if collection service are not available (or cannot be afforded). For collection services (public, private, informal) the DIWS provides them with a local solution to dispose of their waste, that does not involve covering large transport distances. Lastly, for recyclers and processors a DIWS provides them with a central point to buy materials at a fixed price that have already**

	undergone some value addition steps, reinforcing the recycling sector and easing the recycling process for them.
Gender aspects of the TA	**There is significant participation of men and women in the waste sector of Malawi, but there are some gender dimensions that were noted. Both women and men are represented in the waste business for plastics. Yet, tasks in plastic processing are divided by gender: women are solely responsible for the separation process, while men bulk and wash the plastics and operate the machinery. It was concluded that men and women do not work together and often do not have the same tasks and that there is gender segregation in the sense that men and women do not work together for cultural or traditional reasons.** Moreover, women are generally less represented at the higher ends of the value streams (suc as recycling or processing)
Anticipated contribution to NDC	**The implementation of a of a decentralized integrated waste transfer station (DWIS) will contribute to the NDC.** **Upon scale up and multiplication, the DIWS may contribute up to 10% to NDC.**
The narrative story	**Malawi faces complex and interrelated environmental challenges, mainly driven by population growth and climate change . Population growth places enormous demands on natural systems. It leads to increased waste generation, with more land converted to agriculture and more forests being harvested for the wood fuel supply. The country has 18.6 million people; Malawi's four major cities (Lilongwe, Blantyre, Zomba, and Mzuzu) have 1.5 million people and generate over 1000 tons of solid trash per day . In 2019, the capital city of Lilongwe alone was producing approximately 250 metric tonnes of waste per day . According to research, Malawi's waste management infrastructure and public awareness are insufficient to handle the volume of waste produced . As Malawi's population expands, the country becomes more urbanized, and the economy evolves to include more people in the middle class, these issues will only worsen. The country has only two municipal landfills, has no publicly managed waste incinerators, and only a few waste transfer stations. Based on these**

	tendencies, waste generation is expected to triple by 2050 . **For years, waste in the country has been a pressing topic, causing environmental degradation, rising GHG emissions, severe health problems, and loss of resources that could otherwise be valorised. Malawi has low waste collection rates and a plethora of uncontrolled and unmanaged waste dump sites, none of which have appropriately constructed environmental protection measures. Furthermore, collection systems are underdeveloped, with most cities having only a 30 percent capability to collect. Separated trash collection is much less typical. People in low-income communities are particularly affected since they frequently fall outside of the regular waste collection system, and inhabitants lack the financial resources to participate in the first place. As a result of governments' other problems in delivering fundamental services, waste management is rarely a top priority . With approximately 70% of municipal solid waste not officially disposed of with a 4% waste recycling rate, it is legitimate that the current waste management model is unsustainable .** **Accelerated economic growth and the circular economy framework are crucial for long-term development, notably for SDGs 1 No Poverty, 3 Good Health and Well-being, 5 Gender Equality, 6 Clean Water and Sanitation, 8 Decent Work and Economic Growth, and 12 Responsible Consumption and Production. The transition from a linear to a circular economy must be inclusive and collaborative in every way, encompassing both men and women. Taking a comprehensive approach to the transition to a circular economy, including but not limited to a gender-inclusive strategy, opens up new avenues.** **Furthermore, the behaviour of a community helps the change by adopting acceptable best practices in waste disposal. To support this transition, Malawi filed a request with CTCN for a Technical Assistance (TA) project on a circular waste system to tackle the challenges of waste and loss of resources and take dedicated steps towards a more circular economy. The ultimate goal of the TA project was to develop a waste stream-specific national roadmap for a more circular management system, including the conceptualization of a pilot project.**

Contribution to SDGs A complete list of SDGs and their targets is available here: https://sustainabledevelopment.un.org/partnership/register/	**This TA contributes to :** • **SDG 12, Responsible consumption and production : the need for sustainable consumption and production patterns through prevention, reduction, recycling and reuse** • **SDG 11 Sustainable Cities & Communities :** **The need for collection and separation of household waste will contribute to sustainable cities and communities.** • **SDG 13 Climate Action, the TA will initiate pathways for lowering GHG emissions**

Annex 1 Technical assistance data collection

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

A. Output and outcome indicators

Indicator Please note indicators below highlighted as **anticipated**	**Quantitative value** *Numerals only; disaggregates must sum to the total*	**Qualitative description** *List the various elements corresponding to the quantitative value as well as timelines and responsible institutions*
Total number of events organized by proponents and implementing partners	**18**	• **Kick-off meeting (online)** • **Stakeholder meeting on periodization of waste streams** • **Stakeholder meeting on technology pathways** • **Stakeholder meeting on roadmap and pilot concept** • **Stakeholder meetings output 2 & 3 (2)** • **Informal one per month meeting with NDE (online, 12)**
Number of participants in events organized by proponents and implementing partners	***Ca. 120***	
a) Number of men	***70 %***	*Disaggregate by country* **All Malawi**
b) Number of women	**30 %**	**All Malawi**
Number of climate technology RD&D related events	**3**	**Stakeholder meetings**
Number of participants in climate technology RD&D events	*List total number here* **60**	
a) Number of men	***70 %***	
b) Number of women	***30 %***	
Number of training organized by proponents and implementing partners	*List total number here* **0**	*List the title of the training sessions and capacity strengthening activities* **0**
Number of participants in trainings organized by proponents and implementing partners	*List total number here* **0**	**0**

a) Number of men	**n.a.**	
b) Number of women	**n.a.**	
Total number of institutions trained	*List total number here*	
a) Governmental (national or subnational)	**n.a.**	*List the name of organisations trained here*
b) Private sector (bank, corporation, etc.)	**n.a.**	*List the name of organisations trained here*
c) Nongovernmental (NGO, University, etc.)	**n.a.**	*List the name of organisations trained here*
Percentage of participants reporting satisfaction with CTCN training (from CTCN training feedback form)	**n.a.**	*Satisfied= 4+ on 5-pt scale*
Percentage of participants reporting increased knowledge, capacity and/or understanding as a result of CTCN training (from CTCN training feedback form)	**n.a.**	*Increased knowledge, capacity and/or understanding= 4+ on 5-pt scale*
a) Percentage of men	**n.a.**	
b) Percentage of women	**n.a.**	
Total number of deliverables produced during the assistance (excluding mission, progress and internal reports)	*List total number here*	
a) Number of communication materials, including news releases, newsletters, articles, presentations, social media postings, etc.	3	**Project fact sheet as main communication material. Postings on LinkedIn**.
b) Number of tools and technical documents strengthened, revised or developed		• **Output 2 report (Baseline assessment and analysis of existing circular economy initiatives and key players in Zimbabwe)** • **Output 3 report (Identification of the perceived value of the circular economy and of benefits, weaknesses, opportunities and challenges in Zimbabwe's waste sector)** • **Output 4 report (Circularity analysis of the prioritized waste stream)** • **Output 5 report (National Roadmap for a circular economy in organic waste management)List the name of the documents**
c) Number of other information materials strengthened, revised or created (For example training and workshop reports, Power Points, exercise docs etc.)		• **Presentation Output 3 (SWOT analysis waste streams)**

		• **Presentation output 4 (technology pathways)** • **Presentation output 5 (roadmap)**
Total number of policies, strategies, plans, laws, agreements or regulations supported by the assistance	*List total number here* **15**	**See report Output 2 Malawi, chapter 6**
a) Adaptation related		*List the type and name of documents supported*
b) Mitigation related		*List the type and name of documents supported*
c) Both adaptation- and mitigation related		*List the type and name of documents supported*
Anticipated number of policies, strategies, plans, laws, agreements or regulations proposed, adopted or implemented as a result of the TA	*List total number here* **0**	**The development of policies in Malawi is not backed by practical strategies of how to do it in practice**
a) Adaptation related		*List the type of documents anticipated to be proposed, adopted or implemented*
b) Mitigation related		*List the type of documents anticipated to be proposed, adopted or implemented*
c) Both adaptation- and mitigation related		*List the type of documents anticipated to be proposed, adopted or implemented*
Anticipated number of technologies transferred or deployed as a result of CTCN support	*List total number here* **0**	*Instruction: List the type of technologies supported by this assistance. Technologies must be identified from the CTCN taxonomy of climate sectors and technologies (download in pdf format and choose from column C): https://www.ctc-n.org/resources/ctcn-taxonomy*
Anticipated number of collaborations facilitated or enabled as a result of technical assistance	*List total number here* ***1 (DWIRS)***	**In output 5 the intervention and collaboration is further described**
a) Number of South-South collaborations	**0**	*List the names of the organisations (excluding the CTCN or TA implementers)*
b) Number of RD&D collaborations	**1**	*List the names of the organisations (excluding the CTCN or TA implementers)* **The key organisations for realisation of the DWIS are listed in the roadmap (output 5)**
c) Number of private sector collaborations	**0**	*List the names of the organisations (excluding the CTCN or TA implementers)*

Number of countries with strengthened National System of Innovation as a result of CTCN support		*List names of countries*
Insert any additional indicators here	**0**	

B. Core impact indicators

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

Core indicator 1	**Anticipated metric tons of CO_2 equivalent (CO_2e) emissions reduced or avoided as a result of CTCN TA** *Please add your calculations in word or excel format as an Annex to this Closure Report, where applicable.*	
	Anticipated metric tons of CO_2e reduced or avoided as a result of the TA **on annual basis**	Anticipated metric tons of CO_2e reduced or avoided as a result of the TA **in total**
Quantitative value *(emissions reductions)*	***Total number (numerals only, no rounding or abbreviations)*** **It is anticipated that collection and separation and recycling of plastics will prevent a strong increase of CO2 emissions in the absence of these measures .** **On the basis of TNO experience and Life Cycle assessment of plastic recycling[1],[2] , a decrease of 500 kg CO_{2eq}. per ton of mixed household waste is estimated.** **If we assume for a pilot a recycling rate of 1 ton plastic waste per week, or 52 tons per year, this results in 52*500= 26,000 kg CO_{2eq} .**	***Total number (numerals only, no rounding or abbreviations)*** **For the pilot we have assumed that 5 waste transfer stations can be established, resulting in a plastic waste flow of 5*26,000 = 130,000 kg CO_2 = 130 tCO_{2eq} reduction per year.**
Unit	tCO_2e	tCO_2e
GHG assessment boundary (project emissions)	**The estimated CO_2 emission reduction is based on current sizing of the DIWS and**	

[1] Jiajia Zheng & Sangwon Suh, Nature Climate Change volume 9, pages 374–378 (2019)
[2] Schwarz, A. E., Ligthart, T. N., Godoi Bizarro, D., De Wild, P., Vreugdenhil, B., & van Harmelen, T. (2021). Plastic recycling in a circular economy; determining environmental performance through an LCA matrix model approach. Waste Management, 121, 331–342. https://doi.org/10.1016/j.wasman.2020.12.020

Identify expected post-TA activities, associated effects and assess boundary for quantification of GHG emission reductions	**on literature reference and should be verified in practice.**	
Baseline emissions Describe baseline scenario, baseline candidates, emission factors and emissions calculated	**The baseline scenario is the practice in absence of collection and separation measures**	
Methodology Explain the method or process of verifying the indicator and how data was gathered	**The estimation of emission reduction is based on the reference in the footnote 1 and should be considered as a indicative value, to be confirmed in practice.**	
Assumptions Describe assumptions made during calculation and quantification of GHG reductions	**The assumptions of the calculation of CO_2 reduction should be verified when the DIWS installation is realised and a measurement program will be executed.**	

Core indicator 2	**Anticipated increased economic, health, well-being, infrastructure and built environment, and ecosystems resilience to climate change impacts as a result of technical assistance** *Please provide a **qualitative** description of the anticipated impacts on the categories below*
Infrastructure and built environment Anticipated increased infrastructure resilience (avoided/mitigated climate induced damages and strengthened physical assets)	**The system of collection, separation and conversion of household waste and plastic waste will result in less landfill, and this will have impact on infrastructure and built environment (less dump sites).**
Ecosystems and biodiversity Anticipated increased ecosystem resilience (areas with increased resistance to climate-induced disturbances and with improved recovery rates)	**Ecosystems and biodiversity were not investigated, but it is expected that the proposed intervention with a DWIS will result in an increased ecosystem resilience**
Economic Anticipated increased economic resilience (e.g. less reliance on vulnerable economic sectors or diversification of livelihood)	**The system will create some extra jobs in collection/separation and recycling of plastics , as well as selling the plastic recycle products to the market.**

Health and wellbeing Anticipated increased health and wellbeing of target group (e.g. improved basic health, water and food security)	**The system will have a moderate positive impact on health and wellbeing, due to less waste in dump places or in the public domain area and better regulation of the household waste stream.**

Core indicator 3	**Anticipated number of direct and indirect beneficiaries as a result of the TA**	
	Quantitative value	**Means of verification**
Total beneficiaries		
Number of adaptation beneficiaries	**717,703**	**Lilongwe (1,222,000), Blantyre (995,000), and Mzuzu (175,345) have a total population of 2,392,345, assuming a 4% annual growth rate. According to the project, 30 % of the population would benefit from fewer health problems as a result of improper plastics disposal (water drainage obstruction leading to waterborne infections, plastics burning contributing to respiratory ailments, and microplastics in food). With the projected pilot project's upscaling, this number will steadily increase.**
Number of mitigation beneficiaries	**1,930,000**	**The policy enhancement and enforcement support plan appears to be largely mitigation measures to help sustainable waste management. The initiative anticipates that 10% of Malawi's population will be reached.**
Number of adaptation-and mitigation beneficiaries		*Describe calculation methods and assumptions made*

Core indicator 4	**Anticipated amount of funding/investment leveraged (USD) as a result of TA (disaggregated by public, private, national, and international sources, as well as between anticipated/confirmed funding)**			
	Quantitative value confirmed *in USD*	**Quantitative value anticipated** *in USD* **3,1 Mio USD**	**Qualitative description** *List the institutions, timelines, and description or title of the investment*	**Methods** *Describe methods used for quantification of funds leveraged*
Total funding	*Total number in USD (numerals only, no rounding or abbreviations)*	*Total number in USD (numerals only, no rounding or abbreviations)*		
Anticipated amount of public funding mobilised from national/domestic sources		**0,80 Mio USD**	**WASH initiative in Malawi**	**1.1 % of the budget allocated to WASH indicates limitation of resources. An equivalent of four pilots was used to calculate the resource allocation from government in the inception stage.**
Anticipated amount of public funding mobilised from international/ regional sources		**0,80 Mio USD**	**EU Geeen Deal, AECF**	**The proportion of resources to be raised throughout the conceptualization and pilot implementation stages was based on an expected cost to execute four pilot projects**
Anticipated amount of private funding mobilised from national/domestic sources		**0,50 Mio USD**	**The private sector players within the plastics sector**	**The implementation of the Extended Producer Responsibility scheme is expected to earn funds through membership fees to help with plastic collection and recycling.**
Anticipated amount of private funds mobilised from international/regional sources		**1,0 Mio USD**	**Alliance to End Plastic Waste**	**Resources required to implement one pilot project on valorisation of plastic**

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.