Inception & Causal Chain Mapping Workshop Report

Development of a Framework for Tracking Nationally Determined Contributions for Malawi

30th August 2024

RICARDO

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

ICAT Initiative for Climate Action Transparency

Initiative for Climate Action Transparency (ICAT)

Inception & Causal Chain Mapping Workshop Report for ICAT Project Tracking NDC Progress in Malawi

Output 0.3 & Output 0.4

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27th September 2024

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PREPARED UNDER

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1. Introduction

1.1. Purpose of this document

This document offers a comprehensive overview and summary of the Inception and Causal Chain Workshop (Workshop 1) conducted under Malawi's ICAT support programme. It provides detailed insights into the material presented during the first workshop, which focused on key concepts related to NDC tracking and developing causal chain mapping for selected sectoral policies and measures. The report highlights the training sessions delivered to participants which aimed at building in-country capacity on NDC tracking and understanding how mapping of the casual chain can be used to assess the GHG impact of selected policies and measures. Furthermore, this document captures the valuable inputs and feedback provided by participants during the interactive sessions on causal chain mapping. The draft causal chain mapping, developed collaboratively during the workshop, is also included showcasing the initial framework of cause-and-effect relationships critical for monitoring and evaluating the impact of policies and measures. This document is developed with the purpose of sharing insights with other ICAT countries and partners, and in this way promote peer-to-peer learning.

1.2. Overview of the workshop

On the 12th – 14th August 2024, Malawi's Environmental Affairs Department (EAD) and supporting partners Ricardo hosted the inception workshop for the ICAT programme NDC tracking in Malawi. The workshop took place in Ekhaya Luxury Resort, Mangochi.

The workshop took place over three days. The first day of the workshop was the official launch of the BTR1/NC4 workshop and ICAT programme of work, characterised by high level remarks from key Malawi Government leaders as well as introductory presentations on BTR1/NC4, Malawi's NDC and an overview of the ICAT programme of work. Day two and three involved interactive discussions and breakout sessions from the thematic sectoral groups (energy, transport, agriculture, and waste) to map the causal chain, develop appropriate indicators for NDC tracking and develop examples of mitigation policy reporting for the BTR. A detailed workshop agenda can be found in Annex 1.

1.3. Workshop objectives

The workshop was organised with the goals of introducing the ICAT workplan and delivering the tasks outlined within Activity 0: Inception Phase as well as components of Activity 1: Assess GHG impacts of the selected policies and measures.

The specific objectives of the workshop were to:

- Formally launch the ICAT Project to Develop of a Framework for Tracking Nationally Determined Contributions (NDCs) for Malawi
- Raise awareness amongst key stakeholders in Malawi about the project and foster stakeholder engagement and ownership
- Create synergies with other on-going or completed initiatives, especially the BTR1/NC4 project
- Complete stocktaking exercise to feed in Malawi's scoping report
- Identify and map priority mitigation policies and measures by sector with stakeholders, to build capacity and understanding, and feed into identification of suitable indicators and estimation of GHG effects

1.4. Workshop participants

The workshop targeted representatives from government ministries, departments, national experts from academia, NGOs, and civil society. It was well attended by over 40 stakeholders over three days.

The workshop participants were selected for this workshop based on their in-depth knowledge of Malawi's current policy framework and their role as key data providers for collecting indicator data to track the listed measures within Malawi's NDC. The group of participants also included the newly appointed national experts under the ICAT programme, who will be providing support in delivering the scope of work in country. The national experts under this programme will also act as experts for Malawi's BTR1 submission, allowing synergies across the two projects which are running in parallel.

As well as relevant government ministries and departments, several other participants were in attendance including sub-national government representatives (Lilongwe City Council), representatives from Malawi's universities (Malawi University of Science and Technology, Malawi University of Business and Applied Sciences), as well as other institutions including LEAD-SEA (Leadership for Environment and Development, Southern and Eastern Africa) and CARE MW. The list of institutions in attendance is detailed below. A detailed workshop attendance register has been attached in Annex 2.

- Environmental Affairs Department
- Ministry of Energy
- Department of Crops
- Department of Fisheries
- Department of Forestry
- Department of Land Resources and Conservation
- National Planning Commission
- Lilongwe City Council (Waste)
- Department of Transport and Public Works
- Ministry of Health
- Department of Economic Planning and Development
- Ministry of Youth
- Ministry of Justice
- Malawi University of Business and Applied Science
- Malawi Energy Regulatory Authority
- Department of Disaster Management Affairs
- Ministry of Tourism
- Department of Irrigation Services
- Department of Animal Health & Livestock
- Ministry of Water Resources
- Department of National Parks and Wildlife
- Reserve Bank of Malawi
- Ministry of Trade and Industry
- Ministry of Finance
- National Statistics Office
- Ministry of Local Government
- LEAD-SEA
- Ministry of Education
- Department of Housing
- Civil Society Network on Climate Change
- Malawi University of Science and Technology
- CARE MW

Figure 1 Workshop 1 participants

2. Workshop Programme

2.1. Day 1 BTR1/NC4 inception meeting

Opening Session

The workshop commenced with opening remarks from Dr. Yusuf Malsellino Mkungula, Principal Secretary for Natural Resources and Climate Change, and Evans Njewa, Chief Environmental Officer and Head of Climate Change, as well as the UNFCCC Focal Point for Malawi. Following a brief prayer, Dr. Mkungula extended a warm welcome to all participants and expressed gratitude for the ongoing support and commitment of stakeholders, particularly the Environmental Affairs Department (EAD), in advancing climate action transparency and ensuring Malawi's progress towards its NDC commitments. Evans Njewa also welcomed representatives from Ricardo and provided additional welcoming remarks on Malawi's commitment to the Paris Agreement and developing a comprehensive NDC tracking framework. This was followed by a round of introductions from all workshop participants and the formal kick off for both BTR1/NC4 projects and the ICAT programme of work.

Presentation of overview of the NC4/BT1 Project (Environmental Affairs Department)

Jarvis Mwenechanya presented an overview of what will be included in Malawi's NC4/BTR1 reporting. The presentation highlighted key aspects of Malawi's previous climate reporting efforts, notably Malawi's previously submitted Biennial Update Report (BUR1). Several challenges were identified during the development of NC3/BUR, including data-sharing issues between institutions, gaps in data, tracking progress on NDC implementation, and difficulties in calculating emissions for non-direct GHGs. Proposed solutions for this NC4/BTR1 reporting include formal agreements between data providers, training on the 2006 IPCC software, and improving relationships for better data collection and archiving. Support is needed for sector specific GHG improvements and the establishment of a robust system for data collection and archiving. This was followed by a short plenary session where discussions focused on departments which have systems in place for data collection, the use of Malawi's national statistics office, how the Government of Malawi access information bill passed by parliament may harness avenues with respect to data gathering and the development of country emissions factors.

Presentation on the overview of the ICAT project on support to the development of tracking progress on NDCs (Environmental Affairs Department)

This session, led by Yamikani Idriss, in-country programme lead for this ICAT project, provided an introduction to the background, objectives, and context of ICAT. The presentation then focused on the scope of technical support being provided for developing a comprehensive NDC tracking framework. Yamikani presented a detailed overview of the scope of work, outlining activities from the inception phase (Activity 0) to the development of the NDC tracking framework for selected sectors (Activity 3). As this marks Malawi's first project under the ICAT programme, it was crucial to offer stakeholders clear context and a deeper understanding of the technical assistance being provided to enhance transparency in tracking progress towards country climate commitments.

Presentation on Malawi's NDC (Environmental Affairs Department)

This presentation on Malawi's NDC, led by Golivati Gomani, provided an overview of Malawi's latest NDC supported by the NDC Partnership for the 2021 update. The 2021 NDC faced challenges due to COVID-19 which impacted data gathering and stakeholder engagement. In 2022, enabling documents were launched to support NDC implementation, including mainstreaming guidelines, an NDC scorecard, an MRV framework and a resource mobilisation strategy. Notably forestry was excluded from the NDC due to data limitations, though there is potential for inclusion in future updates. The NDC Partnership also helped establish an Online Partnership Plan Tool to track NDC implementation and financial support. The National Agriculture Management Information System (NAMIS) and recently conducted Forest Reference Level was also discussed and this will inform future NDC updates. There is also a strong need to develop a climate adaptation monitoring & evaluation (M&E) system.

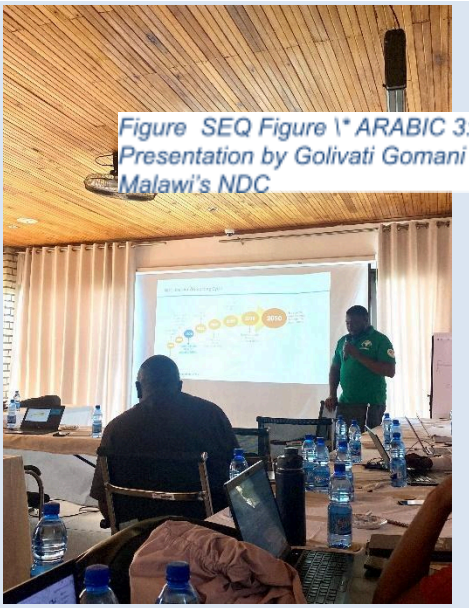

Figure SEQ Figure * ARABIC 3: Presentation by Golivati Gomani on Malawi's NDC

Figure 3: Presentation by Yamikani Idriss on ICAT programme of support and Golivati Gomani on Malawi's NDC

Presentation on Mitigation Action Stocktake (Ricardo)

The Ricardo team led a short session in the afternoon focused on the stocktaking phase for the ICAT project. The session provided an overview of the priority subsectors (Energy Sector - Electricity Generation; Energy Sector – Buildings; Energy Sector – Transport; Agriculture Sector – Crop Management) outlining both conditional and unconditional actions, associated carbon savings, and key indicators which had been developed from the NDC Online Partnership Plan Tool. The session aimed to discuss the implementation status of actions, understand what targets or goals have been set, the level of progress towards those targets, how progress is currently tracked or monitored, the data and indicators used for monitoring, and any missions or irrelevant actions.

The slides from Day 1 of the workshop can be found here.

2.2. Day 2 Mapping the causal chain and developing good indicators

Introductory presentation on assessing the impacts of policies and measures through mapping the causal chain (Ricardo)

Ricardo facilitated a capacity-building training session focused on assessing the impacts of policies and

measures through causal chain mapping. The session began with an introduction to mitigation actions, including defining mitigation actions as well as looking at examples of such actions in Malawi. The presentation then progressed to the importance of assessing the impacts of mitigation actions, which helps to determine the likely effect of policies on future GHG emissions, whether policies are on track to deliver expected results, and the effect a given policy or action has on GHG emissions. The Ricardo team guided participants through the process of GHG impact assessment, including Step 1 – Identifying potential GHG effects of a policy or action; Step 2 – Identifying all associated GHG sources and sinks; and Step 3 – Mapping the causal chain. The session primarily focused on guiding participants through a generic example of causal chain mapping, followed by specific examples of previously developed causal chains, including a light-duty fuel efficiency standard and a policy promoting increased bus usage (modal shift) in a city. Additionally, best practice for causal chain mapping was highlighted including the GHG Protocol Policy and Action Standard as well as ICAT Policy Assessment Guides.

Breakout Session 1: Mapping of causal chain for one policy & feedback session

After the capacity building training session, participants were divided into four groups with each group representing one of Malawi's key NDC sectors: Energy, Transport, Agriculture and Waste. Each group selected an action from Malawi's NDC and used paper and post-it notes to map the causal chain of their chosen policy or measure. Facilitators from the EAD team led the groups, while the Ricardo team provided input and guidance by rotating between stations. The sectoral policies mapped as part of this exercise were as follows: Energy: Increase generation capacity from large-scale solar PV; Transport: Modal shift of road to rail freight; Agriculture: Efficient use of fertiliser and manure management; Waste: Harnessing energy from solid waste. After the breakout session, participants reconvened for a feedback session, during which each group presented their causal chain mapping. This was followed by a brief Q&A discussion to address questions and provide further insights into the mapped causal chains. The causal chain mapping outputs can be found in Annex 3.

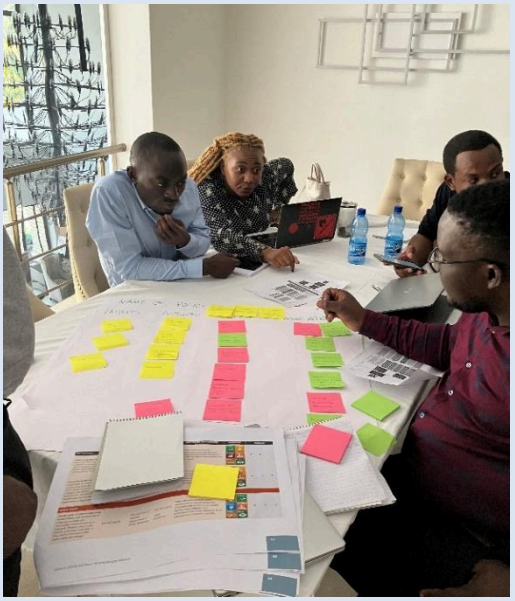

*Figure SEQ Figure * ARABIC 4: Images of workshop participants mapping the causal chain and presenting mapped causal chains during the feedback session*

Presentation on developing good NDC indicators (Ricardo)

In the afternoon, Ricardo facilitated a second capacity-building training session focused on developing good NDC indicators. This session covered defining an indicator, SMART indicators, developing indicators at different stages of the causal chain and indicator fiches to assess data inputs and governance.

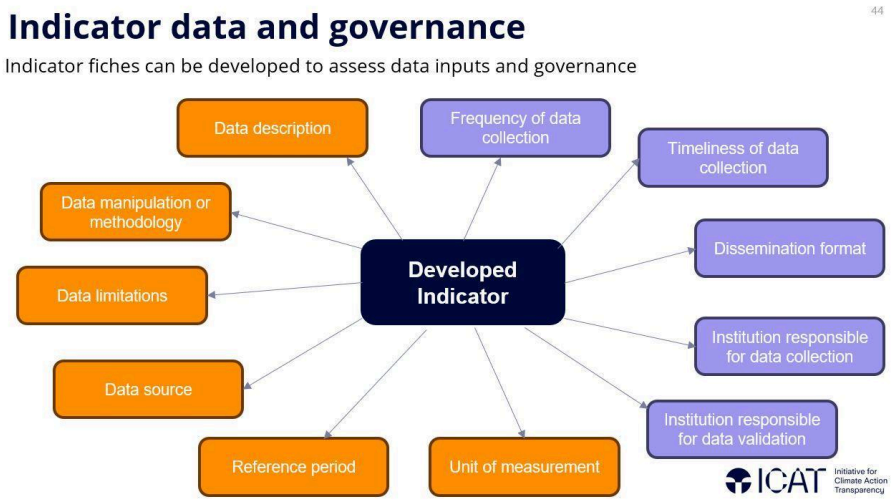

Figure 5: Slide on developing indicator fiches presented as part of the developing good NDC indicators session.

Breakout Session 2: Developing indicators as part of the causal chain & feedback session

In this interactive exercise following the presentation on developing good indicators, participants developed indicators based on the causal chain mapping results from breakout session 1. Using post-it notes they suggested indicators that related to the previously developed causal chain mapping. Additionally, and where known, participants identified the data sources for these indicators. At the end of the exercise, each group selected an individual to report back on findings to the larger group. The outputs of this session on developing good indicators can be found in Annex 4.

The slides from Day 2 of the workshop can be found here.

2.3. Day 3 Reporting information on tracking progress of NDCs

Introductory presentation on reporting information on tracking progress of NDCs (Ricardo)

Day 3 of the workshop focused on the critical information required for tracking progress in the implementation and achievement of NDCs, as well as the reporting of mitigation policies and measures within BTRs. The session began with an overview of the Enhanced Transparency Framework (ETF), outlining the necessary BTR chapters and flexibility provisions available to developing country Parties. It then delved into the specific reporting requirements for Part C (Information necessary to track progress made in implementing and achieving the NDC) and Part D (Mitigation policies and measures, actions, and plans, including actions with mitigation co-benefits from adaptation efforts and economic diversification plans, all aimed at supporting NDC implementation and achievement).

For Part C, participants were guided through the structured summary tables, which provide the mandatory template for reporting NDC indicators. In Part D, the session emphasized the need for Parties to report on key policies, actions, and measures that significantly affect greenhouse gas (GHG) emissions or removals, particularly those influencing key categories in the GHG inventory. Participants were introduced to the Common Tabular Format (CTF) tables used for BTR reporting, with Guyana's submission serving as a case study to illustrate practical application.

The session's key takeaways underscored the importance of compiling data in the appropriate format for BTR submissions following the MPGs, identifying critical policies i.e. reporting on policies that have the most significant impact on GHG emissions or removals, and quantifying expected and achieved GHG impacts with associated methodologies and assumptions used. This data will be crucial for ensuring transparent and effective reporting under the ETF.

Plenary session

Following the introductory session on BTR reporting related to tracking NDC, a plenary session was convened to facilitate questions and further discussion on the UNFCCC reporting requirements under the BTR. This session provided an opportunity for participants to seek clarification and engage in dialogue regarding the specific obligations and guidelines for BTR submissions.

Breakout Session 3: Developing examples of mitigation policy reporting for the BTR & feedback session

Stakeholders participated in a group exercise to identify the key policies and indicators for inclusion in the BTR reporting tables specific to their sectors. To facilitate this process, templates aligned with the CTFs required for BTR reporting were provided, along with post-it notes to encourage discussion on data application and compilation in the correct format for submission. The groups reviewed existing data sources, such as those available from the NDC Partnership Online Partnership Plan Tool and identified any data gaps. At the end of the exercise, each group selected a representative to present their findings and report back to the larger group for further discussion. The outputs of this session on developing examples of mitigation policy reporting for the BTR can be found in Annex 5.

Figure 6: Breakout session 3 interactive exercise on developing examples of BTR report and feedback session

Workshop closing remarks

The workshop concluded with closing remarks from Yamikani Idriss and Evans Njewa, who outlined the next steps for participants as they work towards the submission of Malawi's BTR by December 2024 as well as Malawi's NDC update next year.

The slides from Day 3 of the workshop can be found here.

3. Next Steps

The objectives set out for this workshop were successfully met. This workshop formally launched both the ICAT Project aimed at developing a framework for tracking Malawi's NDC and the BTR1/NC4 update. It increased awareness among key stakeholders, fostering engagement and ownership of both projects as. The workshop also facilitated synergies with ongoing and completed initiatives, particularly the previous work under the CBIT programme and previous work with the NDC Partnership on Malawi's NDC Online Partnership Plan Tool. A comprehensive stocktaking exercise was conducted to inform Malawi's scoping report, while stakeholders collaboratively identified and mapped the causal chains of priority mitigation measures by sector. This process enhance capacity, deepened understanding, further contributed to the identification of appropriate indicators, and introduced identifying GHG effects.

3.1. Activity 1: Assess GHG impact of the selected policies and measures

Following this workshop and as part of Activity 1, stakeholders and Malawi's expert advisors under the ICAT programme now have a good understanding of GHG policy impact assessments. A virtual workshop will follow in early October to train participants in identifying with and without policy scenarios for

evaluation of GHG effects for energy and agriculture priority sectors and quantifying policy impacts (i.e. GHG effects) for these priority sectors. This further capacity building session will then allow Activity 1.2 identify indicators for policies and measures, Activity 1.3 reporting of results of policy impact assessment and recommendations and Activity 1.4 policy assessment validation workshop to take place.

3.2. Activity 2: Framework for projections of emissions and key NDC tracking indicators in the selected sectors

As part of the next workshop session, the selection and pre-workshop training sessions on modelling tools for the selected sectors will be held. This will present the various projection modelling tools (e.g. GACMO, LEAP) including their scope and functionality in the national context. Priority sector experts will select the modelling tool that is most appropriate in the national context, with a further training workshop held on the selected tool.

3.3. Activity 3: NDC tracking framework for the selected priority sectors

As part of this workshop, steps were already made towards the scope of work outlined under Activity 3. Sector experts were engaged on existing NDC implementation plan indicators and available information, and experts provided an assessment of the availability of relevant climate mitigation and adaptation data, data gaps, and existing institutional arrangements for collecting the required data. This provided a gap analysis of the new/additional/revised indicators that may be suggested as part of this project.

Annex 1: Workshop Agenda

Monday 12th August 2024

Time	Session	Sections	Presenter
8:30 - 9:00	Arrival and Registration	N/A	N/A
9:00 - 9:40	Opening Session and Opening Remarks by the Secretary for Natural Resources and Climate Change	1) Opening prayer 2) Introductions 3) Meeting objectives 4) Remarks by the Director of Environmental Affairs	Moderator
9:40 - 10:00	Presentation on overview of the NC4/BTR1 Project	N/A	All
10:00 – 10:30	Feedback session	Short presentation of mapping by groups	Groups
12:30 – 13:30	Lunch	N/A	N/A
13:30 – 14:30	Presentation on developing good NDC indicators	(1) Indicator selection (2) Developing SMART indicators (3) Intervention logic	Ricardo
14:30 – 15:30	Breakout Session 2: Developing indicators as part of the causal chain	(1) Interactive exercise to develop indicators based off causal chain mapping in breakout session 1	Interactive
15:30 – 16:00	Feedback & Closing Remarks	Short presentation of mapping by groups	Groups

Tuesday 13th August 2024

Time	Session	Sections	Presenter
9:00 – 10:00	Introductory presentation: Assessing the impacts of policies and measures through mapping the causal chain	(1) Introduction to mitigation actions (2) How to assess the GHG impacts of a mitigation action	Ricardo
10:00 – 10:30	Health break	N/A	N/A
10:30 – 11:30	Breakout Session 1: Mapping of causal chain for one policy	(1) Interactive mapping exercise of causal chain of priority mitigation policies (2) Mapping of GHG and non-GHG impacts (3) Identification of high-level mitigation/adaptation co-benefits	Interactive
11:30 – 12:30	Feedback session	Short presentation of mapping by groups	Groups
12:30 – 13:30	Lunch	N/A	N/A
13:30 – 14:30	Presentation on developing good NDC indicators	(1) Indicator selection (2) Developing SMART indicators (3) Intervention logic	Ricardo
14:30 – 15:30	Breakout Session 2: Developing indicators as part of the causal chain	(1) Interactive exercise to develop indicators based off causal chain mapping in breakout session 1	Interactive
15:30 – 16:00	Feedback & Closing Remarks	Short presentation of mapping by groups	Groups

Wednesday 14th August 2024

Time	Session	Sections	Presenter
9:00 – 10:00	Introductory presentation: Reporting information on tracking progress of NDCs	(1) Information necessary to track progress made in implementing and achieving NDCs (2) Mitigation policies and measures, actions and plans reporting within BTR	Ricardo
10:00 – 10:30	Plenary Session	N/A	Chair
10:30 – 10:45	Health Break	N/A	N/A
10:45 – 11:30	Breakout Session 1: Developing examples of mitigation policy reporting for the BTR	1) Interactive exercise to develop mitigation policy reporting for BTR split by sector 2) Filling in example of BTR reporting table	Interactive
11:30 – 12:00	Feedback Session	Feedback from sectoral groups	Groups
12:00 – 12:30	Workshop Closing Remarks	N/A	EAD/Chair
12:30 – 13:30	Lunch	N/A	N/A

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Annex 2: Attendance Register

No.	Name	Institution	Attendance		
			Day 1	Day 2	Day 3
1	E.Njewa	Environmental Affairs Department	✔	✔	✔
2	G. Gomani	Environmental Affairs Department	✔	✔	✔
3	J. Mwenechanya	Environmental Affairs Department	✔	✔	✔
4	R. Makoko	Environmental Affairs Department	✔	✔	✔
5	Y. Idriss	Environmental Affairs Department	✔	✔	✔
6	H. Siame	Environmental Affairs Department	×	×	×
7	C. Mpanga	Environmental Affairs Department	✔	✔	✔
8	P. Mkwapatira	Environmental Affairs Department	×	×	×
9	S. Chimowa	Environmental Affairs Department	×	×	×
10	Thoko Malunga	Ministry of Energy	✔	✔	✔
11	Ida Mwato	Department of Crops	✔	✔	✔
12	Carol Munthali	Department of Fisheries	✔	✔	✔
13	Rodgers Tumba	Department of Forestry	✔	✔	✔
14	Kefasi Kamoyo	Department of Land Resources and Conservation	✔	✔	✔
15	T. Mkaka	Lilongwe City Council (Waste)	✔	✔	✔
16	Jason Mwatsika	Department of Transport and Public Works (Transport)	✔	✔	✔
17	Anne Mapulanga	Department of Disaster Management Affairs	✔	✔	✔
18	Angella Chilale	Ministry of Tourism	✔	✔	✔
19	Lusungu Sinda	Department of Irrigation Services	✔	✔	✔
20	Suzgo Chapa	Department of Animal Health & Livestock Development	✔	✔	✔
21	Titto Mallewa	Ministry of Water Resources	✔	✔	✔
22	Andrew Kataya	Department of National Parks and Wildlife	✔	✔	✔
23	Gift Mtonga	Ministry of Trade and Industry	✔	✔	✔
24	Francis Kachule	Ministry of Finance	✔	✔	✔
25	Fred Simwaka	Ministry of Gender	×	×	×

No.	Name	Institution	Attendance		
			Day 1	Day 2	Day 3
26	Clement Boyce	Department of Climate Change and Metereologocal Services	×	×	×
27	Hendricks Mgodi	Ministry of Health	✔	✔	✔
28	Jeremoti Masoambeta	National Statistics Office	✔	✔	✔
29	Chisomo Liwawa	Department od Economic Planning and Development	✔	✔	✔
30	Sylvester Gawamadzi	Ministry of Local Government	✔	✔	✔
31	Kettie Mwandira	Ministry Youth	✔	✔	✔
32	Christopher Ziwa	Ministry of Education	✔	✔	✔
33	Lumbani	Ministry of Justice	✔	✔	✔
34	Mr Chimangeni	Department of Housing	✔	✔	✔
35	Kenneth Gondwe	Malawi University of Business and Applied Science	✔	✔	✔
36	Ruth Likambale	Civil Society Network on Climate Change	✔	✔	✔
37	Geoffrey Chilenga	Malawi Energy Regulatory Authority (ENERGY)	✔	✔	✔
38	Isaac Tchuwa	Malawi University of Science and Technology	✔	✔	✔
39	Lyson Kampira	National Commission for Science and Technology	✔	✔	✔
40	Judith Kamoto	Lilongwe University of Agriculture and Natural Resources	×	×	×
41	Madalitso Kazembe	Malawi Conferederation Chambers of Commerce and Industry	×	×	×
42	Sipho Billiat	National Planning Commission	✔	✔	✔
43	Ptarick Likongwe	LEAD-SEA	✔	✔	✔
44	Chikondi Mkawa	CARE MW	✔	✔	✔
45	NC4/BTR1 Chapter Team Leaders	Dr Kaunda (MUBAS), Dr. Gondwe (MUBAS) Chikumbutso Kilembe,	✔	✔	✔
46	Lovemore Ngalande	Road Traffic (TRANSPORT)	✔	✔	✔
47	Spenser M'baka	Shayona Cement company	×	×	×
48	Mark Chimabe	Lafarge cement company	×	×	×
49	Franklyn Khoza	Reserve Bank of Malawi	✔	✔	✔
50	TBD	Enrgy Generation Company (ENERGY)	✔	✔	✔
51	TBD	NGO Regulatory Authority	×	×	×
52	TBD	NBS Bank	×	×	×

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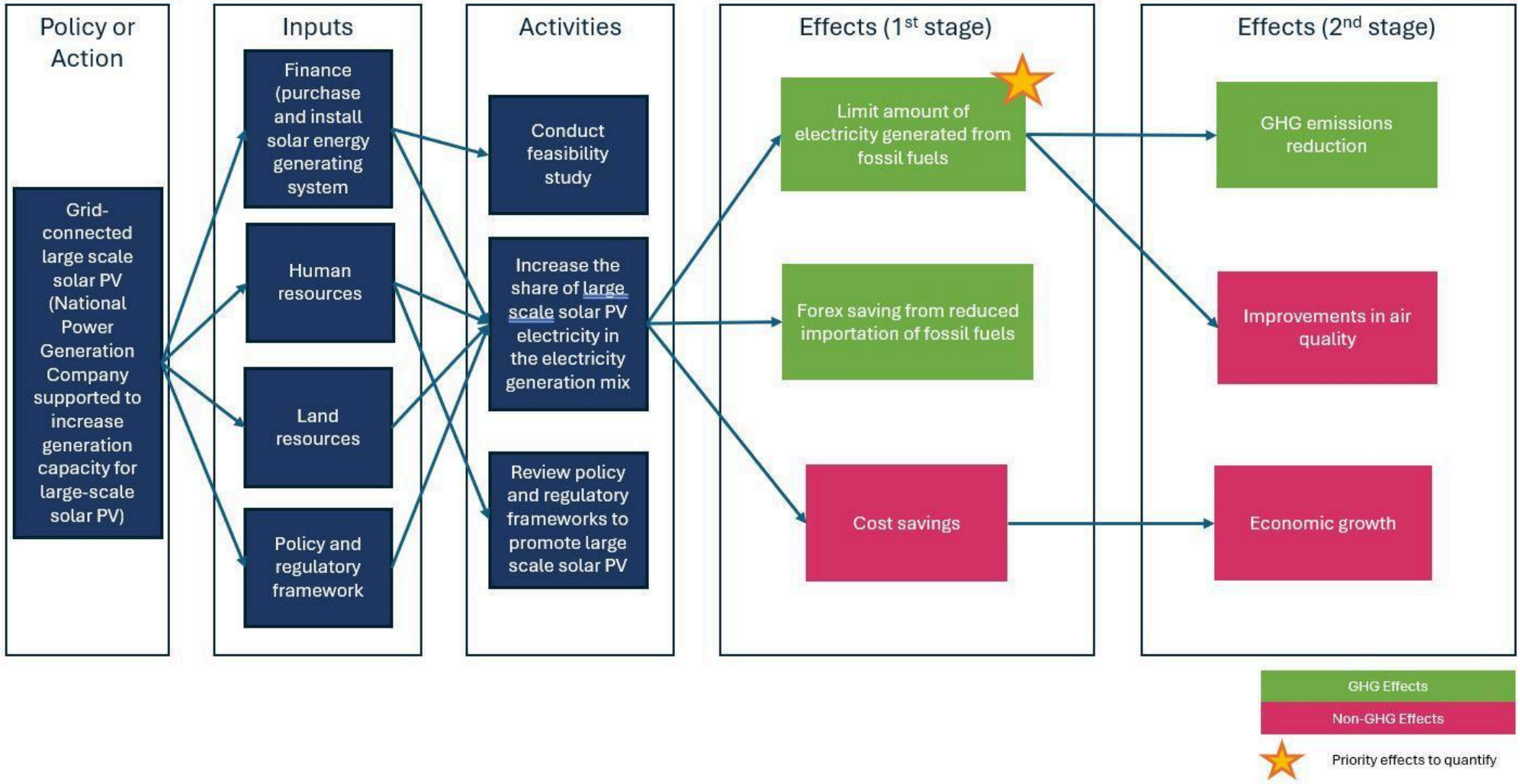
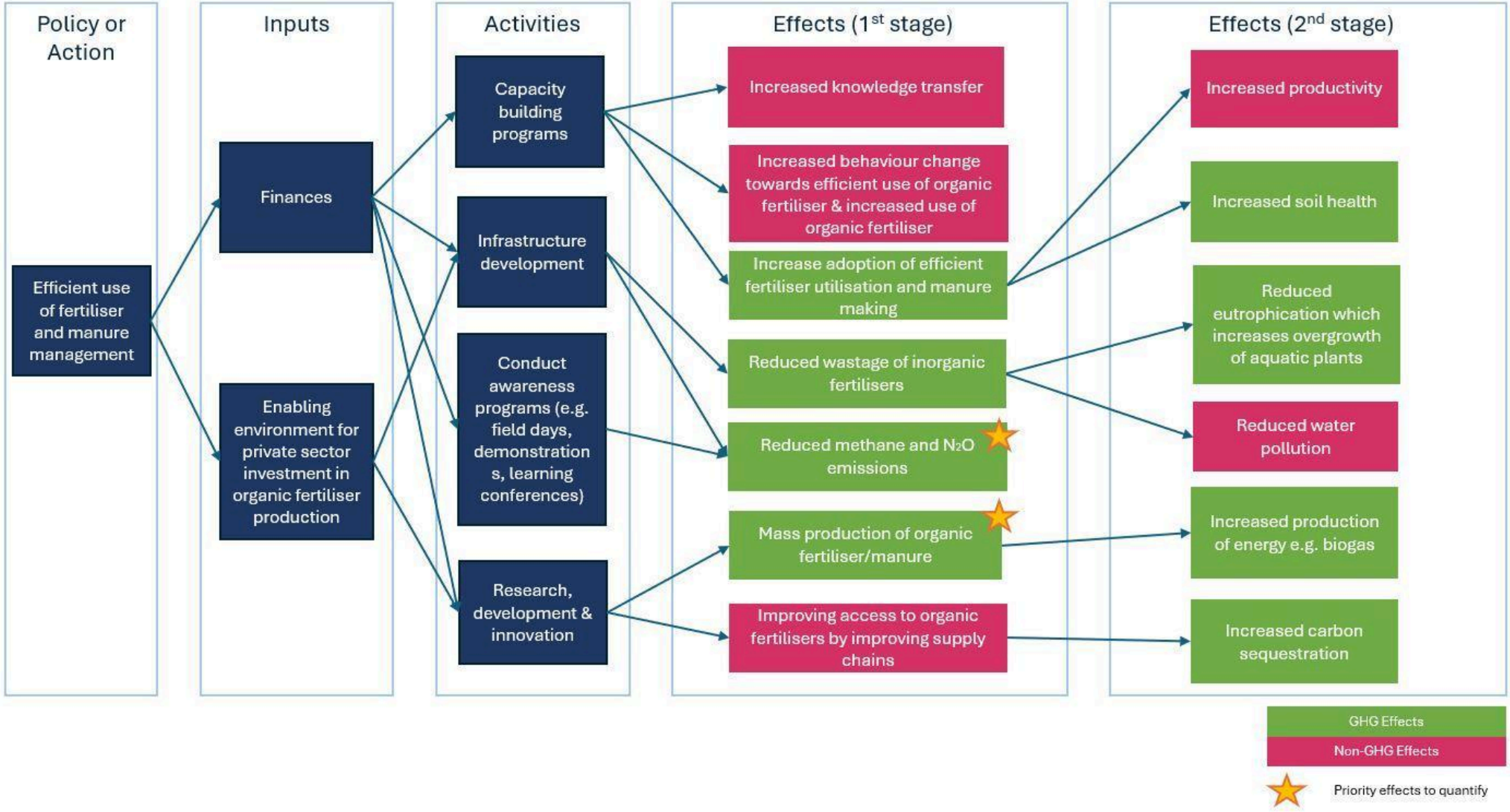
Annex 3: Causal chain mapping outputs

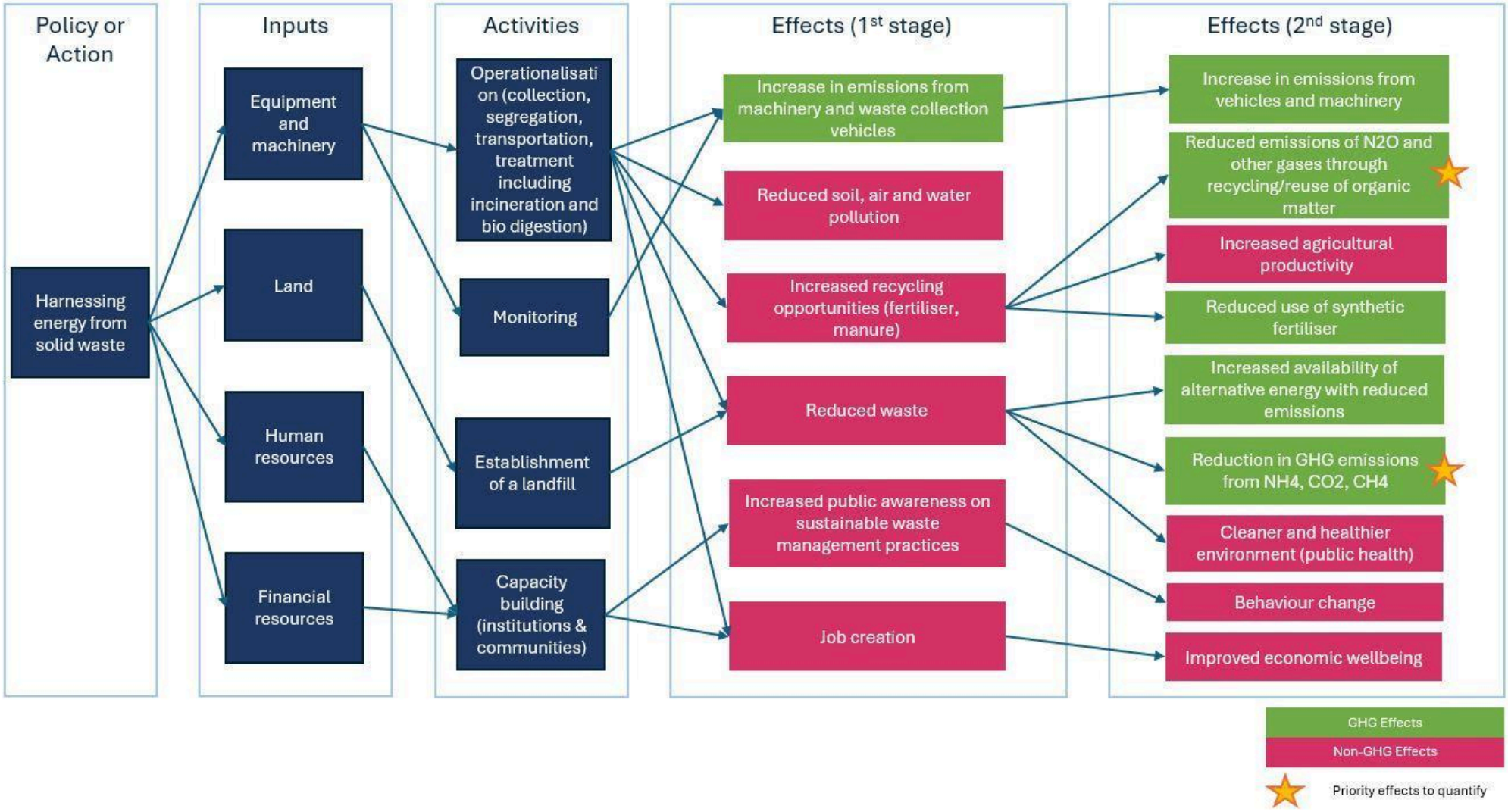
Energy Sector: Causal chain mapping



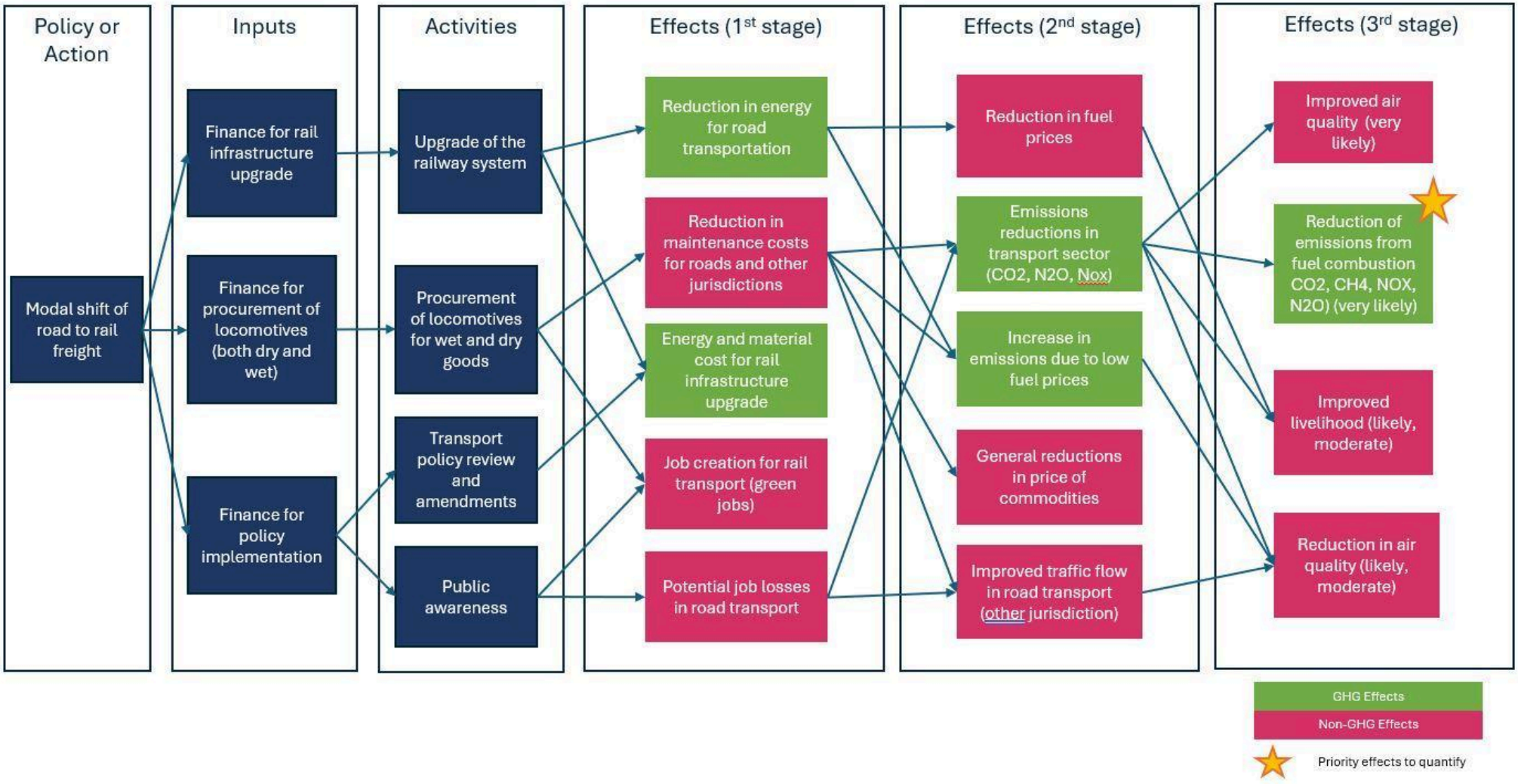
Agriculture Sector: Causal chain mapping



Waste Sector: Causal chain mapping



Transport Sector: Causal chain mapping



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Annex 4: Additional policy indicators proposed following causal chain mapping

Energy Sector: Additional policy indicators proposed following causal chain mapping

Policy or Action	Indicator suggestions based on causal chain mapping	
Grid-connected large scale solar PV (National Power Generation Company supported to increase generation capacity for large-scale solar PV)	Amount of electricity generation from fossil fuels (MoE)	Amount of money saved per KWh by generator by using solar PV instead of fossil fuels (MERA)
	Megawatts of additional grid connected large scale solar PV capacity (MoE)	Amount of money saved per KWh by customers for using electricity from solar PV instead of fossil fuels (MERA)
	Amount of FOREX saved by using solar PV instead of fossil fuels (EGENCO)	Amount of GHG emissions reduced by using solar PV instead of fossil fuels (MoE)

Agriculture Sector: Additional policy indicators proposed following causal chain mapping

Policy or Action	Indicator suggestions based on causal chain mapping			
Efficient use of fertiliser and manure management	Number of farmers/staff trained on organic fertiliser production and efficient use of inorganic fertiliser by 2030	% of new farmers efficiently using inorganic & organic fertiliser by 2030	Number of streams with water quality meeting environmental standards	
	Number of districts practising conservation agriculture	The number of individuals in functional water associations as a result of the project with numbers disaggregated by sex	Production of manure in tonnes per hectare by 2030	Total hectarage of applied organic fertiliser per year
	Percentage of women applying CA practices learnt on capacity building workshop annually	Tonnes of organic fertiliser produced annually	Percentage increase in crop production from conservation agriculture from baseline annually	

Waste Sector: Additional policy indicators proposed following causal chain mapping

Policy or Action	Indicator suggestions based on causal chain mapping			
	Process/Input	Output/Activity	Outcome	Impact
Harnessing energy from solid waste	# of machinery and equipment procured	# of engineered landfills established	Proportion of waste being processed through the established landfill	Cleaner & healthier environment – improved air quality, water quality, soil quality
	Area of land for landfills secured (# of sites and area of land)	# people and institutions educated on sustainable waste management	Mt CO_2e emitted through machinery and vehicles processing waste per year	% reduction of airborne diseases and waterborne diseases
		# PPPs for sustainable waste management established	% increase in agricultural productivity due to re-use of organic waste	Increase in employment, income (proportion of people employed, with increased income by gender)

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Transport Sector: Additional policy indicators proposed following causal chain mapping

Policy or Action

Modal shift of road to rail freight

Indicator suggestions based on causal chain mapping

INDICATOR	CHALLENGE	FOCAL MDA
SHARE/PERCENTAGE OF RAILWAYS IN FREIGHT TRANSPORT (TONNAGE)	MONITORING OF FREIGHT TONNAGE INLAND BY USE OF WEIGHBRIDGE	
LEVEL OF FINANCE INVESTMENT		
INPUTS		
PRIVATE FINANCING PERCENTAGE		MoFSUPPORTED BY PARLIAMENT
NATIONAL BUDGET PERCENTAGE FOR THE POLICY		
ACTIVITIES	**TARGETS**	
PERCENTAGE OF PROGRESS ACHIEVED ON UPGRADING OF RAILWAY SYSTEM	RAIL TRANSPORT TO ACCOUNT FOR 50% BY 2040	MOTPW, PRIVATE INVESTORS
NUMBER OF LOCOMOTIVES PROCURED		MOTPW
POLICY REVIEWED AND PUBLISHED	**BASELINE**	MOTPW
	RAIL ACCOUNTS FOR LESS THAN 30% INTERNAL AND LESS THAN 10%	
NUMBER OF AWARENESS CAMPAIGNS, MATERIALS, MEDIA STATIONS COVERING ACHIEVED	INTERNATIONAL FREIGHT	MOTPW
INTERMEDIATE EFFECTS	**OUTPUTS**	
AMOUNT OF FUEL USED BY ROAD TRANSPORT	MERA PUBLISHED REPORT COMPARED TO BASELINE	MINISTRY OF ENERGY, MERA
AMOUNT OF RESOURCES SAVED IN MAINTENANCE OF ROADS	ANNUAL MAINTENANCE REPORT FOR ROADS	MOTPW, ROADS AUTHORITY, RFA
AMOUNT OF RESOURCES USED FOR RAILWAY SYSTEM UPGRADE	PROJECT IMPLEMENTATION REPORTS FOR RAILWAY UPGRADES	MOTPW, DEPARTMENT OF RAILWAYS, CEAR
NUMBER OF JOBS CREATED BY RAIL TRANSPORT	MONTHLY WAGE BILL FROM RAILTRANSPORT OPERATORS	MOTPW, DEPARTMENT OF RAILWAYS, CEAR
	ROAD TRANSPORT ASSOCIATION ANNUAL REGISTRATION/SUBSCRIPTION	
	REPORT IN THE FREIGHT TRANSPORT. USE OF DATA FROM NUMBER OF	MINISTRY OF LABOUR, MOTPW, ROAD TRANSPORT
NUMBER OF JOBS LOST BY ROAD TRANSPORT	TRUCKS ON THE ROADS BEFORE OR AFTER THE MODAL SHIFT	ASSOCIATION
GHG EFFECTS		
EMMISION REDUCTION IN TRANSPORT SECTOR	GHG NATIONAL INVENTORY REPORT	MINISTRY OF NATURAL RESOURCES, EAD
INCREASE IN EMMISISONS DUE TO LOW FUEL PRICE	GHG NATIONAL INVENTORY REPORT	MINISTRY OF NATURAL RESOURCES, EAD
NON-GHG EFFECTS		
REDUCTION IN FUEL PRICES	MERA PUBLISHED COMPARED TO BASELINE	NATIONAL STATISTICS OFFICE (NSO), MERA
GENERAL REDUCTION IN PRICE OF COMMODITIES	PUBLISHED PRICE ELASTICITY INDEX, TRADE, NSO, COSOMA	MINISTRY OF TRADE, NSO, COSOMA
IMPROVED TRAFFIC FLOW	TRAFFIC STUDY	MOTPW, DRTSS, RA

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Annex 5: Developing examples of mitigation policy reporting for the BTR

Waste Sector Structured Summary: Tracking progress made in implementing and achieving the NDC

Indicator	Unit	Reference Level	Implementation Period		Target Level	Target Year	Progress Made
			Year 1	Year 2			
% of GHG emissions from waste reduced via waste to energy and landfill gas utilisation by 2040	% (tCO2 eq)	2017 baseline GHG emissions	2025 ?	2026 ?	?	2020 - 2025	?
		Reported in BURs and NC3				2025 - 2030	
						2030 - 2040	

Workshop input

Identified data gaps

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Waste Sector: Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving an NDC

Policy	Description	Objectives	Type of instrument	Status	Sectors Affected	Gasses Affected	Start Year	Implementing Entity
The National Sanitation Policy (2006)	To provide guidance on the implementation of sanitation, hygiene and waste programs and projects in the country	- To achieve universal access to improved sanitation - To improve health and hygiene behaviour - To protect the environment and create wealth	Policy document	Adopted, implemented but due for review	- Waste - Energy - Agriculture	- CO_2 - CH_4 - NO_x	2006	- Ministry of irrigation & water development & policy holders - Now under Ministry of Water and Sanitation - Ministry of Health - Ministry of Local Government
National Climate Change Management Policy (2016)	Provide strategic direction for Malawi's priorities for climate change interventions and outlines institutional framework for the application and implementation of adaptation, mitigation, technology transfer and capacity building measures	- To promote climate change adaptation, mitigation, technology transfer and capacity building for sustainable livelihoods through green economy measures for Malawi	Policy document	Adopted, implemented but due for review	- Waste - Energy - Agriculture	?	2016	- Environmental Affairs Department

Workshop input

Identified data gaps

Estimates of GHG Emissions (achieved and expected) to be discussed in Workshop 2

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Agriculture Sector Structured Summary: Tracking progress made in implementing and achieving the NDC

Indicator	Unit	Reference Level	Implementation Period		Target Level	Target Year	Progress Made
			Year 1	Year 2			
% of new farmers adopting efficient fertiliser use and manure management practices	Percentage of farmers	0%	?	?	50%	By 2025	?
Upscale feed preservation and fodder banks	Number of new feed preservation and fodder banks	0%	?	?	6	By 2025	33% achieved

Workshop input

Identified data gaps

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Agriculture Sector: Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving an NDC

Policy	Description	Objectives	Type of instrument	Status	Sectors Affected	Gasses Affected	Start Year	Implementing Entity
National Agriculture Policy	To promote productivity value addition and export base	To increase agricultural production & productivity	Regulatory Economic	Implemented	- Agriculture - Energy - Water - Forestry	- CO_2 - CH_4 - N_2O	2022	Ministry of Agriculture
National Livestock Development Policy								
Irrigation Policy								
Fertiliser Policy								

Workshop input

Identified data gaps

Estimates of GHG Emissions (achieved and expected) to be discussed in Workshop 2

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Energy Sector Structured Summary: Tracking progress made in implementing and achieving the NDC

Indicator	Unit	Reference Level	Implementation Period	Target Level	Target Year	Progress Made
			Year 1 / Year 2			
Amount of additional power generated from large scale solar PV	MW	1.3MW	From 2021 to 2024	200 MW	2030	101 MW additional Cumulatively 102.3 MW (represents 50% of target
Amount of GHG emissions reduced using solar PV instead of fossil fuels	tCO2e	1139.2 tCO2e	From 2021 to 2024	175261.32 tCO2e	2030	88506.97 tCO2e

Workshop input

Identified data gaps

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Energy Sector: Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving an NDC

Policy	Description	Objectives	Type of instrument	Status	Sectors Affected	Gasses Affected	Start Year	Implementing Entity
Duty waivers on system components of renewable energy technologies	Renewable energy system components are imported into Malawi duty free in order to promote uptake of renewable energy in Malawi	- Enhance transition to clean energy - To cut on GHG emissions in the energy sector - To increase affordability of renewable energy technologies	Fiscal incentive	Implemented	- Energy - Trade - Environment	- CO_2 - NO_x	2021	Ministry of Finance

Workshop input

Identified data gaps

Estimates of GHG Emissions (achieved and expected) to be discussed in Workshop 2

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Transport Sector Structured Summary: Tracking progress made in implementing and achieving the NDC

Indicator	Unit	Reference Level	Implementation Period Year 1	Year 2	Year 3	Target Level	Target Year	Progress Made
Share/Percentage of railways in freight transport (tonnage)	Tonnes	Tonnage of freight by rail at year 2021 (30% internal and 10% international freight	2022 35	2023 36	2024 38	50	2040	76%
Private financing percentage (disaggregated by railway terminal in BT, LL; and expand railway coverage to international and local routes)	MWK	Private investment in year 2021 (Billion MWK)	2022 0	2023 154.5	2024 218.4	500	2040	44%
National budget percentage for the policy (includes rehabilitation of railway line Nkaya – Mchinji and Limbe – Marka railway line)	MWK	Budget level at year 2021 (Billion MWK)	2022 75	2023 75	2023 75	500	2040	15%

Workshop input

Identified data gaps

MINISTRY OF NATURAL RESOURCES & CLIMATE CHANGE

Transport Sector: Mitigation policies and measures, actions and plans, including those with mitigation co-benefits resulting from adaptation actions and economic diversification plans, related to implementing and achieving an NDC

Policy	Description	Objectives	Type of instrument	Status	Sectors Affected	Gasses Affected	Start Year	Implementing Entity
National Transport Policy 2015	Available on page 1 – Introduction of the document	Available	Guideline	Adopted	Cross-cutting	- CO_2 - CH_4 - N_2O	2021	MoTPW, Railways Department, Sectoral Ministries (Agriculture etc), Local Government, Private Sector (CEAR)
National Climate Change Management Policy (2016)	Available on page 1 – Introduction of the document	Available	Guideline	Adopted	Cross-cutting	- CO_2 - CH_4 - N_2O	2021	Ministry of Natural Resources and Climate Change (EAD), MEPA, Local Government, Private Sector
National Transport Master Plan 2017 - 2037	Available on page 1 – Introduction of the document	Available	Guideline	Adopted	Cross-cutting	- CO_2 - CH_4 - N_2O	2021	MoTPW, Railways Department, Sectoral Ministries (Agriculture etc), Local Government, Private Sector (CEAR)

Workshop input

Identified data gaps

Estimates of GHG Emissions (achieved and expected) to be discussed in Workshop 2