Project no.:

Introductory Tools Workshop Report

Deliverable E

AUTHORS:

Name: Eng. Dr. Adam Sebbit and Prof. James Okot-Okumu

Affiliation:

ECCE KONSULT

Date: 6 December 2023

Technical support provided by:

DISCLAIMER

PREPARED UNDER

The Initiative for Climate Action Transparency (ICAT), supported by Austria, Canada, Germany, Italy, the Children's Investment Fund Foundation and the ClimateWorks Foundation.

The ICAT Secretariat is managed and supported by the United Nations Office for Project Services (UNOPS)

Document control

DOCUMENT CONTROL	
CLIENT:	MINISTRY OF WATER AND ENVIRONMNET
CLIENT ADDRESS:	**KAMPALA, LUZIRA**
PROJECT TITLE	**Expansion of the National GHG Inventory Management System and Operationalization of NDC Tracking Framework**
PROJECT NUMBER:	**MoWE/CONS22-23/000025**
DELIVERABLE TITLE	**Introductory Tools Workshop Report**
DELIVERABLE:	**02**
REVIEWED BY:	Luanne Stevens and Mike Bess (GHGMI)
CCD ACCEPTANCE:	**Name:** **Date:**
REPORT SIGN-OFF **ECCE KONSULT LTD**	**Name: Eng. Dr. Sebbit Adam Mohammed** **Date: 20th December 2023**
SUBMISSION DATE TO UNOPS	

Table of content

Abbreviations

BAU	Business As Usual
BUR	Biennial Updated Report
CCD	Climate Change Department
CDM	Clean Development Mechanism
ERA	Electricity Regulatory Authority
FAO	Food and Agricultural Organisation
GACMO	Greenhouse gas Abatement Cost Model
GHG	Greenhouse gas
ICA	International Consultation and Analysis
ICAT	Initiative for Climate Action Transparency
INC	Initial National Communication
KCCA	Kampala Capital City Authority
GHGMI	Greenhouse Gas Management Institute
LEAP	Low Emissions Analysis Platform
MAAF	Ministry of Agriculture, Animal Husbandry and fisheries
MEMD	Ministry of Energy and Mineral Development
MoU	Memorandum of understanding
MRV	Monitoring / Measurement Reporting and Verification
MWE	Ministry of Water and Mineral Development
MWT	Ministry of Works and Transport
NARO	National Agricultural Research Organisation
NFA	National Forestry Authority

NDC	Nationally Determined Contributions
NWSC	National Water and Sewerage Corporation
QA/QC	Quality Assurance /Quality Control
REDD+	Reduced Emissions from Deforestation and Forest Degradation+
SCCO SD TraCAD TRACE	Senior Climate Change Officer Sustainable Development Transport Climate Action Data tool Transport sector climate Action Co-benefit Evaluation tool
SWG	Sector Working Groups
UBOS UNDP UNEP- CCC	Uganda Bureau of Statistics United Nation Development Program United Nation Environment Programme, Copenhagen Climate Centre
URA	Uganda Revenue Authority

List of Figures

List of Tables

Executive summary

A three-day workshop (15th to 17th November 2023) was held in Uganda as part of the ICAT project in Uganda that focuses on sustainably enhancing the GHG emission inventory, projections and mitigation analysis modelling to build capability for the Transport and Waste sectors.

The objectives of the workshop were to:

- introduce the various projection and policy impact assessment tools available;
- assist CCD in selecting a projections tool to utilise during this ICAT Uganda project; and,
- train policy makers and stakeholders how to conduct a policy impact assessment.

The workshop provided insights on the various model specifications and features, that made it possible for participants to choose the most appropriate models for use in Uganda for the ICAT project. Workshop participants were from CCD-Ministry of Water and Environment, Ministry of Works and Transport, Ministry of Energy and Mineral Development, International Experts, Local Governments, Local Consultants, International Development Partners and the Private Sector.

The main topics of the training were:

- Overview and introduction to mitigation assessments and ICAT tools
- Introduction to transport and waste sector projection tools
- Sustainable development impact assessment introduction and training

The participants were divided into a Transport group and a Waste group where they had an opportunity to discuss the various tools and models and indicate which they thought were most appropriate for their sector:

- Transport sector selected GACMO, LEAP and TRACE
- Waste sector selected PROSPECTS+.GACMO and LEAP may be considered after the lease of new versions.

The introduction to the various tools and models allowed the participants to analyse their applicability and usefulness in the Uganda context. A more comprehensive training workshop is planned for the near future for hands on experience and sharing of experience with other countries that are using the tools and models.

1 Background

The Country Work Plan of the ICAT project in Uganda focuses on sustainably enhancing the GHG emission inventory, projections and mitigation analysis modelling capability for the Transport and Waste sectors to enhance Uganda's ability to track the NDC actions in these two sectors. The ICAT Uganda project (titled: *Expansion of the National GHG Inventory Management System and Operationalization of NDC Tracking Framework*",) focusses on the Transport and Waste sectors and includes the following activities:

1) Strengthen sector working groups' capacity to manage sector GHG inventories for the Transport and Waste sectors
2) Strengthen sector working groups' capacity to conduct baseline emission and mitigation projections
3) Support data collection and processing to prepare GHG baseline and mitigation projections
4) Development of an NDC tracking framework for the Transport and Waste policies and measures in the NDC
5) Implement NDC tracking and monitoring framework at national and local government level

As part of the implementation of the ICAT Country Work Plan a three-day () workshop organised by the Climate Change Department (CCD) of the Ministry of Water and Environment, between the 15th November and 17th November 2023 at Entebbe Municipality. The main focus of the workshop was capacity enhancement for the Transport and Waste Sector working groups for the GHG emission inventory, projections and mitigation analysis modelling capability for the Transport and Waste sectors.

The total number of participants were 33 on the first day, 35 on the second day and 31 on the third day. Gender distribution was an average 45.5% female and 54.5% male. The training workshop brought together participants from government ministries, water authority, university, and NGOs. Annex 2 presents the list of participants of the Training Workshop.

1.1 Objectives of the training workshop

The objectives of the workshop are to:

1) introduce the various ICAT projection and policy impact assessment tools[1];
2) assist CCD in selecting a projections tool to utilise during this ICAT Uganda project; and,
3) train policy makers and stakeholders how to conduct a policy impact assessment.

The ICAT project has a series of workshops that seek to "Strengthen sector working groups' capacity to conduct baseline emission and mitigation projections". This workshop provided insights on the various model specifications and features. It was the first face to face workshop following the virtual training in October 2023. It forms the first capacity-building step in Activity 2 of the ICAT Uganda project[2] (Figure

[1] LEAP was also included in the training as this is the model which was used for the development of Uganda's NDC

[2] Expansion of the National GHG Inventory Management System and Operationalization of NDC Tracking Framework

1).

The workshop was to ensure that participants understand the scope and functionality of each model/tool and assist them to choose the models/tools that could be applied in Uganda. Participants were guided through the models/tools; GACMO, PROSPECTS+, TRACE, LEAP and TraCAD. The target group for the workshop was be CCD technicians and sector experts. The workshop agenda and participants list are presented in Annexes 1 and 2.

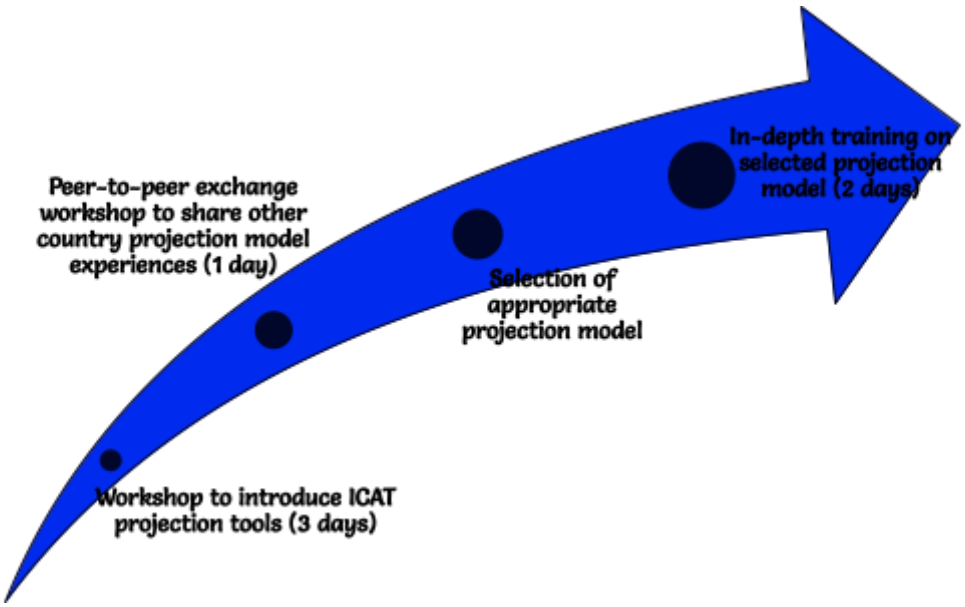


Figure 1: Capacity building process of the ICAT Uganda project showing the first 3-day workshop

2 Workshop Design and Methodology

2.1 Workshop presenters

The training was organised by the Ministry of Water and Environment, the Republic of Uganda. Officials from CCD were involved in the training activities, along with GHGMI who are providing Technical Support for ICAT project and the consultants (ECCE Konsult) working on eth ICAT project (Table 1).

Table 1. Contribution by CCD, GHGMI and national consultant

Training Team	Designation	Activity
Isaac Okiror Orena	CCD- Ministry of Water and Environment	Opening remarks
Derick Senyoga	CCD- Ministry of Water and Environment	Workshop objectives and an introduction to GHG inventories and MRV in Uganda
Luanne Stevens	GHGMI (ICAT Technical support)	Introduction to mitigation assessment and policy impact assessment, as well as training on the SD methodology
Mike Bess	GHGMI (ICAT Technical support)	Overview and comparison of GACMO, PROSPECTS+, TRACE, TraCAD and LEAP, and introduction to PROSPECTS+
Adam Sebbit	National Consultant ECCE Konsult (Transport sector)	Leading discussion on the transport sector
Prof. James Okot-Okumu	National Consultant ECCE Konsult (Waste sector)	Worksop facilitation on 15th November 2023 Presentation on waste sector and leading discussion on the waste sector 16th November 2023

These presentations were supported virtually by experts from UNEP (GACMO), ClimateSi (TraCAD), New Climate Institute (TRACE) and Centre for Sustainable Energy Research (CSER) at the University of Eswatini (LEAP). Presentations were made by these experts on the use of these models and tools during Day 1 and Day 2 of the workshop. . The participants were then introduced to the ICAT SD (Sustainable Development) methodology on Day 3.

2.2 Workshop approach

A participatory approach was used in the training workshop to ensure flexibility that allowed participants to interact freely through group works, exercises, discussions during plenary and group presentations. On the first day of the workshop MWE, CCD presented an overview of GHG inventories and mitigation assessment Monitoring, Reporting and Verification (MRV) tool.

Group activities involved comparing and selecting models and tools for use by the sector working groups from Transport and waste sectors. The sector working groups made presentations that stimulated discussions and consensus among the participants. These activities eased the sharing of knowledge and experience, appreciation of working together. The groupwork activities allowed the participants to better understand the models and tools and their use for mitigation projections.

3 Content Covered in the workshop

3.1 Day 1: Overview and introduction to mitigation assessments and ICAT tools (Wednesday 15th November 2023)

3.1.1 Session 1: Opening and workshop objectives (Training workshop orientation)

The first day of the training workshop was facilitated by Prof James Okot-Okumu (National consultant). Session 1 started with the registration of participants, self-introduction and was concluded with the opening remarks and presentation of the workshop introduction by the convener, Climate Change Department (CCD) of the Ministry of Water and Environment (MWE). The list of the participants attended the first day workshop is attached in the Annex 2. Every workshop day had three sessions that were each completed by question-and-answer sessions. The summary of question-and-answer sessions is attached in the Annex 3.

3.1.2 Session 2: Overview of mitigation assessments and ICAT tools

In this session, the presentations were as follows;

a) Climate Change Department (CCD) presented an overview of the Ugandan MRV tools. The main objectives of the workshop were stated as; a) provide an introduction to the various projection and policy impact assessment tools available; b) select a projections tool to utilise during this ICAT Uganda project; and c) train policy makers and stakeholders how to conduct a policy impact assessment.

b) **Overview of GHG inventories and mitigation assessment and MRV tools:** Mr. Derick Senyonga provided an overview of GHG inventories and mitigation MRV too in Uganda. He stated that following from the Kyoto Protocol and the Paris Agreement, Uganda has been doing inventories for GHGs and reporting as a commitment to the international obligations. The first national communication (INC) was in 2002, second NC in 2004 and third NC in 2021, all following the IPCC 2006 Guidelines. The Ministry of Water and

Environment has put in place structure under which the inventory and MRV operate. Memorandum of understanding (MOU) between the Ministry of Water and Environment and the respective sectors responsible for the key inventory sector were made. The institutional arrangement is as shown in Figure 2. The MRV framework is under implementation by CCD in accordance with the Climate Change Act,2021. Monitoring (and measuring) (M) applies both to efforts to address climate change and to the impacts of these efforts. It occurs at the national level and refers to GHG emissions, mitigation actions and their effects, and the support needed and received. Reporting (R) - National communications and BURs, where Parties report on their actions to address climate change in their national communications (now NDCs as well). Verification (V) - Through the international consultation and analysis (ICA) of BURs (voluntary). Integrated MRV framework for implementation of NDC is designed as per the guidance and requirement to fulfil requirements of "Transparency Framework" under the Paris Agreement.

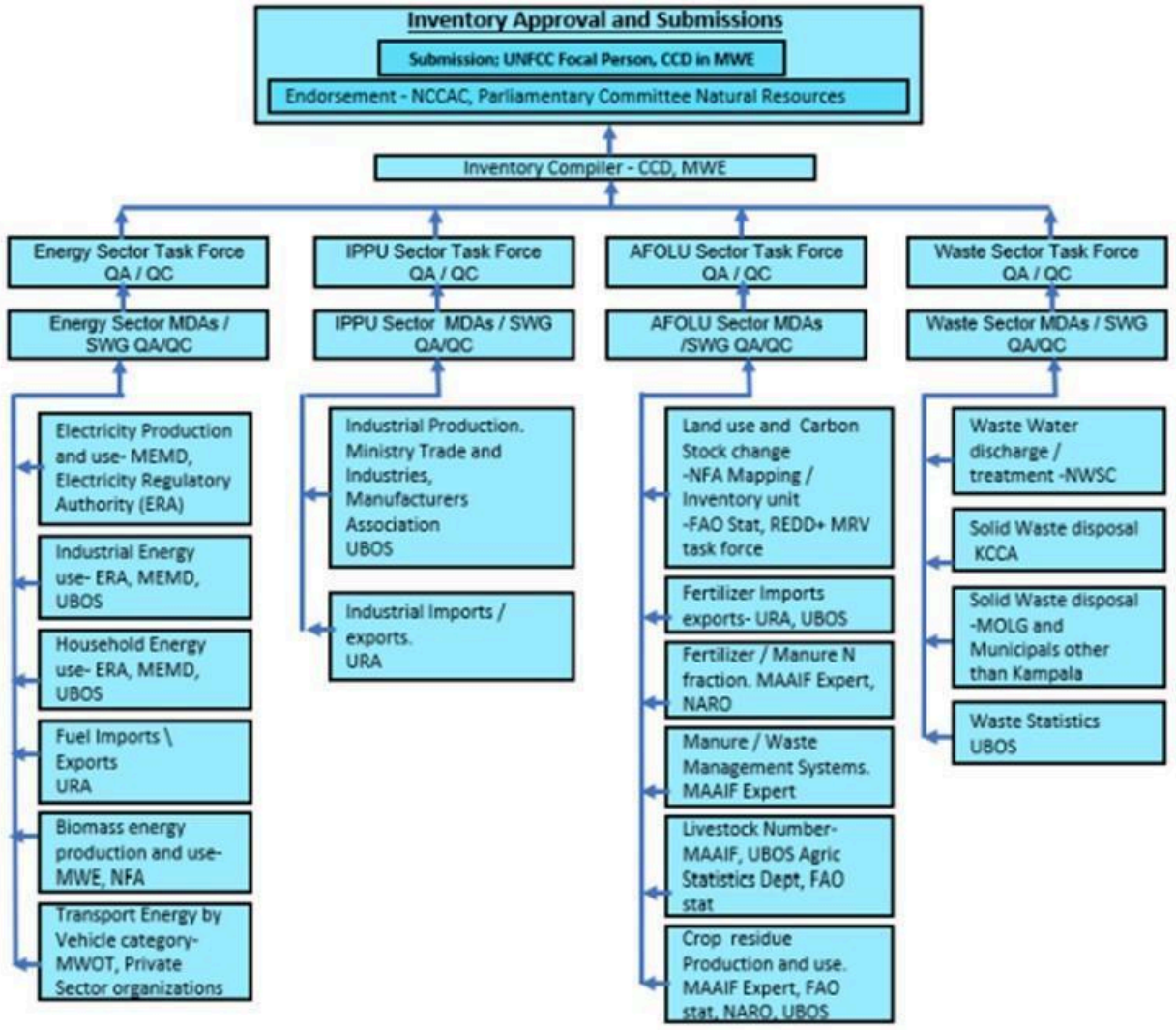


Figure 2: The institutional arrangement for GHG inventory

Uganda has put in an institutional structure in place for the implantation of MRV as illustrated in

Figure 3

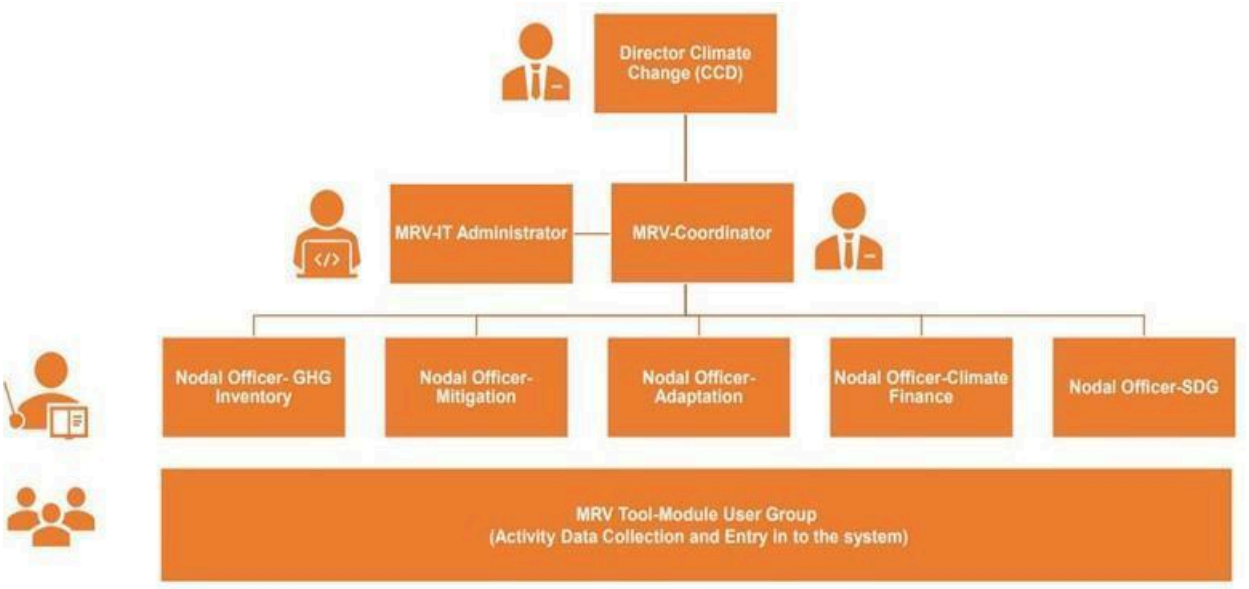


Figure 3: The institutional framework for implementation of MRV in Uganda

The MWE-CCD has MRV tool developed with assistance from UNDP. The tool is web-based with structure illustrated in Figure 4.

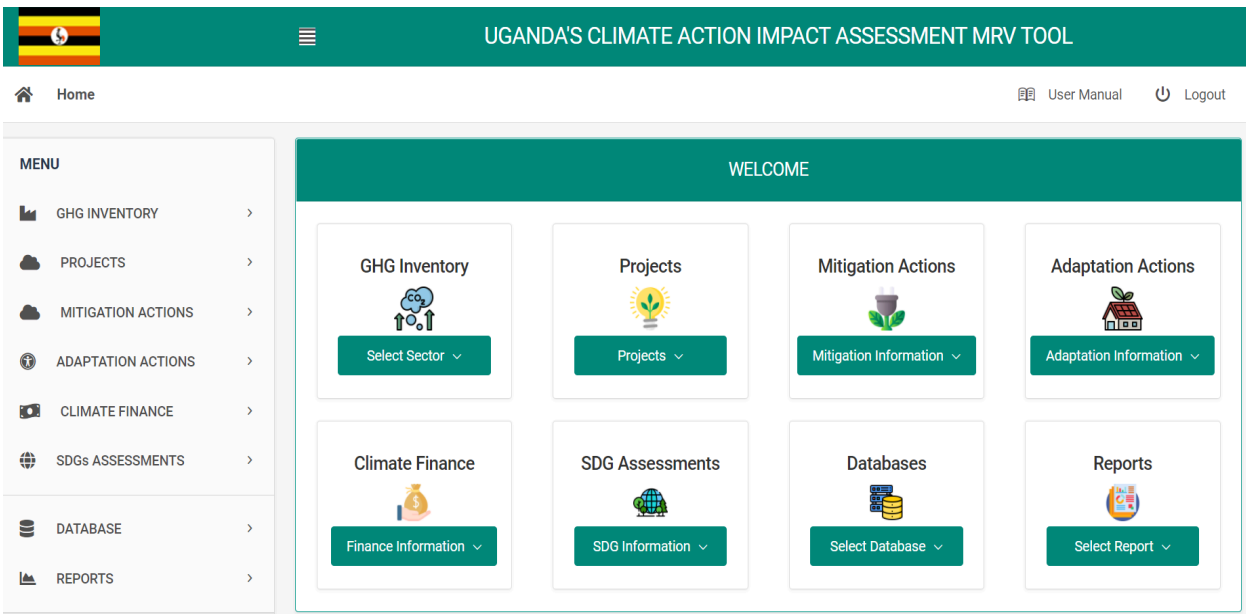


Figure 4: The structure of the Uganda climate action impact MRV tool

c) **Introduction to mitigation and policy impact assessment:** Luanne Stevens (GHGMI) presented an introduction to mitigation and policy impacts assessments. The mitigation assessment principles of Relevance, Completeness, Consistency, Transparency and Accuracy were outlined as important, as the institutions get more reliable and accurate data, over time. The series of steps in preparing for mitigation assessments and for conducting mitigation assessments were presented as illustrated in Figure 5 and Figure 6.

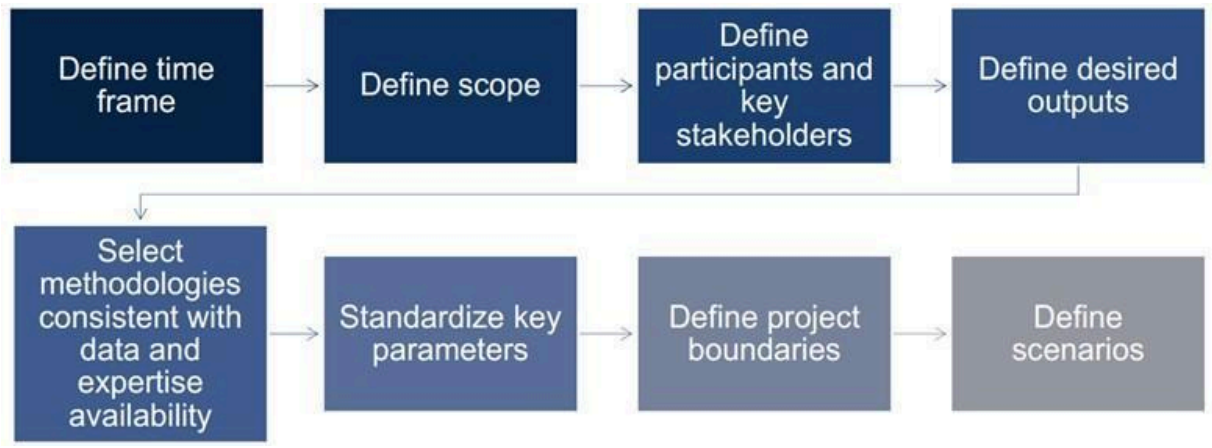


Figure 5: Steps in preparing for a mitigation assessment

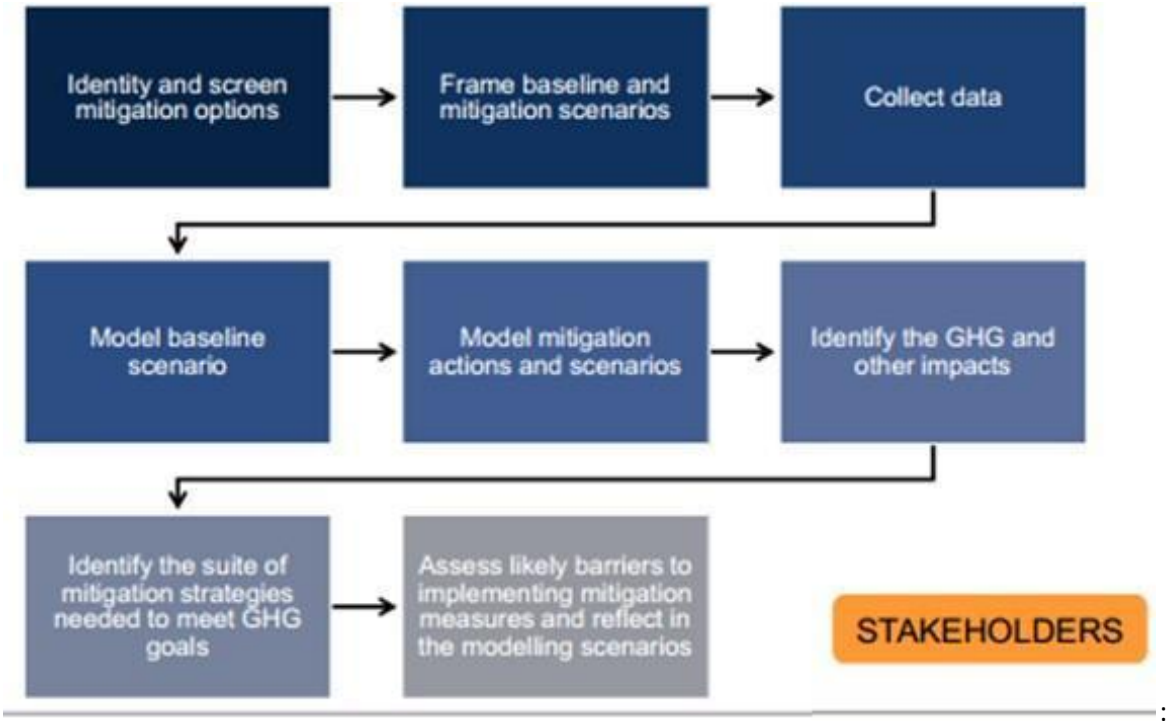


Figure 6:Overview of the mitigation steps.

The GHG Inventory can be used as an important management tool to assess GHG mitigation actions and policies. However, to complete assessments particularly current (*ex-ante*) assessments – emissions need to be projected (ex-post) into the future. The objectives of policy impact assessment are shown in Figure 7.

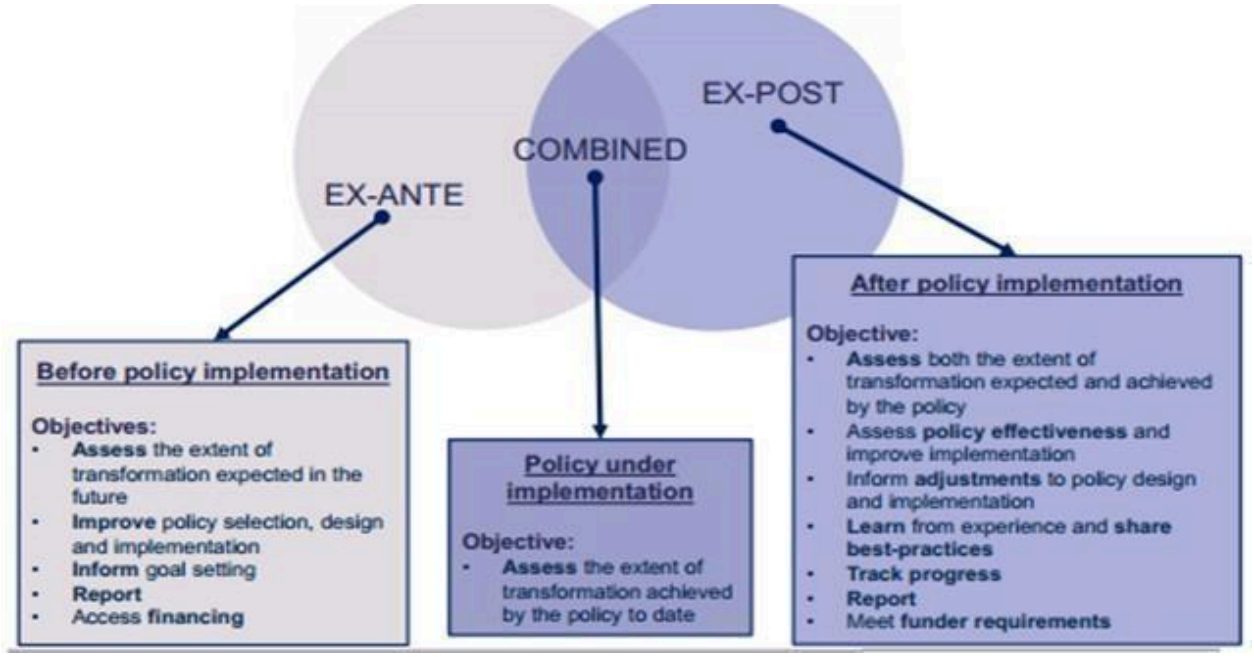


Figure 7: The objectives of policy impacts assessment

These projections can be established through modelling by creation of:

- Baseline or Business as Usual Projection (with different scenarios):
  - Reflecting current trends with existing measures
  - Reflecting current trends without existing measures
- Mitigation Projection (with different scenarios):
  - Scenario reflecting NDC targets
  - Scenario reflecting more ambitious targets

The discussion was to show that mitigation assessments are often followed by actions, usually the development of policies to provide an enabling environment for implementing emission reductions. It is also important to track the impacts of policies to determine if they are working well and to determine the level of their impacts. Estimating the impact resulting from a policy follows a similar process to a mitigation assessment, but is focussed on attributing impact to the policy. The policy assessment scenario can be defined to represent events or conditions most likely to occur in the presence of the policy being assessed. Subtracting the baseline scenario from the policy scenario value, estimates the impact of policy or action (Figure 8). The implementation cycle of policy impacts assessment was outlines as shown in Figure 9.

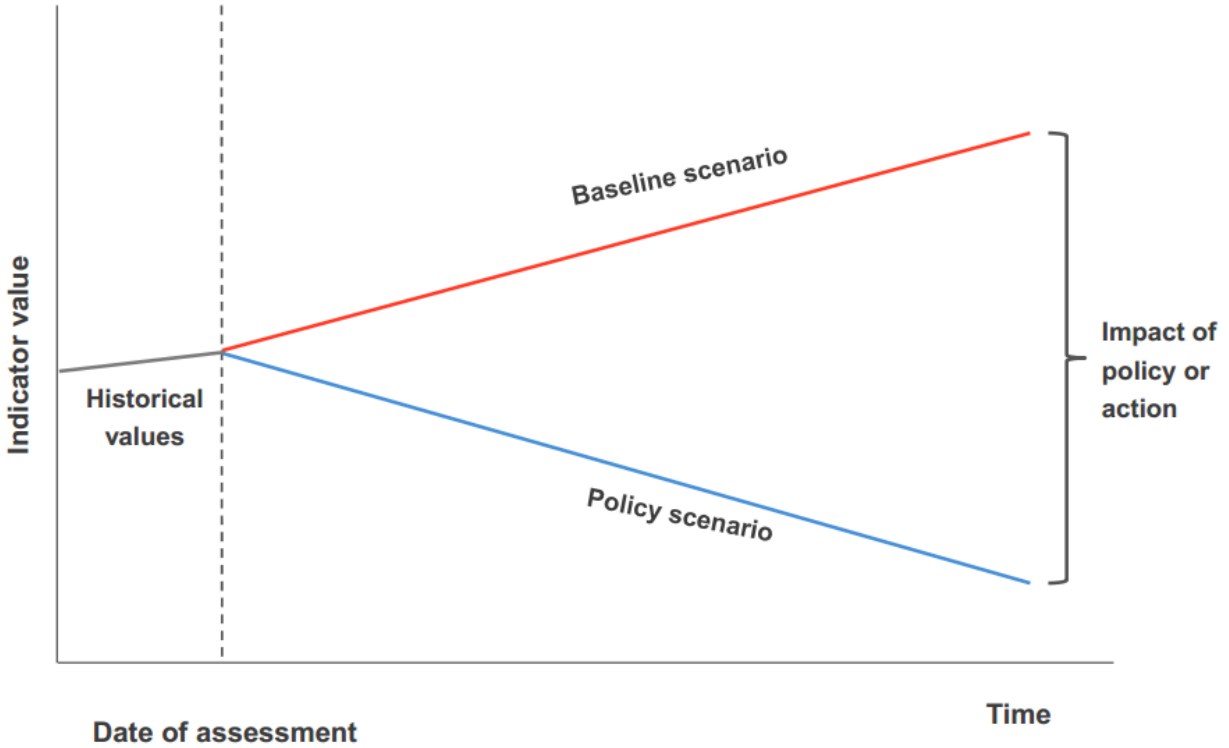


Figure 8: Illustration of the impact of policy or action.

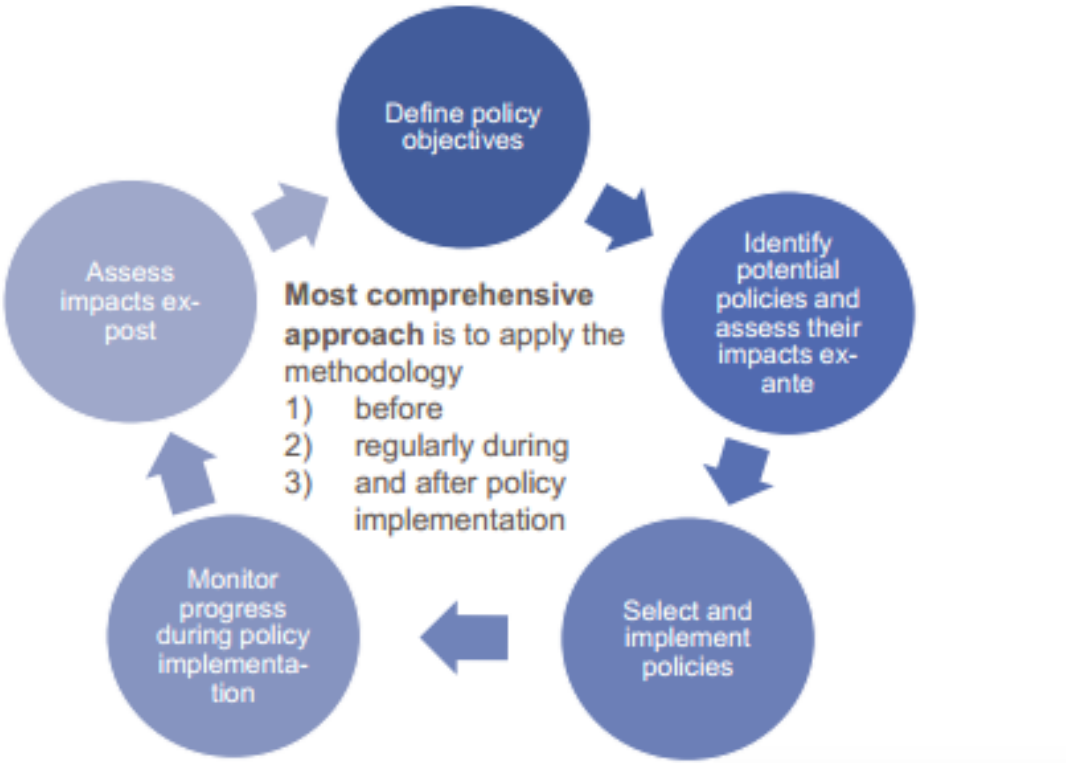


Figure 9: Policy impacts assessment implementation cycle

The presentation ended with a presentation of the ICAT Impact Assessment methodologies available (Figure 10) and how and when they can be applied (Figure 11)

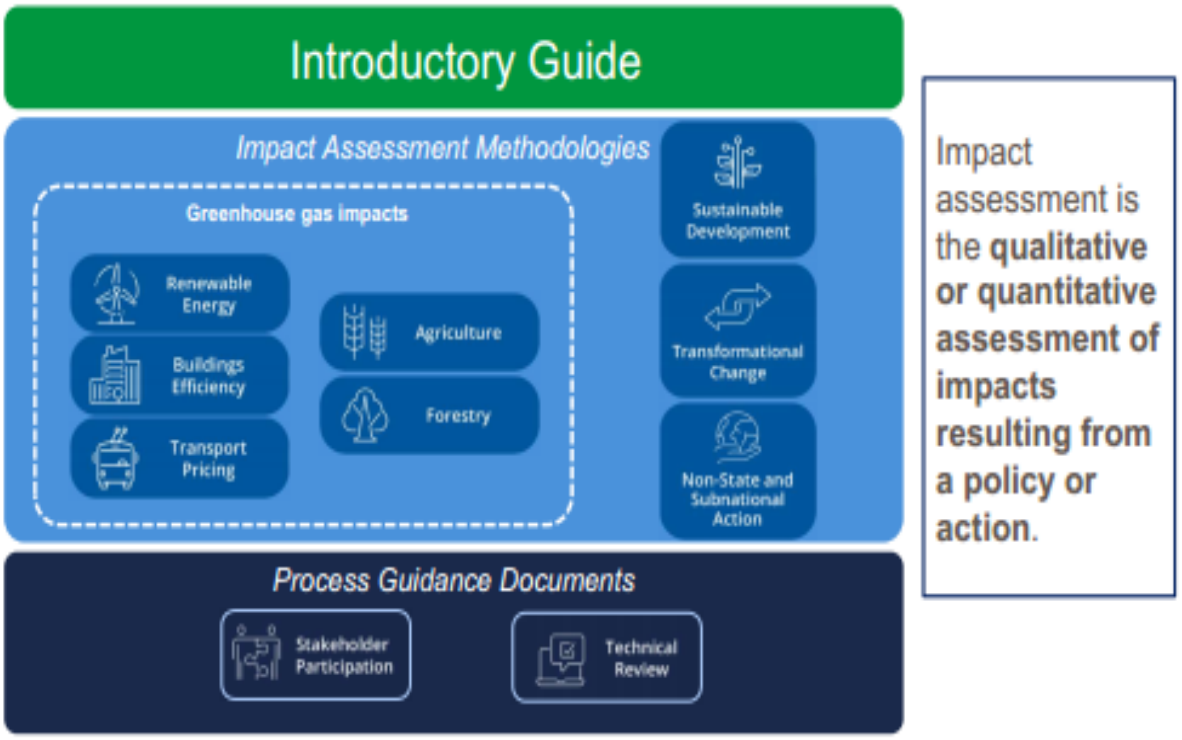


Figure 10: ICAT impact assessment methods

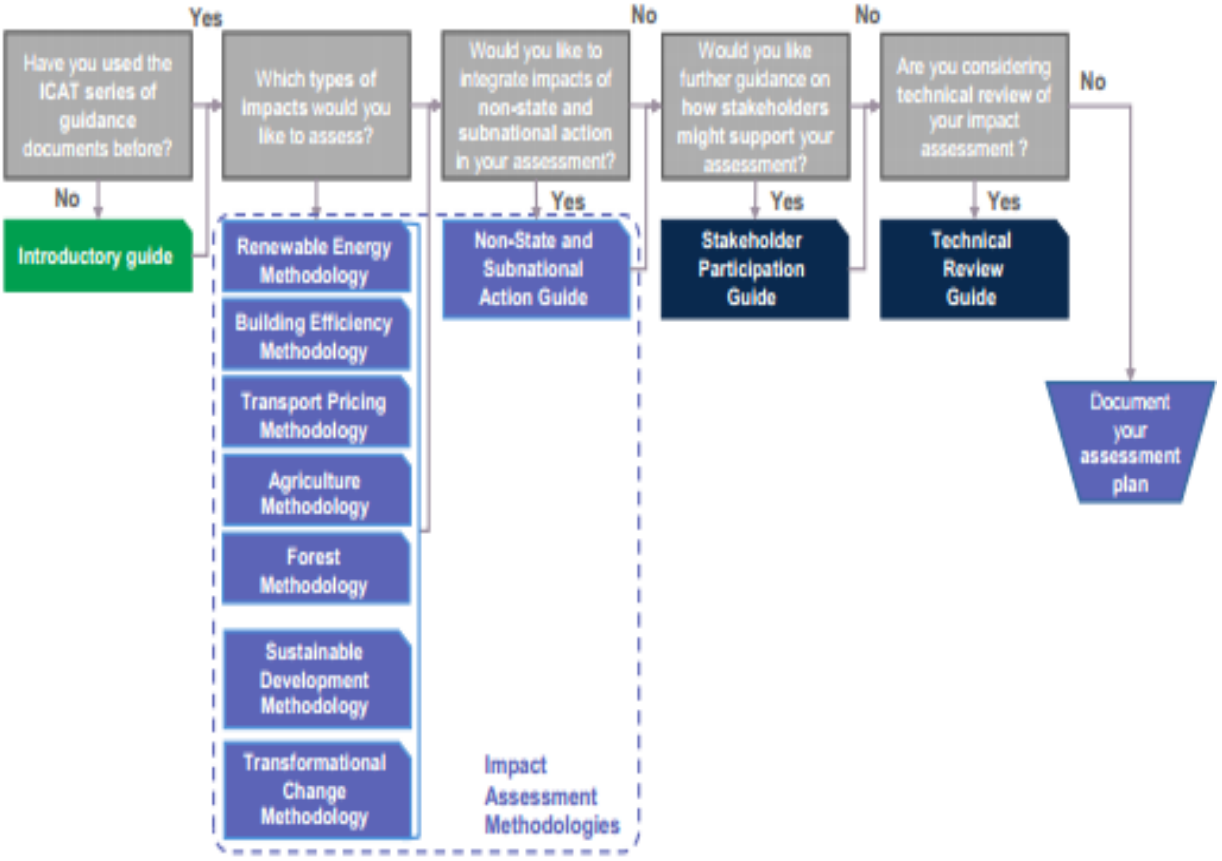


Figure 11: Application of ICAT Methodologies

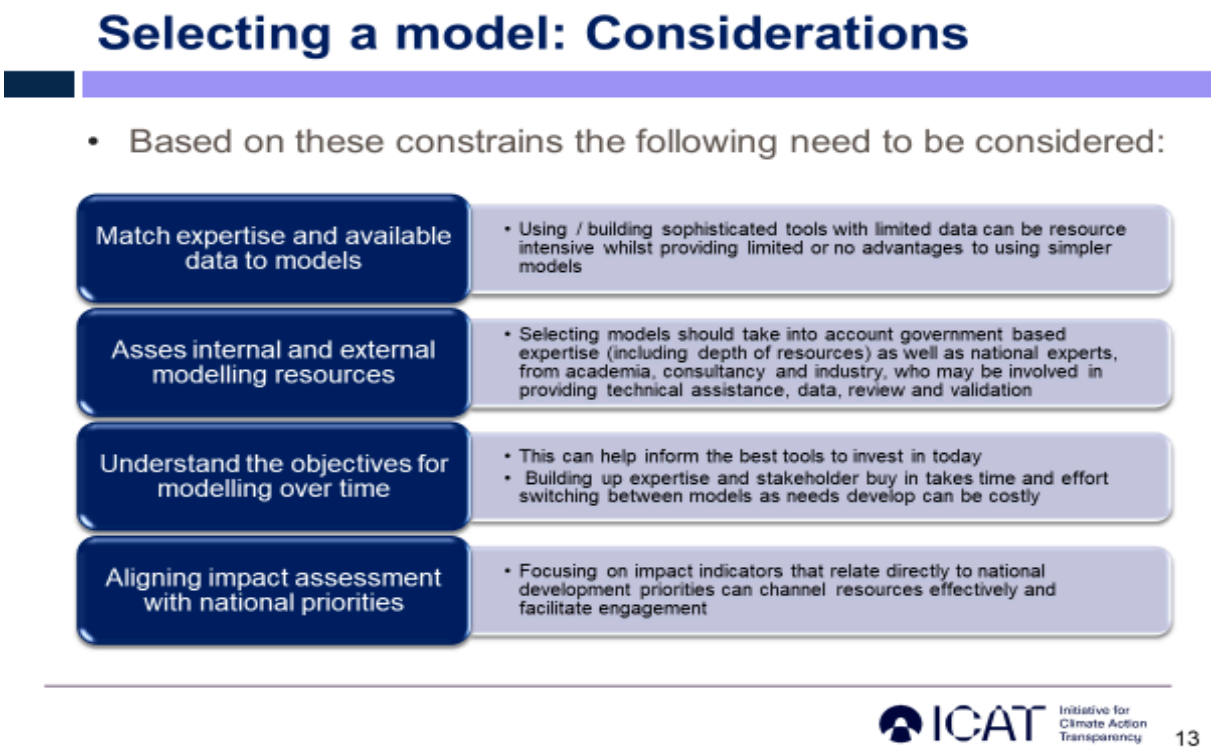
d) **Brief overview and comparison of available tools and models:** Mike Bess from GHGMI gave an overview and comparison of available tools and models. The presentation outlined the application of the models including the sectors GHG emissions coverage and limitations of the models. The presentation covered the following models,

- Greenhouse gas abatement cost model (GACMO)
- PROSPECTS+
- Transport sector climate action co-benefit evaluation tool (TRACE)
- Transport Climate Action Data (TraCAD) tool
- Low Emissions Analysis Platform (LEAP)

PROSPECTS+ and TRACE are from the COMPASS (Climate action Outcomes and Mitigation Policy Assessment) Toolbox, a collection of tools developed by the NewClimate Institute . All tools can be viewed on the ICAT website: https://climateactiontransparency.org/our-work/icat-toolbox/ .

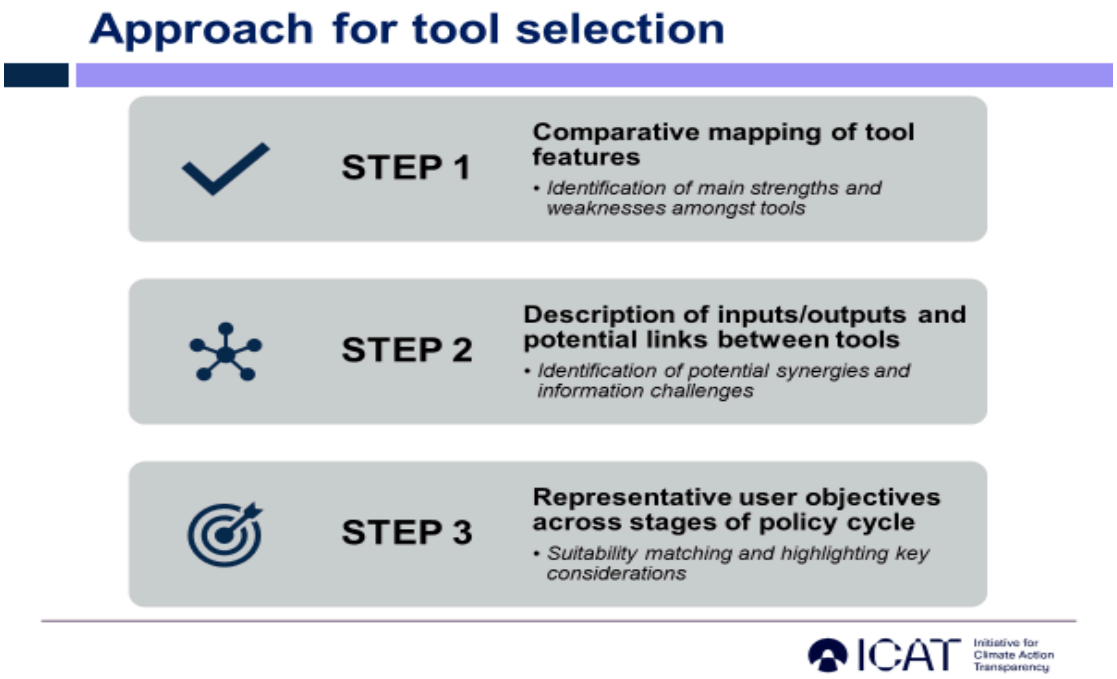
Participants were introduced to the considerations that are made when selecting a model for use and approaches for tools selection

The criteria to consider when choosing a model were presented. They were as follows:



Source: Overview and comparison of mitigation assessment tool. Mike Bess . GHGMI

The approach to tool selection is as follows:



Source: Overview and comparison of mitigation assessment tool. Mike Bess . GHGMI

The steps summarised above were explained during the training session.

3.1.3 Session 3: Introduction to the mitigation projection tools

Introduction to GACMO: Dr. Ahymgal Kerimary a mitigation specialist made presentation that was an introduction to Greenhouse gas abatement cost model (GACMO). Aspects of the GACMO tool were presented including the fact that it is based on the IPCC 2006 Guidelines and CDM methodologies and available from UNEP- CCC.org. GACMO characteristics including input data, assumptions and application to the GHG emissions sectors were provided. GACMO application was demonstrated. The use of GACMO for reporting such as NDC, BUR, national action plans, regional analysis was described. Important features were described as the ability to provide outputs of total GHG emission for the different sectors, regional abatement, Revenue analysis (MAR curve), predetermine mitigation options, user defined entries, use for policy planning, strategies, development plans, NDCs, review and adjustment of parameters for a country among others.

Introduction to PROSPECTS+: Mike Bess from GHGMI presented PROSPECTS+ in detail, indicating that it is EXCEL-based tool covering the GHG emission sectors, that can perform detailed sectoral modelling and policy analysis. Indicated that PROSPECT+ is easy to use and is one set of the COMPASS toolbox. It can be used to reconstruct historical emissions, scenarios, results of country summary. Users of PROSPECTS+ include, Climate Change departments, Ministries, NGOs, Researchers, Experts. It is a good tool for the transport sector, but it is not comprehensive for waste sector since it does not include incineration and open burning. The two presentations were followed by a question-and-answer period with full participation of all participants.

Introduction to LEAP: In the second part of this session, an introduction to LEAP, was made by Dr. Gcina Mavimbela, a LEAP expert from University of Eswatini. Characteristics of LEAP was presented and

discussed. Data entry was demonstrated, and output shown as Tables, Graphs and or Scenarios. Own models can be made from LEAP. Use of the tool requires a 24-month period licence. Questions and answer period were provided after this presentation.

Day-one wrap up was provided by the facilitator of the day, Prof. James Okot-Okumu.

3.2 Day 2: Introduction to transport and waste sector impact assessment tools (16th November 2023)

The second day of the training workshop was to introduce transport and waste sector impact assessment tools. Presentations of the tools were made by experts and the participants were given the opportunity to ask questions in the end, followed by discussions. Day two was facilitated by the CCD.

3.2.1 Session : Opening and workshop objectives

Recap of Day one and introduction to the day's sessions was done by CCD. Participants were informed that day two was to introduce the tools TRACE and TraCAD, have a discussion of the waste sector projections and possible tools and wrap up with a discussion on the use of the various tools as outlined below.

3.2.2 Session 2: Introduction to impact assessment and tools for transport sector

Introduction to TRACE: The session was presented by Harry Fearnehough an expert from New Climate Institute who introduced TRACE, its usefulness and applicability. TRACE is Excel-based and is easy to navigate with limited training required. It works for urban transport setting and national scenarios and facilitates informed decisions in the transport sector. Outputs include monetization of the impacts (general impacts and individual impacts), comparison between scenarios and breakdown of scenario impacts.

Introduction of TraCAD: The tool was introduced, and its usefulness and applicability demonstrated by Buddika Hemashantha, ClimateSi's Chief Executive Officer (CEO). Outline of the use of TraCAD include data collection and management with also quality control, marginal abatement cost assessment for assessment of the cost associated with selected climate actions with the help of the GACMO tool and tracking climate actions that facilitates regular monitoring of specific climate actions and allows generation of reports for country specific needs by adding the NDCs, defining users and country specific methodologies. Question and answer time followed the two presentations

3.2.3 Session 3: Introduction and training on waste sector methods and tools/templates

Introduction to the waste sector methods and inventory requirements for Tier 1 and Tier 2 was made by Prof. James Okot-Okumu (National consultant). The Tier 1 and Tier 2 data requirements were illustrated as shown in Table 3. A move to Tier 2 requires more country specific data inputs, with the advantage of increasing accuracy of emissions estimations[3].

[3] ***UNDP-EU4 Climate-RWA- Guidelines on climate change mainstreaming into waste sector policies, 2021***

Table 3: Data requirements for Tier1 and Tier 2 in the Waste sector

Data entry parameters	Tier 1	Tier 2
1. Population	Required data Country specific	Required data Country specific
2. Waste generation rate per capita		
3. Total MSW generated Gg		
4. Waste composition	Default data	Default data
5. Waste bulk data		
6. DOC		
7. DOC_f		
8. Delay time		
9. OX		
10. Carbon storage		
11. Methane generation rate		
12. MCF		Required data Country specific
13. % distribution of wastes per disposal type		
14. % of waste to SWDS		
15. Methane recovery		

Source: UNDP-EU4 Climate-RWA- Guidelines on climate change mainstreaming into waste sector policies, 2021, with modifications

This was followed by a question-and-answer time when participants were able to ask questions on the waste sector methodology and inventories.

The final part of the second day was spent on open discussion on the usefulness and applicability of the various tools to Uganda's context. The participants formed two groups for transport sector and waste sector where they discussed the tools and models and were able to make choices. The Transport Sector Working Group indicated that they thought the most appropriate tools/models for their sector were GACMO, LEAP and TRACE, while the Waste Sector Working Group selected PROSPECTS+ and GACMO. Day two wrap up was provided by the program facilitator.

The tools selection for Transport and Waste Sector.

The participants were introduced to key tools from ICAT toolbox which would be used in this project. The approaches used for selection of the tools were based on the three levels, namely; (a) comparative mapping of the tool, it entailed identification of main strengths and weaknesses amongst tools, (b) Description of inputs/outputs and potential links between tools, through the Identification of potential synergies and information challenges, (c) Representative user objectives across stages of policy cycle by identify linkages for suitability matching and highlighting key considerations.

Figure 12: Waste Sector Working Group discussing tools and models for the sector

Figure 13: Transport Sector Working Group discussing tools and models for the sector

3.3 Day 3: Sustainable development impact assessment introduction and training (17th November 2023)

The third day of the training workshop was used to introduce the sustainable development impact assessment methodology. A presentation of the tool was made by Luanne Stevens and the participants were given opportunity to ask questions in the end followed with discussions. Day two was facilitated by CCD.

3.3.1 Session 1: Day three opening and workshop objectives

Recap of the previous day and introduction to the day's sessions was done by CCD. Participants were informed that day three was for introduction to the ICAT methodology for SD impact assessment.

3.3.2 Session 2: Overview of sustainable development impact assessment guide.

Introduction to ICAT SD methodology was presented by Luanne Stevens from GHGMI. The major purpose of this methodology is to assess the environmental, social and economic
impacts of policies and actions. The methodology assesses what SD impacts is a given policy or action are likely to have in the future and checks whether a particular policy is on track. Therefore, user can assess all relevant SD impacts of policies and actions in an integrated manner. This helps policymakers and decision maker to set effective strategies for achieving SD objectives. It also helps in supporting consistent and transparent reporting of SD impacts and policy effectiveness. Policy assessment results can be displayed in an output as illustrated by Figure 14. The ex-ant and post-anted scenario come out clearly displaying the policy impact in either case.

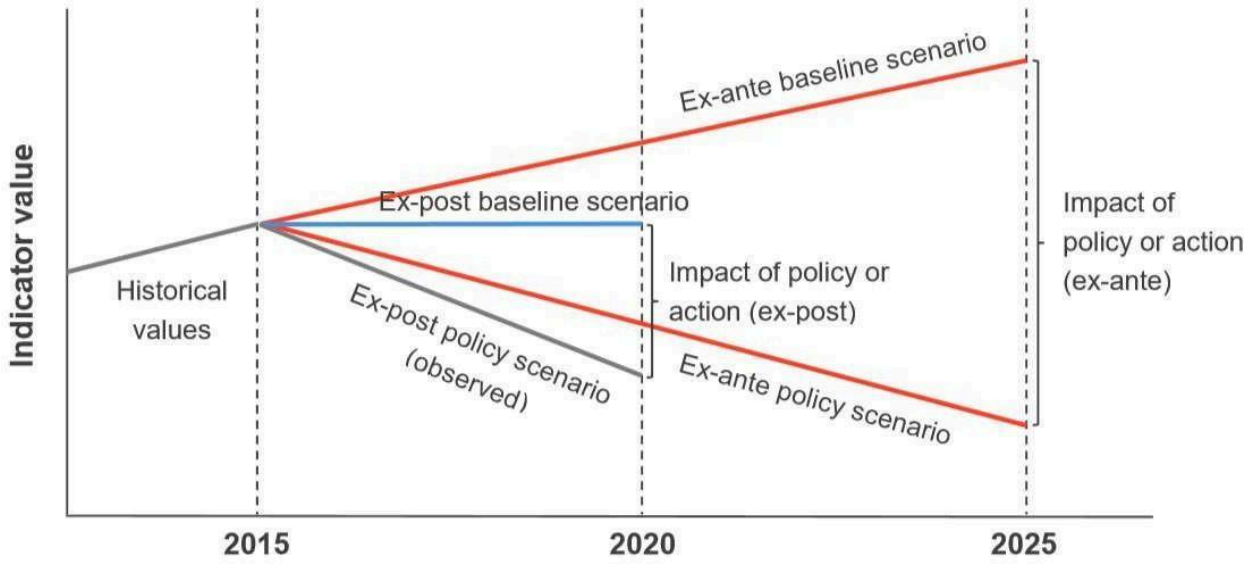


Figure 14: Comparison between ex-ante and ex-post scenarios.

Causal Chain Analysis: This is a conceptual diagram formulated for articulating the process by which the policy or action leads to various GHG and SD impacts through a series of interlinked logical and sequential stages of cause-effect relationships. It is used to enhance policy design, improve understanding of policy effectiveness, communicate the impacts of the policy to stakeholders.

Causal chain analysis is to identify, organise and communicate all potential impacts of a policy or action in all identified impact categories. It can be used for separate impacts, such as a GHG impact causal chain or a SD impact causal chain, or one more complex chain can be developed

The causal chain analysis options were introduced to the participants after which breakout groups were formed for the Transport sector and waste sector working groups. The casual chain options are:

Option 1: Single causal chain with all impact categories (IC's) and characteristics are

- Limited specific impacts and interrelated impact categories
- Might not include all specific impacts since too complex

Option 2: Separate causal chains for each impact categories, and characteristics are:

- Relatively unrelated impact categories with no intermediate impacts in common
- Does not illustrate the relationships between impact categories

Participants were put into the working groups and provided with an example Transport and Waste policy, respectively. The groups were asked to develop a causal chain to identify the SD impacts of each policy. The groups presented the outcome of their work in a plenary session.

4 Outcomes and Lessons Learnt

The training used presentations by experts followed by question-and-answer sessions. Hands on sessions were used to enable the sector working groups to work separately and discuss the tools/models more in-depth and make choices of the most applicable models for the sectors in the Ugandan context. The sector working groups also carried our causal chain analysis on policy actions and made presentations of their results.

The main outcome from this workshop was the selection of tools and models for use by the Transport and waste sectors for the ICAT project in Uganda. Participants were also able to experience and learn applicability and usefulness of the various tools and models available for GHG emissions projections, policy impact assessment, SD impact assessment and outputs for country reporting.

This training workshop aim was to introduce tools and models to the participants. A more detailed, hands-on training approach is planned in the near future, for the participants to learn more and gain confidence in the use of the introduced tools and models. Close of the training workshop

5 Close of the training workshop

The workshop was concluded by the way forward outlined by Mr Derick Senyonga of CCD-MWE and Prof. James Okot-Okumu gave the closing remarks and closed the workshop.

4) Annex 1

a. Agenda

Day 1 (15th Nov): Overview and introduction to mitigation assessments and ICAT tools

Programme facilitator for the day: James Okot-Okumu

Time	Activity	Responsibility
Session 1: Opening and workshop objectives		
08:00 – 09:00	Arrival and registration	All
09:00-09:10	Round of introduction	All
09:10 – 09:25	Opening remarks	Irene Chekwoti (CCD)
09:25 – 09:40	Workshop objectives	Derick Senyonga (CCD)
Session 2: Overview of mitigation assessments and ICAT tools		
09:40 – 10:10	Overview of GHG inventories and mitigation assessments and MRV tool	Derick Senyonga (CCD)
10:10 – 10:30	Introduction to mitigation and policy impact assessments	Luanne Stevens (GHGMI)
10:30 - 10:45	Brief overview and comparison of available tools and models - Greenhouse gas abatement cost model (GACMO) - PROSPECTS+ - Transport sector climate action co-benefit evaluation tool (TRACE) - ICATs Transport Climate Action Data (TraCAD) tool - Low Emissions Analysis Platform (LEAP)	Mike Bess (GHGMI)
10:45 – 11:00	Q/A	All

11:00 – 11:30	**Break**	
Session 3: Introductions to the mitigation projection tools		
11:30 – 12:30	Introduction to GACMO (with a demonstration of example for transport and waste sector)	Aiymgul Kerimray (UNEP CCC)
12:30 – 12:40	Q/A	
12:40 – 13:00	Introduction to PROSPECTS+	Mike Bess (GHGMI)
13:00 -14:00	**Lunch**	
14:00 – 15:00	Introduction to LEAP (with demonstration of example for transport and waste sector)	Gcina Mavimbela (UNESWA)
15:00 – 15:20	Q/A	All
15:20 – 15:30	Wrap up and close workshop for Day 1	James Okot-Okumu

Day 2 (16th Nov): Introduction to transport and waste sector impact assessment tools

Programme facilitator for the day: CCD

Time	Activity	Responsibility
Session 1: Opening and workshop objectives		
09:00 – 09:15	Recap of Day 1 and introduction to the day's sessions	Programme facilitator
Session 2: Introduction to tools for assessing impacts and co-benefits of climate in the transport sector		
09:15 – 10:15	Introduction to TraCAD	Buddika Hemashantha (ClimateSi)
10:15 – 10:45	Introduction to TRACE	Harry Fearnehough (New Climate Institute)

10:45 – 11:00	Q/A	
11:00 – 11:30	**Break**	
Session 3: Discussion on waste sector methods and tools/templates for projections		
11:30 – 13:00	Discussion on waste sector projections and possible tools	James Okot-Okumu
13:00 – 14:00	**Lunch**	
14:00 – 15:00	Open discussion on the usefulness and applicability of the various tools to Uganda's context	All (Facilitated by CCD)
15:00 – 15:20	Summary and tool recommendations	All
15:20 – 15:30	Wrap up and close workshop for Day 2	Programme facilitator

Day 3 (17th Nov): Sustainable development impact assessment introduction and training

Programme facilitator for the day: Irene Chekwoti (CCD)

Time	Activity	Responsibility
Session 1: Opening and workshop objectives		
09:00 – 09:15	Recap of day 2 and introduction to the day's sessions	CCD
Session 2: Overview of Sustainable Development Impact Assessment Guide		
09:15 – 10:10	Introduction to ICAT SD methodology - Introduction - Identification of impacts - Qualitative assessment of impacts	Luanne Stevens (GHGMI)
10:10 – 11:00	Breakout sessions: Hands on training on SD methodology (using transport and waste sector specific case studies)	All (Facilitated by GHGMI)
11:00 – 11:30	**Break**	

11:30 – 13:00	Breakout sessions: Hands on training on SD methodology (using transport and waste sector specific case studies)	All (Facilitated by GHGMI)
13:00 – 14:00	**Lunch**	
14:00 – 14:30	Group report back	Group representatives
14:30 – 15:10	Continue with ICAT SD methodology - Quantitative assessment - Monitoring and reporting - Decision-making and use of results	Luanne Stevens (GHGMI)
15:10 – 15:20	Q/A	
Session 3: Workshop summary and way forward		
15:20 – 15:35	Way forward	Derick Senyonga (CCD)
15:35 – 15:40	Close of workshop	

5) Annex 3

Response to Presentation

Questions	Response
TraCAD / TRACE (used for Transport sector only)	
In the presentation, it was stated that the administrative rights rest with the ICAT.	It is possible for the system to be installed in Uganda. Where the CCD will have administrative right.

Questions	Response
There are issues such as confidentiality and security. How can they be handled?	
Can Uganda be assisted so that the system be installed in Uganda? That will be followed by capacity building and other support.	It is possible to be installed in Uganda. What Ugandan users need to do is to make a formal request for installation and support. There will training on the models. The tool can be customized to meet Ugandan needs. There is still a slot for two more countries.
Can Trace be a stand-alone tool, without support of other tools	Model was built in such a way that it can be linked to other tools such as LEAP.
Based on the work on emission and mitigation assessment carried out in Lagos using TRACE, data gaps were identified. As a case in point, the emissions in cities there are traffic flow in and out of the cities. How was it handled in case of Lagos?	The data availability is very important for any tool application in emission reduction and mitigation action. There are several ways data can be obtained or estimated depending on the circumstances. Data ne scaled down into requirements. In Lagos, an earlier study was carried out using LEAP.
GACMO	
GACMO is structured for regions, countries and sectors. Where there is case of road construction project at different region of the country, are there tools which can be customized for such specific program? How can such a project be aggregated	It is possible to that with the tool. The aggregation can be done with the tool itself.
Can GACMO be linked with other tools? In case the applicant wants to cross over to other tools when analysing scenarios	Yes, it is possible to link with other tools. One can import and export data since is based on Excel. The tool is very flexible. For example, GACMO can link with LEAP.
Are there parameters/ indicators for gender in the tools	There are no gender indicators in this tool.

Questions	Response
There are cases where user will have to pay for the tools, is this the case with GACMO.	GACMO is a free software
It is mentioned that new version of GACMO is coming out soon, when will that be.	It expected to be out in November of December 2023.
If participant was using the old version, is possible to migrate to the new version	Yes, it possible to migrate to the new version since they are both based on Excel
It stated that data input from energy balance is important. Is it possible to use data from sectors records such as transport, railway, roads, aviation	Yes, it is possible
There is need to for hands on training, how will it be done.	The CCD will organize hands on training programme a training program for the participants. There is need of data to be used to run the software. Once this in place hand on training will be introduced.
PROSPECT +	
The participants have gone through various tools already. It possible to have interface with other tools?	Yes, it is possible to import /export files with LEAP and GACMO. The use of Excel comes handy. The basic knowledge of excel is needed
How can we use more than one tool for analysis?	It possible to use more than one tool for analysis. These tools have different capabilities, in term of financial analysis, mitigation option and the yearly data presentation. The user should choose which sets of tools will meet the requirement.
It is it possible to switch from one tool to another?	For consistence, it is better to use similar tools. If there is change is important explain assumptions made.

Questions	Response
Some sections of the waste sector are covered, that about the rest.	Other tools can be used to supplement, sector. Waste sector wide, however, there are other efforts to improve on this sector.
LEAP	
There was training in Uganda 2022, where transport was covered. Railway and aviation were moving to Tier 2 , while Road Transport we are at Tier 1. There are many assumptions in road Transport, how was it handled in Eswatini	There is data gap in the transport sector. Eswatini has not put in place measure to captured data such audiometers and other necessary parameters, so we have both Tier 1 and Tier 2 running. There was planned to have survey, under energy demand analysis. That where some of the data were obtained, by Ministry of Energy and Mineral Resources.
Did Eswatini developed emission factors	There is manufacturing of vehicles in Eswatini. Most of the vehicles are imported from South Africa. The pool of vehicle is graded based on the source of vehicles. Some the vehicles use the EU standards of emission estimates, while other use non-EU. There mixed. estimated are made where applicable
The LEAP is being updated very often, how is handled in Eswatini.	It true that there are always updates. In parallel to that the is continuous training. But at time is to easy cope, however once you have the basic foundation one can catch quickly.
How is Transit fuel handled Eswatini	It is believed that the Ministry of Energy and Mineral Resources have all the data for fuel, but what is need the distribution of the fuels per sector.
Does LEAP address waste under non-energy components	The presenter is specialist in energy sector. However, there is on coming or ongoing programme to include non-energy sector in LEAP, waste sector is among them. Meanwhile, non-energy sector can be modelled outside and import/export can be can be carried out.

Questions	Response
The YouTube training, find out how waste was handled. Who made the delivery of the waste sector?	The presenter did not attend the training programme. He will try to identify who provided the training
How do Eswatini keep up with the changing models in terms of human resources for sustainability of the tool etc.	The government tasked Stockholm Environment Institute to include university in the training programme. Civil servants move within and out of ministries unlike universities with limited movement. In that way, the academia was well placed for training activities. The academia can understand the tool better can also be able to validate. There was window to train as many people as possible. That is how the capacity was maintained in Eswatini.