

**ICAT Eswatini:
ICAT RE and SD
Assessment Guide
Training Workshop
Report**

Initiative for Climate Action Transparency – ICAT

ICAT Eswatini: RE and SD Assessment Guide Training Workshop Report

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PREPARED UNDER

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ABBREVIATIONS

CSO	Central Statistics Office
CBIT	Capacity Building Initiative for Transparency
CSER	Centre for Sustainable Energy Research
EEA	Eswatini Environmental Authority
EEC	Eswatini Electricity Company
ESA	Eswatini Sugar Association
ESERA	Eswatini Energy Regulatory Authority
ETF	Enhanced Transparency Framework
GHG	Greenhouse Gas
GHGMI	Greenhouse Gas Management Institute
GoE	Government of Eswatini
ICAT	Initiative for Climate Action Transparency
IPCC	Intergovernmental Panel on Climate Change
MNRE	Ministry of Natural Resources and Energy
MoU	Memorandum of Understanding
MRV	Measurement, Reporting and Verification
MTEA	Ministry of Tourism and Environmental Affairs
NC	National Communication
NDC	Nationally Determined Contributions
NEP	National Energy Policy
NIR	National Inventory Report
QA	Quality Assurance
RE	Renewable Energy
SRA	Eswatini Revenue Authority
UNESWA	University of Eswatini
UNFCCC	United Nations Framework Convention on Climate Change
UNOPS	United Nations Office for Project Services

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INTRODUCTION

1.1. Introduction and Background

The Government of Eswatini has prioritized enhancing national capacities to meet its reporting obligations under the enhanced transparency framework (ETF) of the Paris Agreement. The Ministry of Tourism and Environmental Affairs (MTEA) has received support from the Initiative for Climate Action Transparency (ICAT) to improve institutional arrangements and data collection processes to assist Eswatini to meet the accelerated reporting requirements under its Nationally Determined Contribution (NDC) under the UNFCCC's Paris Agreement. The University of Eswatini's (UNESWA's) Centre for Sustainable Energy Research (CSER) was contracted by ICAT (through UNOPS) to undertake the ICAT project which includes the following main activities:

Activity 1: Adaptation scoping and gap analysis for the health and water sector;
Activity 2: Energy sector GHG inventory institutional arrangements and data collection roadmap;
Activity 3: Agriculture sector GHG inventory institutional arrangements and data collection roadmap;
Activity 4: Incorporation of timber and sugarcane plantation data into the LULUCF sector GHG inventory;
Activity 5: Renewable electricity policy scenario assessment and impact modelling with recommendations for implementing NDC targets.

There is a strong capacity building focus in the ICAT project and, now that work on the various activities has started to progress, capacity building workshops on some of the applicable ICAT Assessment Guides are being undertaken. The ICAT series of assessment guides comprise 10 guides and an introduction, which provides an overview to help users plan their policy assessments. The guides use a flexible approach so that policymakers and other users can apply them in the context of their own objectives and circumstances.

Two short introductory workshops were held (with each lasting three hours), comprising a workshop on the Renewable Energy (RE) Assessment Guide, and the other on the Sustainable Development (SD) Assessment Guide, during the week of the 13th to 16th December 2021. Participants from the UNESWA team were the primary target audience. However, it was agreed by the Project Management Team that it would be good to get participation from external stakeholders who are relevant to the different Activity themes. The workshops were preceded by an initial ICAT Stakeholder Participation Assessment presentation following ICAT's Assessment Guide on the key concepts followed by some case studies and examples for engaging stakeholders.

1.2. Workshop concepts

1.2.1. Renewable Energy (RE) Assessment Guide Workshop

The workshop was held to guide the team for Activity 5 through the **ICAT Renewable Energy (RE) Assessment Guide**¹. The key principles and topics in the RE Assessment Guide were presented by GHGMI to the participants. Specific topics that were highlighted in the RE Assessment Guide include different support options for RE policies (core to the RE policy focus of the ICAT Eswatini Activity 5 TOR), investment, and different tools/means to deliver support to RE investors. It was noted that this can be viewed as mini-case studies.

The workshop also focused on policies, instruments and approaches that ICAT projects have utilised to stimulate investment in renewable electricity. Examples include work done by ICAT in Mozambique (Renewable Electricity Feed-in-Tariffs/REFiTs) primarily for grid-connected renewables, work done by ICAT in Cambodia (Renewable Electricity for grid-connected generation using a "reverse auction" policy), RE support framework and policies

¹ The RE Methodology helps policymakers assess and communicate the impacts of renewable energy policies to ensure that they are effective in mitigating GHG emissions, advancing development objectives, and helping countries meet their sectoral targets and national commitments. The document provides methodological guidance on how to estimate emissions pathways and reductions resulting from the implementation of policies in the energy sector.

for rooftop solar under the Ghana ICAT project and the Kenya ICAT roof top PV electricity project in which various incentives were used including bidding for geographic concessions, performance-based pricing for solar PV mini-grids, among others.

1.2.2. ICAT Sustainable Development Assessment Guide Workshop

Activity 1², Activity 4³ and Activity 5⁴ have a strong need for stakeholder engagement in the area of **sustainable development (SD)**. These activities all have links to SD and would benefit from understanding how a SD assessment can be completed. The SD Assessment Guide helps policymakers and other users access multiple development and climate impacts across the environmental, social and economic dimensions. The methodology can help advance policies that contribute to multiple SDGs and priorities, build support for climate actions by assessing impacts relevant to national audiences, and inform policy design and implementation to maximize positive impacts and avoid unintended impacts. The methodology is applicable to all sectors, policies and actions. During the SD workshop, key principles and topics in the SD Assessment Guide were presented by GHGMI.

1.3. Objectives of the Workshops

The specific objectives of the workshops were to;

1. To introduce participants to the ICAT RE Assessment guide.
2. To introduce participants to the ICAT SD Assessment guide.
3. To introduce participants to useful approaches to stakeholder engagement.

1.4. Expected Outcomes of the Workshops

The **expected outcomes** of the workshops were:

1. To capacitate participants to understand the RE assessment guide and its application.
2. To capacitate participants to understand the SD assessment guide and its application.

1.5. Format and participation

The workshops took place over two days (December 14th and 15th, 2021) and was conducted virtually by the GHGMI team. The first day of the workshop focused on the ICAT RE guide and the second day focused on the ICAT SD guide (see Annex 1). The participants were the project's partners as well as representatives from relevant sector ministries, departments and agencies (MDAs), national experts from academia, and representatives of the private sector across the relevant sectors (see Annex 2).

1.6. Day 1: Tuesday, Dec 14th, 2022

1.6.1. Morning Session Presentations

The workshop was opened by the Climate Change Unit (CCU) Head, Meteorological Department of the Ministry of Tourism and Environmental Affairs (MTEA), Ms. Khetsiwe Khumalo. She described Eswatini as being in an exciting moment with numerous large climate change projects currently underway and technical support to increase the overall transparency capacity and to set-up Sectoral MRV systems in the Kingdom of Eswatini.

² Health and Water adaptation scoping and gap analysis, and development of a roadmap

³ Updating of the LULUCF sector inventory and baseline emission projections

⁴ Renewable electricity policy scenario assessment and impact modelling with recommendations for implementing NDC targets

1.6.2. Mid-Morning Session Presentations

In this session Mr. Mike Bess (GHGMI) presented a summary of the ICAT RE Assessment Guide and discussed what was covered in the various sections of the guide. He then presented several policies (feed-in tariffs, subsidies, auctions, tax and/or other fiscal incentives) that could be used to set the frameworks for promoting renewable electricity for Solid Biomass Renewable Electricity in Eswatini.

After the presentation, participants then discussed the pros and cons of the various policies, and ways in which the policies could promote the use of solid biomass (particularly sugar bagasse, timber woodchips, etc) towards generating renewable electricity in the country.

1.7. Day 2: Wednesday, Dec 15th, 2022

The second day was dedicated for training the teams on ICAT SD assessment methodology. The training was conducted by Dr. Luanne Stevens. She introduced the ICAT SD Assessment Guide by stating that the value of these guides is to assist with effective policy making and implementation and they also emphasize on stakeholder involved in stakeholder integration both horizontally and vertically and show results nationally internationally and to financiers. The goals for the methodology used the assessment is analysing positive and negative impacts of policies. The analysis can be done before, during or after the implementation of the policy. The sustainable development (SD) approach is applicable to all types of policies to all sectors and to all sustainable development impacts. When conducting the assessment, it is important to use a combination of qualitative and quantitative approaches, include all the relevant SD impacts after consultations with stakeholders where the different impacts are graded in terms of their significance relevance and comprehensiveness. This information can then be used to develop a causal chain. The assessment also includes likelihood classification of impacts and monitoring and reporting of the changes of indicators over time to assess the impacts of the policy. Decision making and using of results is the done after monitoring reporting where results are interpreted, synergies and trade-offs evaluated and a decision is taken as to which policies to implement. The cost effectiveness analysis is used to determine which policy design options that deliver the greatest positive impact on a given impact category for a given level of resources. A pilot case study

A break-out discussion of two SD activities that are relevant to the ICAT Eswatini project was had.

Breakout Group 1: PV for Health (refrigeration) & Water in isolated, non-grid-connected Health Clinic

Breakout Group 2: SD for sugar & timber smallholder & out-growers

Table 1 shows the outputs from Breakout Group 2

This was followed a session on identifying relevant stakeholders who will be impacted by the project and how they can be engaged to obtain data Finally, Dr. Luanne Stevens then talked about data requirements from stakeholders to assist in identifying and assessing SD impacts and the way forward.

Table 1: Outputs of Breakout Group 2

Dimension	Group Impact category	Impact category	Relevant	Significant	Included	Brief description	Indicator
Environmental	Air	Carbon sequestration / reduction of greenhouse gases Air Pollution	Y	Y		<ul style="list-style-type: none"> - More plantations, reduction of carbon from presence of plantations (sugar cane and forestry) - Air pollution from burning of sugar cane before harvesting - Air pollution from burning of timber compartments before planting for weed reduction 	
	Waste	Waste generation, management and disposal	Y	Y		<ul style="list-style-type: none"> - Ash from the mill / power generation site - Possible pollution from disposal of waste (chemical composition of ash) if no re-use of waste is identified 	
	Land	More land added to forestry or sugar cane production	Y	Y		<ul style="list-style-type: none"> - For plantations - Reduction of land of other activities - Impacts of mono-cropping (no crop diversification) or crop rotation 	
	Water	Water for irrigation purposes Water absorption due to forestry expansion	Y			<ul style="list-style-type: none"> - Irrigation - timber (water table) - reduced water for other domestic purposes - international treaties of water (RSA, Mozambique and Eswatini) - reduction of outflow from plantation due to the water consumption from forestry 	
	Chemical /Herbicides	Chemicals, fertilizers, and herbicides				<ul style="list-style-type: none"> - use of herbicides in plantations may impact the natural environment especially if there is no monitoring and management of the use 	

	Erosion	During harvesting and planting				<ul style="list-style-type: none"> - Destruction of soil structure due to movement of heavy machinery during harvesting and planting - Exposure of soil-to-soil erosion 	
Social impact	Health	Pollution Community health Infrastructure	Y	Y		<ul style="list-style-type: none"> - Air pollution from burning and production of power - HIV (Group of workers) - Improved access to water services due to infrastructure development 	
	Education and culture		Y			<ul style="list-style-type: none"> - New skills with new industry - Exchange of culture from international employees 	
	Institutions and laws		Y			<ul style="list-style-type: none"> - Possible improvement in services delivery in various institutions such as education and health sectors 	
	Labour conditions					<ul style="list-style-type: none"> - Availability of employment opportunities - Populations will become aware of their worker rights as they will have collective bargaining power and awareness of labour rights 	
	Communities /Population density					<ul style="list-style-type: none"> - Increased population density due to employment opportunities - Disturbance of social structure due to in-migration - Displacement of indigenous population for the expansion of plantation - Resilience to epidemics reduced due to the conglomeration of large numbers of people in similar space - Improved customer base for services such as shops and outlets 	
	Peace and security					<ul style="list-style-type: none"> - Possible increase in crime due to mingling of people from different cultures - 	

	Infrastructure					- Improvement to infrastructure such as roads, water, electricity, and water access	
Economics impacts	Overall economic activity					- Increased buying power of population - Economic opportunities for the informal and formal sectors - promotion of in-country processing to gain value-added benefits	
	Employment					- Availability of employment - Labour brokers	
	Business and technology					- Development of new technologies for maximising fibre production - Research in the production of clones that yield higher calorific value during power production	
	Income, price and costs					- Improved income for producers of raw material, transporters, and power producers - Lower cost of production of electricity	
	Trade and balance of payments					-	

The impact categories that were viewed to be most relevant by the participants include:

1. Environment
2. Education
3. Energy access
4. Business growth
5. Employment opportunities

1.8. Post-workshop survey feedback

A post workshop survey was conducted to elicit experience of the stakeholders of the training sessions.

At the RE Assessment Guide training the participants were evenly split by gender, with a third of the respondents providing an overall ranking of the workshop as average, a third as good and a third as very good. Figure 1 shows the responses of participants to questions regarding their knowledge of the RE Assessment Guide before and after the workshop, and how often they may apply the knowledge in their work.

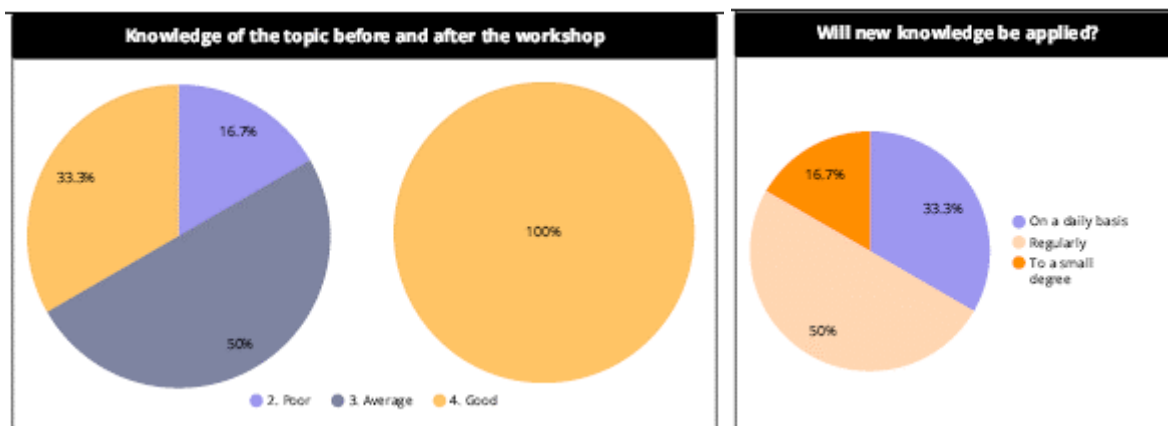


Figure 1: Showing the response of participants regarding their knowledge of the RE Assessment Guide before and after the workshop, and how often they may apply the knowledge in their work.

At the SD Assessment Guide training 46% of participants were female and 54% male. Eight percent of participants rated the course as average, while 46% rated the course each as good and very good. Figure 2 shows the responses of participants to questions regarding their knowledge of the SD Assessment Guide before and after the workshop, and how often they may apply the knowledge in their work.

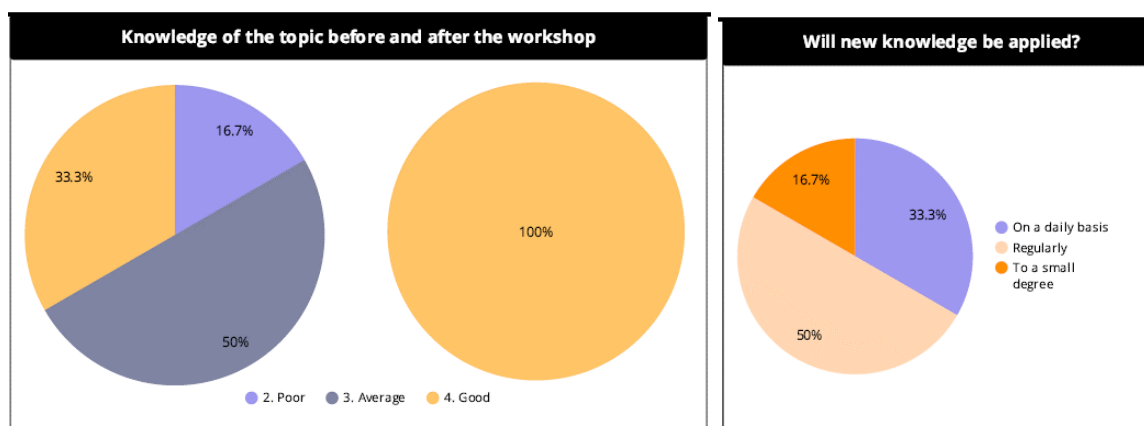


Figure 2: Showing the response of participants regarding their knowledge of the RE Assessment Guide before and after the workshop, and how often they may apply the knowledge in their work.

Some suggested improvements were:

- Improve on how to determine the biomass capacity for power generation and indicate the studies used to estimate and assess the situation locally;
- One week or sufficient prior notice would be appreciated;

- Work on an example;
- Involve many stakeholders
- More time allocated for practice to ensure that the knowledge acquired is grasped;
- Include more examples
- Forward the tables prior for contributions and so people must be alerted for positive contributions;
- Give the training more time;
- Providing brief background summary of where the topic or training is, prior to a meeting to help all delegates to be updated and be prepared and
- Sustainability part should come up more glaringly in the training.

1.9. Conclusion

The workshop was a success with fifteen participants attending virtually (which included all members of Activity team 5, the main beneficiary of the workshop). At the end of the workshop, each team was able to identify the most relevant stakeholders that will provide the required data. Additionally, the stakeholders that are going to be impacted by this project were identified. Moreover, participants were introduced to the policy options for renewable electricity and in a better position to evaluate their attributes.

Annexures

Annex 1: Workshop Agenda: 14th and 15th December 2021

Day 1, Tuesday, 14th December 2021 – Renewable Energy Assessment

Time	Activity	Responsibility
0930 - 0940	Welcome Remarks	MTEA
0940 - 1015	Introduction to ICAT RE Assessments Guide	Mike Bess, GHGMI
1015 - 1030	Q & A	All
1030 - 1100	Defining 3 Policy potential & frameworks for RE for Solid Biomass Renewable Electricity in Eswatini	Mike Bess
1100 - 1215	<p>Discussion on the pros and cons of the various policies to promote the use of solid biomass (sugar and timber residues/wastes) to generate renewable electricity (RE) from policies using:</p> <ul style="list-style-type: none"> • <i>Feed-in tariffs/subsidies</i> • <i>Auctions</i> • <i>Tax and/or other fiscal incentives</i> 	All workshop participants participate actively, discussions led by Dr Gcina Mavimbela and Dr Wisdom Dlamini
12:00 -12:30	Summary discussion of major conclusions for each policy option (REFITs, Auction, Taxes) by spokespeople from the plenary. Group discussion & suggested ways forward for RE from solid biomass (sugar and timber) for RE in Eswatini.	Led by Mike Bess, with all participants.

Day 2, Wednesday, 15 December 2021

Time	Activity	Responsibility
9:30 – 10:15	Introduction to ICAT SD Assessment Guide	Luanne Stevens, GHGMI
10:15 – 10:30	Q&A	All
10:30 – 10:40	Discussion of two SD activities relevant to ICAT Eswatini	Luanne Stevens, GHGMI
10:40 – 11:40	<p>Break out groups to identify SD impacts of the selected activities</p> <p>Break out group 1: PV for Health (refrigeration) & Water in isolated, non-grid-connected Health Clinic</p> <p>Break out group 2: SD for sugar & timber smallholder & out-growers</p>	<p>1. Activity Team 1 for Health & Water</p> <p>2. Activity Teams 4 & 5 for sugar & timber out-growers</p> <p>All other participants can</p>