Synthesis report ICAT Ghana: Outcomes of Phase 2 and lessons learned

Initiative for Climate Action Transparency – ICAT
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Introduction

Ghana is a lower-middle-income developing country in West Africa with a stable democratic government and an estimated 33.4 million population as of 2022. The economy is structurally dominated by industry and services, but it relies on natural resource extraction and is traditionally agrarian. Despite the positive contribution of natural resource extraction to the economy, the cost of environmental degradation was estimated at ~9% of GDP in 2017. Deforestation is high and spatially concentrated in areas of high poverty, with land use change from forest to agriculture causing about 92% of deforestation. Climate change is already showing its effects and compounding the challenge. The negative impacts of climate change include risks for the health and agriculture sectors, primarily due to altered rainfall patterns and coastal area flooding. Despite the economic challenges, climate change remains a priority in Ghana.

In this context, Ghana has been actively engaged in international climate efforts, ratifying the Paris Agreement in 2016 and committing to an ambitious Nationally Determined Contribution (NDC). The country aims to unconditionally lower its greenhouse gas (GHG) emissions by 15% relative to a business-as-usual (BAU) scenario by 2030, with the potential for an additional 30% reduction contingent on external support.

The Environmental Protection Agency (EPA), under the Ministry of Environment, Science, Technology and Innovation (MESTI), serves as the focal point to the United Nations Framework Convention on Climate Change (UNFCCC). Ghana has submitted four National Communications and two Biennial Update Reports (BURs) to the UNFCCC, demonstrating its commitment to climate action transparency.

In 2013, the EPA launched the Ghana Climate Ambitious Reporting Programme (G-CARP) to establish an integrated climate data management system meeting both national and international reporting standards. While improvements have been made across various components of G-CARP, challenges remained, particularly in data sharing arrangements and the pace of establishing effective monitoring, reporting, and verification (MRV) systems.

To address these challenges and enhance its climate action transparency, Ghana partnered with the Initiative for Climate Action Transparency (ICAT) to implement a project aimed at strengthening the country's MRV system. The first phase of this project, completed in 2020, focused on three main objectives:

1. Setting up a champion sub-structure for data sharing
2. Customizing the Greenhouse Gas Abatement Cost Model (GACMO) for Ghana
3. Improving data collection and reporting for renewable energy sector co-benefits

Building on the achievements and lessons learned from Phase 1, ICAT Phase 2 aimed to further strengthen Ghana's capacity for climate action transparency and enhance its MRV system. The second phase addressed specific challenges, including:

1. Strengthening the institutional framework for MRV, with emphasis on enhancing data collection and reporting processes across sectors
2. Expanding the use of the GACMO model for NDC revision and implementation tracking
3. Deepening the assessment of co-benefits and sustainable development impacts of climate actions
4. Addressing data gaps identified during Phase 1, especially in socio-economic parameters along value chains

By addressing these areas, ICAT Project Phase 2 aimed to support Ghana in overcoming the identified gaps and challenges, ultimately enhancing the country's ability to implement and report on its climate actions effectively.

Background and Rationale for ICAT Ghana Phase 2

The first phase of the ICAT project was implemented between 2017 and 2019. It focused on strengthening the functionality of the Ghana Climate Ambitious Reporting Programme (G-CARP). It aims to facilitate the setting up of an integrated climate data management system that meets both national and international reporting standards as well as to track national policy implementation. The G-CARP is the national system for tracking the NDC implementation which involves processes for mobilising multiple government institutions to supply data to a central point at the Environmental Protection Agency for analysis and reporting. The data enable Ghana to report on annual national greenhouse inventories, climate actions and their effects and support Such information Is useful for national and international climate policy and tracking their effectiveness.

In order to facilitate NDC implementation, a substructure of champions was set up in ICAT phase 1 to ensure quality and timely reporting. These sectoral champions are assisting in facilitating the sectoral implementation programs for the NDC, the tracking, monitoring, and communication of the programmes.

The ICAT project strengthened the results from work done in phase 1. To this, a significant portion of the ICAT 2 was dedicated to using the GACMO model for the preparation of the second NDC for Ghana. All the existing mitigation options in the first NDC were evaluated, and GACMO was used to develop an enhanced second NDC by strengthening existing mitigation options and adding new options. In addition, an approach for evaluating sustainable development benefits and cost of the NDC actions as been considered in phase two of the ICAT.

Approach and key results of ICAT Phase 2

The ICAT phase 2 in Ghana, was implemented between July 2020 and December 2024.

For the ICAT 2, the main institutional Partner was the Environmental Protection Agency (EPA), where the ICAT focal points was located. In addition, the network of champions established in phase 1 was used in this second phase to ensure the inclusion of the key institutions. These champions belong to the partner institutions: Ministry of Energy, Ministry of Transport, Ministry of Trade & Industry, Ministry of Food and Agriculture, and Ghana Forestry Commission.

The work of the ICTA Phase 2 was organized around two main elements:

1) The review of the mitigation actions considered in the NDC for the preparation of the second NDC for Ghana. This component was done using the GACMO tool.
2) The assessment of the sustainable development benefits and co-benefits of the NDC actions. This component was done using the Sustainable Development methodology and the TRACE tool available in the ICAT toolbox.

Component 1: review of the mitigation actions considered in the NDC for the preparation of the second NDC for Ghana.

This component has been implemented by expanding the use the GACMO tool. The progress and penetration rates of all the mitigation option in the first NDC have been evaluated and strengthened when possible. Opportunities for additional mitigation actions were also analysed and new actions were included.

The key results achieved under this component are:

- Enhanced capacity to assess emissions reductions and cost implications of individual mitigation actions
- Supported the development of Ghana's second NDC with improved data and projections
- Strengthened stakeholder ability to use GACMO for NDC planning and tracking

Throughout the project implementation, emphasis was placed on capacity building and stakeholder engagement. The approach included the organization of working sessions and stakeholder meetings to validate the analysis, results and reports

Component 2a: Assessment of the sustainable development impacts of mitigation actions of the NDC

For this component, the ICAT Sustainable Development (SD) methodology was applied to assess the sustainable development impacts of selected NDC measures in Ghana's energy

sector. This component focused on evaluating 4 policy actions and 8 Programme of Actions (PoAs) across environmental, economic, and social dimensions. The assessment used literature review, stakeholder consultations, and expert judgment to identify and prioritize impacts. Both qualitative and quantitative methods were employed where data was available.

The approach taken under this component included the following steps:

- Identified and selected relevant NDC measures for assessment through desk review and stakeholder consultations
- Organized training workshops on ICAT SD Guidance for relevant stakeholders
- Chose impact categories and indicators using literature review and expert input
- Defined assessment boundaries and applied the ICAT SD Guidance tool
- Prepared draft SD impact assessment reports
- Validated draft reports with stakeholders through workshops and meetings
- Finalized and submitted SD impact assessment reports
- Developed recommendations for integrating SD impact assessment into NDC planning and implementation

The key results achieved under this component are:

- Enhanced stakeholder capacity in applying the ICAT SD Guidance
- Evaluated impacts across environmental, economic, and social dimensions of 4 policy actions and 8 Programme of Actions (PoAs) from Ghana's NDC
- Identified significant positive impacts on climate change mitigation, air quality, health, economic growth, and gender equality.

Overall, the assessed NDC measures, particularly in the energy sector, showed potential for substantial greenhouse gas emission reductions as well as well positive impacts on air quality and health through initiatives like scaling up LPG use and implementing cooling measures in the RAC sector. In addition, other benefits were identified

- Economic Benefits: The assessed measures indicated potential for job creation, new business opportunities, and increased income, especially in the renewable energy and energy efficiency sectors.
- Social Impacts: Improvements in energy access, gender equality, and capacity development were identified as key social benefits of the assessed NDC measures.

Component 2b: Quantitative assessment of non-climate impacts of decarbonizing Ghana's urban transport sector

For this component, the Transport Sector Climate Action Co-Benefits Evaluation (TRACE) tool was utilized to quantitatively evaluate non-climate impacts of decarbonizing Ghana's urban transport sector. This component involved consultations with the Ministry of Transport, conducting a sector policy scan, collecting and processing relevant data as inputs for the TRACE model, and drafting a TRACE application report. The analysis focused on Greater Accra Region as a case study.

The approach taken under this component included the following steps:

- Organized training workshops on TRACE for national consultants and relevant stakeholders
- Consulted with the Ministry of Transport and other relevant stakeholders on TRACE scenarios and data collection strategies
- Conducted sector policy and initiatives scan
- Collected and processed data on population, GDP, transport activity, vehicle numbers, fuel efficiency, and road safety
- Populated the TRACE tool with collected data
- Modeled passenger activity, freight activity, and transport activity by fuel type
- Projected impacts from 2020-2040, including reduced travel time, fuel savings, air quality, and health benefits
- Drafted and finalized TRACE application report

The key results achieved under this component are:

- Enhanced stakeholder capacity in applying the TRACE tool
- Developed a national methodological framework for measuring non-climate impacts of urban transport decarbonization
- Modeled Greater Accra Region's urban transport sector contributions to NDC
- Estimated congestion levels and average travel speeds in Greater Accra Region
- Identified significant increase in fatalities from urban transport (278.28% from 2020-2040)
- Highlighted data gaps and challenges in assessing health impacts
- Transport Sector Co-Benefits

Overall, the TRACE tool application highlighted several co-benefits of decarbonizing Ghana's urban transport sector in terms of

- Reduced Air Pollution: Potential for significant reductions in local air pollutants, leading to improved public health outcomes.
- Energy Efficiency: Identified opportunities for increased energy efficiency in the transport sector, contributing to energy security and cost savings.
- Economic Opportunities: The analysis revealed potential for job creation and economic growth in sustainable transport industries.

Impacts of ICAT Phase 2 on Ghana national MRV system and lessons learned

The ICAT Phase 2 contributed significantly to Ghana's efforts in enhancing its climate transparency framework, improving data management and analysis capabilities, and strengthening institutional capacity for climate action reporting and implementation. The project highlighted areas of progress as well as challenges, particularly in data availability and the need for continued capacity building.

The main outcomes of the ICAT Phase 2 on Ghana transparency frameworks are:

• Strengthened the Institutional Framework: The project improved data collection and reporting processes across sectors, addressing institutional weaknesses and gaps identified in Phase 1.

• Expanded the use of the GACMO Model: The GACMO tool was further utilized to support NDC revision and track implementation, enhancing Ghana’s capacity to evaluate mitigation strategies effectively.

• Deepened Sustainable Development Impact Assessments: Phase 2 broadened the scope of impact assessments, providing a comprehensive view of the socio-economic and environmental benefits of climate actions by applying ICAT SD guidance as well as TRACE tool. The TRACE tool facilitated the quantitative evaluation of selected non-climate impacts from decarbonizing Ghana's urban transport sector. The integration of the TRACE tool complemented the GACMO model by providing a more comprehensive assessment of climate action impacts, particularly in the transport sector. This holistic approach enhanced Ghana's ability to design, implement, and report on climate policies that contribute to broader sustainable development goals.

• Addressed Data Gaps: The project tackled the challenge of limited socio-economic data along value chains, enhancing the robustness of climate-related analyses.

• Enhanced capacity Building: Training programs strengthened the skills of data champions and stakeholders, introducing advanced transparency tools and emerging topics in climate governance.

In terms of impacts and direct contribution to the preparation of reports to be submitted to UNFCCC, the ICAT Phase 2 played a crucial role in developing Ghana's second NDC, using the results of the use of the GACMO model to inform data-driven revisions of the NDC. This contribution was acknowledged in the updated NDC submitted to UNFCCC in 2021 "we want to recognise contributions we received from the Initiative for Climate Action Transparency (ICAT)".

In addition, the results of the ICAT Phase 2 have also been used to prepare the BUR4 of Ghana, submitted to UNFCCC in 2024. In this sense, the BUR explicitly acknowledges "ICAT project for the complementary technical assistance" and mentions that:

- "ICAT Project used the GACMO tool to assess mitigation action and effect and uses an in-built MRV template to systematically track and monitor climate measures."
- The ICAT project allowed the "Development and improvement of non-energy sector mitigation assessment" and the "Estimate mitigation potential in non-energy sectors with increased certainty."
- The ICAT project allowed "Aggregating the project-level results of mitigation actions to sectoral and national totals." And "Improve the methodology for computing the sectoral and economy-wide mitigation commitment".
- The ICAT project allowed "Performing an ex-ante assessment of non-mitigation benefits of mitigation actions." and "Assess the non-GHG benefits of mitigation actions"

In conclusions, the ICAT project in Ghana has successfully demonstrated the value of assessing the sustainable development impacts of climate actions. By applying robust methodologies and tools, Ghana has enhanced its capacity to design, implement, and report on climate policies that contribute to broader sustainable development goals. The insights gained from this project will be invaluable in informing future climate and development planning in Ghana.