Diagnostic Report: Methodological and Data Challenges Encountered in Conducting the Waste, Energy, & Transport Impact Assessments & Recommendations

Initiative for Climate Action Transparency

Initiative for Climate Action Transparency – ICAT
Diagnostic Report on the Methodological and Data Challenges Encountered During the Conduct of the Assessments of the National Environment Policy of Liberia (2002), the National Energy Policy of Liberia (2009), and the National Transport Master Plan, 2012

Deliverable: L

AUTHORS

Molley Varney Paasewe
National Consultant/Policy Assessment Team Lead

Princess Mary Tarpeh
National Expert

Spencer S. Taylor, Jr.
National Expert

September 20, 2022

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PREPARED UNDER

The Initiative for Climate Action Transparency (ICAT), supported by 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)

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Background

Having recognized the current and future threats of climate change and taken on several global and national imperatives to address these threats, the Government of Liberia, in collaboration with the Initiative for Climate Action Transparency (ICAT), developed a project to build capacities of technical experts in the Environment Protection Agency (EPA), relevant sector ministries and other stakeholders to be able to assess the impact of mitigation policies, measures, actions, and plans and track and monitor progress in the NDC implementation with a focus of three priority sectors: energy, transport, and waste.

Through a consultative process with relevant line ministries, the EPA decided to conduct an ex-post policy assessment of the following sector policies:

- The National Energy policy (NEPL), 2009
- The National Environment Policy's (NEP) provisions covering the waste sector, 2002
- National Transport Master Plan (NTMP), 2012

The objective of the assessment was to assess to what degree each sectoral policy environment is supportive of the implementation of the targets, measures, actions, and plans communicated in the updated Nationally Determined Contribution (NDC). Further, the assessment analyzed additional SDG benefits occurring from implementing the NDC measures, actions, and plans.

For conducting the assessment, stakeholder questionnaires (initial and follow-up), adapted from the World Resource Institute (WRI), 2014 - Greenhouse Gas Protocol Policy and Action Standard[1] presented in the ICAT Guide for Assessing Sustainable Development Impacts were the tools used to conduct the extensive stakeholder engagement and interview process. The ICAT Methodology Guide for Assessing Sustainable Development Impacts was the general guiding tool applied in the assessment to conduct desk review of existing literatures, to assess the impact of the policies in relation to the sustainable development goals and to measure the consistency and effectiveness of the policies in relation to measures, actions, and plans presented in Liberia's updated Nationally Determined Contributions (NDC). It was also used to determine how those actions and measures presented in the updated NDC, could be strengthened to deliver sustainable development co-benefits.

This Diagnostic Report mirrors the methodological and data challenges experienced during the assessment of the three assigned sectors and their respective policies. This report is intended to guide and provide the EPA with a roadmap through the necessary recommendations for synthesizing the challenges encountered in conducting the assessments and how to overcome them, especially with regard to data availability and quality. It also provides policymakers with a better understanding of the requirements for successful policy development and implementation, not only for the three assessed policies, but others within the NDC framework that target appropriate climate change mitigation measures and actions.

Hence, there were few but very long-standing challenges encountered during the assessment of the

[1] www.ghgprotocol.org/policy-and-action-standard

three sectors and reports, many of which have been stumbled upon by researchers who have carried out similar assessments in other sectors. These challenges are mainly methodological and data related.

This Diagnostic Report, which further highlights crosscutting issues that affect the three reviewed sectors, and provides policy advisory for the execution of other policy assessments outlined in the NDC, is subject to the reviewers understanding and interpretation of the relevant data collected from the assessment process, which form the basis of the methodological and data challenges presented herein.

Methodological Challenges

Waste, Energy and Transport Sectors

The main methodological challenge encountered regarding assessing the policy documents of the three sectors was the difficulty of the respondents to understand and master the wide-ranging and long questionnaires that were developed. Interviewees had to be repeatedly consulted and walked through the questions to garner appropriate responses. At times, the information and responses provided by some of the respondents were insufficient to get information on the subject matter of the questions.

Data Challenges

A. Waste Sector

- Obtaining core technical information from some of the agencies that have mandate on the waste sector was a challenge during the assessment. Except for a few agencies and government institutions whose focal persons were highly knowledgeable when it came to assessing the relevant data relating to waste management in Liberia, most of the institutions lack personnel with adequate knowledge about the sector. It was observed during the assessment process that some agencies with oversight on waste management are unfamiliar with the NDC targets and the role of those agencies in mitigating GHG emissions of the waste sector. Further, these agencies currently do not measure GHG emissions, hence data are unavailable.
- The lack of a centralized Work Station where statistics are collated and analyzed regarding wastes collected and conveyed through weigh bridges of the two transfer stations and the only landfill sites proved a serious challenge in assessing the relevant data that would indicate how the management of waste from primary source (household) level impacts the waste sector, especially as it relates to measuring the impact of the National Environmental Policy of Liberia against the Nationally Determined Contributions and the global Sustainable Development Goals. Moreover, there was difficulty in getting statistics/data from the relevant agencies about the level of waste pollution impacting land, sea and public health.
- The shortage of specialized and qualified technicians in the waste sector with knowledge and expertise in measuring GHG emissions and in conducting projections on future emission levels under different scenarios. A particular need is to be able to better measure and estimate GHG emissions and other pollutants from open burning of solid waste.

B. Energy Sector

- Within the energy sector, it was observed that personnel who are responsible to give reliable technical information pertaining to the number of individuals who have access to clean, affordable, and adequate energy services were incapacitated to provide such information.
- The inadequacy of monitoring, reporting, and verification systems to provide necessary real-time data about the current number of individuals who have access to the generation,

distribution, and transmission networks in urban and rural areas was a limitation. The lack of the actual number of renewable energy service suppliers and consumers in the country was a challenge. Moreover, the lack of information to sufficiently measure the impacts of the NEPL against the NDC targets and SDGs was another major data challenge; as was the case of the unavailability of data on CO_2 emissions of the sector.

- The inadequacy of institutional capacity concerning highly skilled and qualified data technicians that have knowledge and expertise in data collection, processing, and management of the sector's GHG emission to provide timely data analysis to inform and support a more robust policy assessment process was a major constraint to the assessment.

C. Transport Sector

The following data challenges and difficulties were encountered during the assessment of the National Transport Master Plan.

- Lack of relevant and competent technical personnel to provide the necessary technical information and responses to questions relating to transport GHG emissions, alternative fuel consumption, air and noise pollutions, and transport waste generation. Alternative responses gathered from consulted personnel were inadequate to strongly support our enquiries and assessment analyses, thereby reducing the confidence level, credibility, and strength of the assessment results.
- Lack of information and data management system that captures and provides real-time data on vehicle and fuel emissions, air pollution, number of illnesses and deaths caused by transport pollution annually, etc. was a hurdle to sufficiently determine specific qualitative and certain quantitative impacts of the NTMP.
- Lack of highly skilled, capacitated, and qualified technicians with expertise to collect, process, manage, and model transport GHG emissions and other relevant transport-related data (such as fuel type, vehicle emission rate, vehicle age etc.) hindered the analyses and results of the assessment. The unavailability to provide basic information and data didn't permit to conduct a more robust, accurate and sensitive quantitative analysis of the net impacts of the NTMP.

Recommendations

These recommendations are intended to support the EPA and relevant line ministries and agencies overcome the above-mentioned or similar challenges in conducting impact assessments of this nature. We suggest that these recommendations be implemented in order to improve the comparability of mitigation policy analyses and to ensure a more robust, transparent and accurate assessment results. Implementing these recommendations will also provide decision-makers with a more reliable information on the synergies between the NDC and SDGs in regard to the three assessed mitigation policies, and their corresponding impacts and co-benefits. This could also be a useful material to inform the assessment of other sector mitigation policies or plans.

In view of the foregoing, this diagnostic report recommends that:

A. Waste Sector

- The capacity of technical personnel working in agencies and institutions with oversight on waste management must be built up to international standards; and those personnel, based on performance rating, should be paid salaries commensurate with their qualification and output.
- All institutions and agencies with oversight on climate change must be equipped with a Climate Change Directorate staffed with the requisite qualified and competent personnel knowledgeable about the issues, policies, protocols, conventions and laws that govern climate change globally and nationally, with the aim of assisting researchers with details about the progress and challenges made by the specific agency in addressing the issues of climate change. Such directorates must be fully equipped with the necessary technical infrastructure and tools to enhance the storage and provision of information on the waste sector as captured under the NDCs.
- There is an overriding need to operationalize the Waste Sector Work Station that is currently housed at the Chevron Children Park in Vai Town. According to a Monrovia City Corporation (MCC) stakeholder, the workstation will serve two purposes:
    - 1. A centralized storage center for waste data collected daily from the various weigh bridges established at the Fiama Waste Transfer Station, the Stockton Creek Waste Transfer Station, and the Whein Town Landfill Site. The data collated and stored at the Chevron Children Park Work Station will provide policy makers with real-time statistics regarding primary source waste collection and disposal, with the objective of programme planning on waste management interventions that will lead to the mitigation of climate change.
    - 2. The Work Station has a conference room that will serve as training facility to build the technical capacity of personnel working with the MCC who deal directly with waste management.

In view of the aforementioned, the operationalization of the Work Station will be a key step for improving data availability and enhancing the ability to monitor GHG emissions from the waste sector more accurately. Close coordination between the MCC and the Environmental Protection Agency, as the Government of Liberia lead agency on climate change, will be instrumental for putting in place the

administrative set-up for the station, which is currently the main missing element required for it to commence its work.

B. Energy Sector

- The systematic implementation of capacity-building activities, training, and career development for technical personnel in addition to better wages and the actualization of proper human resource management is required. A highly skilled and fully capacitated workforce is primal for the sector's advancement in mitigating carbon emissions, thereby improving the sector's performance against SDG targets.
- The provision of necessary data and information systems to adequately support the sector's policy development processes. These should be by setting up an integrated database for the availability and lack of pertinent data to the sector's growth. It must continue to be implemented and enforced by the Ministry of Mines and Energy (MME), Liberia Electricity Corporation (LEC), Rural and Renewable Energy Agency (RREA), Liberia Electricity Regulatory Commission (LERC), Liberia Petroleum Regulatory Authority (LPRA), Liberia Petroleum Refining Company (LPRC) and the EPA. However, priority must focus on the lack of record accuracy about the CO_2 emissions of the sector. These are necessary for the energy sector to initiate an established process for monitoring, reporting, and verifying policy impact performance concerning indicators encompassing poverty reduction, economic growth, GHG reduction, and other cross-cutting themes such as environmental sustainability and gender equality.
- Institutional capacity, increased public funding, investment priority focusing on renewable energy products and services, and collaboration between various ministries and agencies in the sector must be strengthened to inform policy and decision-making relative to impacts, costs, benefits, and potential trade-offs. These are important in planning and funding decisions, thus influencing the distribution of resources. Building institutional and staff resource capacity concerning data collection, processing, and management is also key to measuring the results of policies and government commitments.

C. Transport Sector

- Capacity-building activities, trainings and career development programmes for technical personnel in addition to better wage and proper human resource management must be implemented. These interventions are important in creating and maintaining a highly-skilled and qualified workforce.
- The capture of necessary data through an integrated information system to accurately measure sustainable development impacts of the sector's policies, actions, measures and plans is required. Accurate and complete basic information on fuel consumption road networks, fuel and vehicle transmission type, vehicle population, and age of vehicle, for example, are important for policy scenario and formulation, and the determination of net impact on each impact category captured by the policies. Building institutional and staff resource capacity with respect to data collection, processing and management is also key to measuring the results of policies and government commitments.
- The transport sector must initiate an established-process for monitoring and evaluating transport policy impact performance with respect to indicators encompassing poverty-

reduction, economic growth, GHG reduction and other cross-cutting themes including environment sustainability and gender equality. The assessment revealed that policy performance monitoring and evaluation (M&E) is generally poor or non-existent in the sector.

- The availability of sufficient and sustainable financial support to adequately and effectively implement the sector's policy objectives, plans, strategies, actions and measures cannot be overemphasized.