FINAL REPORT

INCENTIVE MECHANISMS FOR ELECTRIC MOBILITY
GRENADA, JAMAICA, AND ST. LUCIA

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11/12/25

GIZ NDC-TEC

FORWARD

Mission team, Thanks, Disclaimer, Citation, and Authors

The **consulting team** consisted of the following members:

- ✓ Dr. Curtis Boodoo – senior technical consultant and e-mobility expert.
- ✓ Ms. Elizabeth R. Butler- project manager, attorney, and legal and regulatory expert.

Thanks: The consultants express their appreciation and gratitude for the collaboration and support received from the GIZ NDC-TEC team, in particular Project Manager, Ms. Niebert Blair, and Project Responsible Officer, Ms. Neeltje de Visser, and their Caribbean country lead team of Mr. Antonio Sealey and Mr. David Barrett.

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CIF	Cost, Insurance, and Freight
CO_2	Carbon Dioxide
EC	Eastern Caribbean
ECD	Eastern Caribbean Dollars
EV	Fully Electric Vehicle (Without ICE)
FX	Foreign Exchange
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GoG	Government of Grenada
GoJ	Government of Jamaica
GoSL	Government of Saint Lucia
HYBRID	Vehicle with both electric motor and ICE
ICE	Internal Combustion Engine
ICEV	Internal Combustion Engine Vehicle
MCDA	Multi-Criteria Decision Analysis
MEGJC	Jamaica Ministry of Economic Growth & Job Creation
MoF	Grenada Ministry of FInance
MoFPS	Jamaica Ministry of Finance and Public Service
NDC	Nationally Determined Contribution
NDC-TEC	GIZ Project, “Supporting the implementation of NDCs in the Caribbean – transforming the transport and energy sectors towards a low-carbon and climate-resilient future”)
SIDS	Small Island Developing States
TCO	Total Cost of Ownership
VAT	Value Added Tax

0.0 Executive Summary

This Final Report summarizes the technical assistance consulting services provided to the GIZ NDC-TEC Program - Supporting the implementation of NDCs in the Caribbean – transforming the transport and energy sectors towards a low-carbon and climate-resilient future, funded by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, which provides technical assistance to Caribbean countries in implementation of their respective Nationally Determined Contributions (NDC) through development of sectoral strategies that will achieve significant GHG emission reductions and promote climate resilience.

This GIZ NDC-TEC project focuses on tailored technical assistance to three flagship countries – Grenada, Jamaica, and Saint Lucia – to accelerate their respective ambitious e-mobility transition goals, which are critical to achievement of their NDCs in the energy and transport sectors. The project provided a series of interactions with each flagship country to identify financial or other incentive mechanisms to accelerate EV transition and to provide a detailed fiscal and environmental impact analysis of the selected incentives. The project anticipates that the flagship country analysis reports will be shared with other CARICOM countries to inform their selection of incentive mechanisms for EV transition.

This final report summarizes the consulting team's technical assistance to the flagship countries, describing the project methodology and eight-stage project implementation, the project deliverables, and consulting team recommendations.

The Project has been implemented successfully. Grenada, Jamaica, and Saint Lucia, after training on alternative incentives, identified their respective preferred incentive mechanism for EV adoption and the consulting team delivered detailed quantitative and qualitative analysis of those identified incentives in country-specific reports. The reports describe a quantitative and qualitative modelling approach addressing both import stage and operational phase revenues and emissions to inform selection of fiscal incentives based upon fiscal impacts, environmental benefit and FX savings. These reports provide a replicable approach to incentive policy design for other CARICOM nations.

The project outcomes are that Grenada, Jamaica, and Saint Lucia have detailed support to proceed to propose implementation of the selected incentives by their respective Parliaments. The reports also provide a number of supporting conclusions and recommendations for consideration by the flagship countries to better facilitate EV transition while minimizing fiscal impacts and maximizing environmental benefits.

The project reports confirm that a combination package of financial incentives for EVs, financial disincentives for ICEVs, and regulatory controls limiting vehicle age likely will be needed to support successful implementation of Caribbean nation EV transition objectives.

1.0 Introduction

1.1 Project Context

Small Island Developing States (SIDS) face unique challenges in the transition to low-carbon transportation systems. High dependence on imported fossil fuels, vulnerability to foreign exchange (FX) shocks, limited fiscal resources, and growing traffic congestion on national roads complicate the shift toward electric mobility.

The GIZ NDC-TEC Program - *Supporting the implementation of NDCs in the Caribbean – transforming the transport and energy sectors towards a low-carbon and climate-resilient future*, offers support to Caribbean countries in meeting these significant challenges. Funded by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, the program provides technical assistance to Caribbean countries in implementation of their respective Nationally Determined Contributions (NDC) through development of energy and transport sector strategies that will achieve significant GHG emission reductions and promote climate resilience.

This GIZ NDC-TEC program project focuses on tailored technical assistance to three flagship countries – Grenada, Jamaica, and Saint Lucia – to accelerate their progress on their e-mobility transition goals, critical to achievement of their NDCs in the energy and transport sectors.

The objective of this assignment is to provide information to national stakeholders on various incentive mechanisms for e-mobility for road transport (including private cars, two- and three wheelers, public and private car fleets, cargo transport and public and private buses) and to develop strategies to implement the most appropriate mechanisms for the respective country. The project has provided an analysis of global experience, as well as recommendations to encourage the purchase or use of EVs that would be compatible, economically viable, and technically sound for the e-mobility transition in the flagship countries.

GIZ NDC-TEC staff administered the program in cooperation with country counterparts:

- Grenada: Ministry of Climate Resilience, the Environment & Renewable Energy, and Ministry of Infrastructure and Physical Development, Public Utilities, Civil Aviation & Transportation;

- Jamaica: Ministry of Economic Growth and Job Creation (MEGJC) (replacing the original counterpart agency, the Ministry of Science, Energy, Telecommunications and Transport), and the Ministry of Finance, and the Public Service; and

- St. Lucia: Ministry of Infrastructure, Ports, Transport, Physical Development and Urban Renewal, and Ministry of Finance, Economic Development and the Youth Economy).

1.2 Project Implementation

The Butler Law Offices LLC consultant team of Dr. Curtis Boodoo and Elizabeth Butler, Esq. have worked with GIZ NDC-TEC staff and the three country counterpart teams to implement this project on an expedited, one-year timeframe.

The consultant's project methodology and detailed workplan, approved by GIZ NDC-TEC staff, produced the following sequential studies, based upon collaborative planning with the counterpart countries:

1. a general study on incentive mechanisms proven effective in accelerating e-mobility transition throughout the world and in the Caribbean;
2. country-specific studies on the Grenada, Jamaica, and Saint Lucia policy, legal, and regulatory frameworks, and the incentive mechanisms best aligned with those frameworks and market conditions to encourage transition to e-mobility;
3. validation workshops with country counterparts to select incentive mechanisms most likely to be effective in that country for more detailed study; and
4. country-specific, detailed study on fiscal and environmental costs and benefits of the selected incentive mechanism in Grenada, Jamaica, and Saint Lucia.

2.0 Project Experience

The project was successful in producing the requested deliverables to support Grenada, Jamaica, and Saint Lucia in selection of incentives to accelerate e-mobility. However, project implementation required flexibility and team work to address significant challenges encountered when seeking country counterpart interaction to inform the project deliverables. The solutions used to overcome the limited interaction with country counterparts are described below.

2.1 Country Counterpart Interaction

The project found all three country lead representative agencies committed in theory to implementation of the project on the expedited one-year time frame. However, project implementation encountered challenges due to:

- limited capacity of the counterpart ministry lead agency to provide relevant public documents important for accurate understanding of the policy, legal, and regulatory framework and to provide facilitation of consensus among country agencies of jurisdiction;
- organizational challenges in convening and engaging policy and technical staff of multiple ministries of jurisdiction in energy, environmental and transport sectors to provide input on important e-mobility policy issues impacting multiple sectors; and
-lack of timely or substantive feedback on draft reports.

These project challenges were overcome by adapting to the country counterpart needs. With the assistance of GIZ NDC-TEC staff, the consultant team worked directly with the lead agency to gather information or report comments to finalize decisions, all while providing information to the other affected agencies in the counterpart team to assure they could give input if interested.

For instance, the GIZ NDC-TEC and consultant team worked with Mr. Leslie Smith of the Grenada Ministry of Climate Resilience, the Environment & Renewable Energy, who coordinated the work with the Ministry of Infrastructure and Physical Development, Public Utilities, Civil Aviation & Transportation on the project. The GIZ NCD-TEC team assured that information was shared with all project counterparts, but worked closely with Mr. Smith to obtain information or resolve policy questions both before and after the Validation Workshop. Mr. Smith, an experienced administrator in the renewable energy area, took the lead role in selecting the design of the incentive mechanism for analysis in the Task 6 Report, enabling the project to be completed on a timely basis.

This approach also worked successfully in Saint Lucia where the lead agency was the Ministry of Infrastructure, Ports, Transport, Physical Development and Urban Renewal. The feedback from Saint Lucia on the draft deliverables was ultimately secured from that Ministry, as the team worked with Ms. Myra Delice, an experienced administrator in the utilities sector, who had served in both the Ministry of Infrastructure and previously in the Ministry of Finance. While the degree of inter-ministerial coordination on the project is not transparent to the GIZ NDC-TEC team and consultants, it is certain that all involved ministries received the draft information, participated in the validation workshops and had an opportunity to comment on the final report.

Jamaica project implementation challenges were significant as the original lead agency, the Ministry of Science, Energy, Telecommunications and Transport (MSETT) did not engage on the project, noting that the project commitment had been made by the Transport Ministry prior to incorporation into the MSETT Ministry, and that the MSETT staff did not have access to the project documentation developed by the Transport Ministry. The GIZ NDC TEC staff worked diligently to develop an alternative implementation path, and the staff of the Ministry of Economic Growth and Job Creation (MEGJC) and the Ministry of Finance and the Public Service (MoFPS) stepped forward to provide active engagement on the project. In addition, the consultant team developed extensive outreach to private sector e-mobility stakeholders who participated actively in the validation workshop, providing feedback on critical market barriers to EV adoption in Jamaica and the Caribbean region generally.

The consultant team gives special thanks to the MoFPS team, under the leadership of Mr. Cebert Mitchell, an experienced and senior MoFPS administrator with expertise in import duties, taxes, and fees. Mr. Mitchell coordinated directly with Jamaica Customs Agency to secure updated information on Jamaica vehicle import duty, taxes, and fees. He and his team also provided clear guidance on the GoJ's policy on CARICOM treaty obligations, as well as on the incentive mechanism for detailed study in the Task 6 Report, explaining that any proposal for change in existing MoFPS fiscal policy impacting critical governmental revenues would need to demonstrate exponential benefits in other fiscal or environmental areas.

2.2 Digital Resources

Two digital project initiatives provided a significant upgrade on data collection and feedback from country counterparts. These digital initiatives reduced the burden on country

counterparts, improved efficiency in data collection, and made country counterpart participation and feedback on incentive mechanisms easier and quicker.

2.2.1 Shared Project Document Files

The GIZ NDC-TEC team created shared project folders for each country, providing access to the consultant team. The GIZ NDC-TEC team assembled documents from prior GIZ projects, the ongoing GEF-7 e-mobility projects and projects provided by the country counterparts at the time of project design. In addition, consultants submitted a set of information requests early in the project to the country counterparts, and the responsive documents were included in the shared project files. This shared folder approach greatly lessened the administrative work needed to compile draft and non-public documents from country counterparts. It will also provide a valuable resource for GIZ and country counterparts going forward in other country e-mobility projects.

2.2.2 Multi-Criteria Decision Analysis Survey

The Task 4 Country Report phase required not only a quantitative assessment of the six fiscal incentives identified in the Task 2 Review of Incentives report on possible incentives for e-mobility, but also required a multi-criteria decision analysis of the appropriateness of each of the incentive mechanisms for Grenada, Jamaica, and Saint Lucia according to economic (e.g. cost effectiveness, fiscal affordability, market-readiness), environmental, technical, social and market criteria.

To provide the required qualitative assessment of the incentive options, the consultant team developed a Multi-Criteria Decision Analysis to gather stakeholder perspectives on the relative importance of the six fiscal mechanisms reviewed in the Task 2 Report, the five evaluation criteria, and the potential blended fiscal incentive packages under consideration. Dr. Boodoo created a digital MCDA portal and evaluation form, and offered several trainings to support country counterpart team members to support their completion of the MCDA.

The MCDA digital format enabled the project to reach out to participants in both the public and private sector, to ensure a diverse range of perspectives. Dr. Boodoo's multiple training sessions made the digital platform accessible to all interested parties. Given the limited counterpart responses in other written exchanges, the digital format offered a viable option to encourage greater stakeholder substantive engagement on complex issues.

The digital MCDA results were helpful in the Validation Workshop, showing workshop participants clear summaries of the viewpoints of other well-informed participants in the transport sector, giving clear indication of alignment along certain fiscal or regulatory incentives.

3.0 PROJECT METHODOLOGY

The GIZ NDC-TEC contract established the overarching project methodology with an eight-task milestone approach. The contract required eight deliverables, as follows. The project design enabled the consultant team to first provide the country counterparts with a baseline

for understanding the available incentive mechanisms for small island countries to encourage e-mobility, to hold workshops on the mechanisms, and then to proceed in a step-wise fashion to narrow the options with the country counterparts for incentive mechanisms for detailed study. The consultants then provided the counterparts with detailed quantitative and qualitative analysis of the fiscal and environmental costs and benefits of the proposed incentive mechanisms for study. The eight steps included:

Task 1- Kick-off meeting and work plan development for GIZ NDC-TEC approval.

Task 2 - Review of incentive mechanisms: Detailed desk review of at least six contemporary incentive mechanisms used to encourage the uptake of e-mobility in specific countries (worldwide).

Task 3 - Stakeholder interviews: Online interviews with key stakeholders in the flagship countries to capture their feedback on implementation to date, assess the applicability of the mechanisms identified in Task 2, and discuss possible challenges of the implementations of the identified mechanisms.

Task 4 - Country studies: Preparation of country studies for each of the NDC-TEC flagship countries, Grenada, Jamaica, and Saint Lucia, relying upon information on the country provided by GIZ NDC-TEC team, including a multi-criteria decision analysis assessment of each of the incentive mechanisms, and providing recommended incentive mechanisms for each country.

Task 5 - Validation workshops: Conducting an online workshop with each of the flagship countries to validate the Task 4 Country Report findings and recommended incentive mechanisms, with selection of at least one incentive mechanism for each of the flagship countries for further evaluation.

Task 6 - Strategies for implementation of selected mechanisms: Development of a detailed assessment including fiscal and environmental impacts, for the selected incentive mechanisms for each flagship country, with recommendations for implementation.

Task 7 - Final report: Presentation of Tasks 1 through 6 in a final report.

Task 8 - Presentation of results: In-person presentation of the work done at a workshop, conference or meeting at conclusion of project.

The contract timeline anticipated completion of Tasks 1 through 7 Final Report within 11 months, followed by the Task 8 presentation of project results within 13.5 months of project inception.

The project contract term was September15, 2024 to November 30, 2025, with required submission of the Final Report no later than November 30, 2025. The initial project kick-off meeting with GIZ staff was held October 14, 2024. GIZ NDC-TEC staff requested completion of Task 6 Detailed Implementation Strategies Reports by end of October, 2025, and completion of Final Report for presentation at a November 13, 2025 CARICOM webinar presentation. Consultants accommodated these requests.

Throughout the project, the consultant team worked closely with GIZ NDC-TEC staff,

providing monthly update reports/calls to check in on project completion status, challenges, and needed adjustments.

4.0 Task 1 Kick-off Meeting and Workplan

GIZ NDC-TEC Project Manager Niebert Blair arranged a very helpful informal orientation call with consultants soon after contract execution in late September 2024 to address logistical issues and provide background on the project workplan and timeline to be prepared for the kick-off meeting.

GIZ NDC-TEC staff hosted the October 14, 2025 kick-off meeting for the project. Consultants provided the proposed Project Workplan and Timeline, ultimately accepted by GIZ NDC-TEC staff with slight adjustments on timelines. Consultants also provided the preliminary document request list for country counterparts for GIZ NDC-TEC staff review.

Consultants submitted minutes of the Kick-off Meeting as Deliverable 1, accepted by GIZ.

5.0 Task 2 Review of Incentive Mechanisms Report

Consultants submitted the Task 2 Report on Incentive Mechanisms on December 27, 2025. The report contained a review of six proven international incentive mechanisms well-suited for small island nations seeking to accelerate e-mobility. The report contained an Appendix 1 Table of Incentive Mechanisms for Electric Vehicles focused on the six case studies, designed for use as a working tool in the anticipated project kick off meetings with Grenada, Jamaica, and Saint Lucia counterparts. The report was accepted by GIZ.

The report provides a comprehensive analysis of contemporary incentive mechanisms employed world-wide to promote the adoption of e-mobility, including fiscal, operational, regulatory, and financial incentives. The report also provides a detailed analysis of six case studies of EV incentive mechanism implementation in countries representing diverse economic and geographic contexts, including low-, middle-, and high-income countries, to understand the successes and shortcomings of the incentive in achieving greater EV adoption. These six case studies, summarized in the Report Appendix 1, “Table of Electric Vehicle Incentive Mechanisms,” include:

(1) Vehicle Registration Tax (Norway)—a leading fiscal policy reducing the consumer upfront costs to acquire EVs;

(2) Support for Fast Chargers (2011) – Norway—an infrastructure-focused measure to provide sufficient charging stations to address range anxiety and provide charging convenience;

(3) Fuel Consumption Standard (China)—a regulatory approach steering the automotive market toward greater efficiency and e-mobility;

(4) Zero Emissions Mandate (California, US)—a robust legislative requirement fostering innovation and EV penetration;

(5) Mobility Privileges for Electric Vehicles (Colombia)—operational incentives that improve the convenience and attractiveness of EV ownership; and

(6) Value Added Tax (VAT) Incentive (Indonesia)—a fiscal measure reducing the cost barrier for consumers while stimulating local EV markets.

The report concludes with informed recommendations on incentive mechanisms for e-mobility and developing strategies for their implementation to enable Grenada, Jamaica, and Saint Lucia decision-makers to make evidence-based decisions in adoption of incentive mechanisms to promote e-mobility. Key recommendations include:

• **Tailored Incentives are Crucial**: Adapting successful incentive models to the specific economic, social, and technological contexts of the Caribbean country is essential for maximizing impact and ensuring equitable access to EVs.

• **Strong Government Support**: Proactive government involvement through regulations, incentives, and infrastructure investments has been crucial in driving EV adoption.

• **Addressing Financial Barriers**: Financial incentives (tax exemptions, rebates, or subsidies), play a pivotal role in making EVs more affordable given the higher purchase price of EVs compared to ICEVs.

• **Assure Island-Wide Range of Use**: Adequate charging infrastructure is essential to alleviate consumer concerns about limited range and enable long distance travel.

• **Phased Approach**: A phased implementation of policies and incentives allows for gradual market adjustment, technological advancements, and policy refinements based on real-world feedback.

• **Multi-Stakeholder Collaboration**: Successful EV transitions require collaboration among government agencies, automakers, energy providers, NGOs, and research institutions.

6.0 Task 3 Stakeholder Interviews

GIZ NDC-TEC staff arranged meetings with country counterparts in each flagship country. In advance of the sessions, consultant's stakeholder interview guide, tailored to each country, was distributed to the participants to help them prepare for the session and develop the themes they wished to emphasize. Consultants also held preparation sessions with GIZ staff for the country counterpart meetings. Finally additional preparation work was completed by GIZ staff lead for Grenada and Saint Lucia, Antonio Sealey, who completed responses to many of the information requests submitted by the consultant team, saving work for the country counterparts.

Task 3 is a good example of the project challenges with scheduling counterpart engagement meetings, and the pragmatic work-arounds enabled by the collaboration of GIZ NDC-TEC staff and the consulting team. Direct stakeholder interview sessions could be arranged in only one country (Grenada). Therefore, the Task 3 Deliverables 1 (Saint Lucia), 2 (Grenada), and 3 (Jamaica) go beyond the anticipated meeting minutes to offer a summary of the Task 3

stakeholder engagement in each country, with copies of the deliverables generated and sent to country counterparts. The ultimate use of the stakeholder inputs are summarized.

Saint Lucia offered the opportunity for the most extensive stakeholder engagement, including a two hour consultation session as well as stakeholder feedback through responses to a Multi-Criteria Decision Analysis document developed by consultants to enable more individual detailed feedback.

In Grenada, while consultants had the opportunity to receive some stakeholder input during the January 20, 2025 kick off meeting and presentation of the Task 2 Incentive Mechanisms Report, a single-purpose workshop session ultimately could not be scheduled due to busy counterpart schedules. However, consultants were able to connect with Grenada counterparts in special purpose training sessions to support their feedback on incentive mechanisms important for Grenada in special workshops on the Multi-Criteria Decision Analysis document described below.

Jamaica was the most challenging Task 3 project. In spite of repeated attempts, GIZ NDC-TEC staff were not able to schedule an interview session with then-lead Ministry, MSETT. This engagement challenge with the designated Ministry counterparty extended to the project overall. Although a meeting was arranged with the MSETT staff, they indicated that this project commitment had been made by the previous Ministry of Transportation, subsequently merged into MSETT, and they had no documents or staff assigned to the matter. After consultation with GIZ NDC-TEC, consultants proceeded with the publicly available Jamaica documents and data collected in the GIZ NDC-TEC shared drive to produce the Task 4 Country Report. Furthermore, consultants reached out directly to private sector and NGO stakeholders to secure their responses to the MDCA document, providing important Jamaica stakeholder input for the Country Report. As noted below, with this Jamaica engagement challenge pivoted dramatically after submittal of the Task 4 Country Report, when the Ministry of Finance team became the de facto lead counterpart agency on the fiscal incentive under consideration, providing prompt and complete responses and detailed input and guidance, as further described under Task 5.

The Task 3 engagements with country stakeholder engagements were sufficient to support consultant production of a tailored Country Report for Saint Lucia, Grenada, and Jamaica. The Task 4 Country Reports and following Task 5 Validation Sessions confirmed that the necessary documentation and incentive prioritization by counterparts had been successfully achieved during Tasks 3, 4 and 5, enabling a successful Task 6 Detailed Incentive Studies.

7.0 Task 4 Country Reports

The Task 4 draft Country Reports were delivered in May and June 2025, with final reports submitted on August 14, 2025.

The three Country reports share a similar organizational format to facilitate comparisons. Each of the reports begins with a review of the defining attributes of the respective country's transport sector and policy, legal, and regulatory framework, including the EV transition

targets.

The reports then provide a quantitative assessment of the available data on vehicle registrations, vehicle imports, current personal and commercial fleet profiles, and fossil fuel consumption to assess the current levels of EV uptake. The quantitative assessment is followed by a MCDA qualitative assessment of each of the six incentives examined in the Task 2 Incentive Mechanisms survey report (vehicle registration tax, support for fast charging infrastructure, fuel consumption standard, zero emission mandate, mobility privileges and VAT exemptions). The MDCA used five key criteria, with weightings agreed upon by stakeholders to reflect perceived importance in their country's context.

The MCDA five key criteria for evaluation of the six incentive mechanisms mechanism included:

- Economic/Budgetary Impact
- Environmental Impact
- Infrastructure/Implementation
- Equity/Public Acceptability
- Market

The reports conclude with a set of recommendations concerning incentive mechanisms to facilitate EV transition targets and related supportive actions, aligned with the respective country's quantitative and qualitative assessments, and policy and legal framework.

7.1 Task 4, Deliverable 1 - Saint Lucia Country Report

The Saint Lucia Country Report draft, submitted on May 25, 2025, drew detailed comments from GIZ staff, and relatively minor comments from Saint Lucia country counterpart staff. The consultant team incorporated the comments in the final report.

The Saint Lucia report noted that the GoSL has already committed to EV adoption targets of 30% EV sales by 2030, increasing to 40% by 2035, as a cornerstone of transportation sector GHG emission reductions in Saint Lucia's February 2025 Third Nationally Determined Contribution report.

The quantitative assessment key conclusions included:

- strong post-COVID-19 recovery in vehicle imports and associated costs, surpassing pre-pandemic levels in 2024;
- vehicle imports are predominantly conventional gasoline-powered private cars, presenting a significant challenge to decarbonization goals;
- imports of EVs and hybrids have grown rapidly in percentage growth recently under the existing favorable tax regime (reaching approximately 25-30% of imports by 2024). But the absolute share of EVs (112) and hybrids (2068) in the Saint Lucia total active fleet of 98,151 vehicles (2024 data) remains small;
- The data reveals a declining trend in the average age of imported vehicles, but a significant portion of vehicles older than 10 years continue to be imported; and

• The high calculated annual fuel consumption per active diesel vehicle (approx. 5,933 litres) highlights the disproportionate contribution of the commercial fleet to fuel imports, costs, and emissions.

The MCDA qualitative assessment indicated that the participating stakeholders assigned top ranking to the removal of the VAT on EVs and hybrids, recognizing its critical role in mitigating high upfront EV costs. A Fuel Consumption Standard received a close second ranking, indicative of a desire to complement the existing fiscal incentive measures with new regulations aimed at improving efficiency across the entire vehicle fleet, including ICEVs. These qualitative assessments align with the Saint Lucia National Energy Policy objectives and suggested that stakeholders believed that both mandatory regulatory measures and voluntary incentive measures were needed.

Based upon this quantitative and qualitative analysis, the report concludes with a series of seventeen recommendations concerning EV incentive implementation, including the following key recommendations:

• Maintain and Strategically Refine Core EV/Hybrid Fiscal Incentives;

• Prioritize Electrification of High-Mileage Fleets;

• Accelerate Public Transport Modernization;

• Implement a Coordinated National EV Charging Infrastructure Roadmap;

• Introduce Complementary Vehicle Emission/Efficiency Standards; and

• Formalize Age Restrictions on Used Vehicle Imports.

7.2 Task 4, Deliverable 2 – Grenada Country Report

The Grenada Country report draft delivered on June 5, 2025, did not receive any detailed comments from participants and was finalized in the August 14, 2025 report.

The report summarizes Nationally Determined Contributions (NDC) submittal and Implementation Plan identifying transition to EVs as an important solution for Grenada's targeted 2040 GHG emission reduction of 40% below2010 levels, and 20% below 2010 levels by 2030, and setting implementation targets in the GoG's 2021 NDC Biennial Update of:

- 33 % of overall vehicle sales to be EVs by 2030;
- 30% of GoG public fleet to be EVs by 2030, and 50% by 2050; and
- 10 % of public-transport/taxi sales to be EVs by 2030.

The report also acknowledges the GoG's announced plans to undertake public fleet conversion to EVs by 2030, and to provide financing programs for operators to convert to EVs in the public transport sector.

This report notes that the NDC targets and multiple GoG policy documents anticipate this transition, but that there is a lack of binding legislation to reinforce measures to secure these goals, raising questions about the feasibility of implementation.

The report's quantitative assessment of the available fleet and fossil fuel consumption data concluded:

•initial strong post-COVID-19 recovery in vehicle imports and associated costs in 2023, later declined in 2024 and 2025 YTD;

•vehicle imports are predominantly conventional ICE gasoline-powered private cars, representing approximately 64% of total import vehicle value in 2024, which presents a significant challenge to decarbonization goals;

•while ICEVs retain a majority share of market value, hybrid vehicle sales have increased, with marked jump in market value share following the 2022 introduction of GoG hybrid import duty/fee concessions, rising from under 5% in 2020–2022 to roughly 32% market value share by 2024;

•EVs remain a small segment (53 vehicles in 2024), registering near zero import market value share from 2022 to date. Most EVs imported are new vehicles. Of the 64,000 vehicles registered in Grenada, less than 1% are fully electric vehicles (111), including two electric buses as of November 2024);

•Nearly 75% of ICEVs, and nearly 67% of hybrid vehicles imported in 2024 were vehicles7 to 10 years old, which has been a consistent historic market pattern in Grenada, although there is recently a slow trend toward purchase of newer models;

•In recent years, imports of ICEVs and hybrid vehicles older than 10 years have declined dramatically, apparently due to a Grenada policy to prohibit imports of such cars (planned policy referenced in NDC Update submittal);

•Road-transport CO_2 fell only 2% from 2020-2024 because hybrids/EVs remain <8%of the fleet, while an ageing, weight-creeping, and growing ICEV component of the fleet drives parts-import growth and fuel demand;

•While hybrid duty cuts have shifted one-third of current import value to cleaner drivetrains, Grenada's total gasoline/diesel demand continues to increase due to the high number of older, inefficient ICEVs on the road. This suggests that stronger retirement policies are required if hybrid/EV growth is to translate into lower national fuel bills and GHG emissions reductions.

The quantitative assessment is accompanied by a MCDA qualitative assessment of the application of the original report six financial incentives in Grenada. In spite of repeated training offers by the consultant team to facilitate MCDA digital completion, only three Grenada stakeholders participated. However, participant was a senior staff person from public or private sector, and well-informed on sector issues.

The key findings for non-bundled incentives were a strong support for maintaining the VAT exemption, closely followed by vehicle registration tax relief for EV owners and mobility privileges for EVs. There was moderate support for regulatory measures (fuel consumption standard and zero emission mandate), but these were clearly lower ranked than the fiscal incentives to address affordability. Finally, fast charger system support was ranked lowest among the incentives, but this likely reflects the view that as a stand-alone measure, the

chargers would be less impactful compared to direct relief on EV purchase price and ownership incentives.

The key findings on the bundled incentives showed a strong preference among all participants for a comprehensive package of incentives to encourage aggressive EV adoption approach. The small level of participation precludes any firm conclusions, but suggests that there may be strong support for continuation of the current direct fiscal incentives for EV purchase, complemented by other complementary direct benefits, such as registration tax relief, e-mobility parking or other privileges, and some regulatory controls (age limits).

The report concluded with a series of preliminary recommendations for further discussion at the validation workshop to gather further country counterpart feedback on priorities. The recommendations included policy, regulatory, and operational incentives, divided into 22 action items under the following six categories:

- Maintain and Strategically Refine Core EV/Hybrid Fiscal Incentives
- Impose Higher Import Duty/Fees on ICE Vehicles
- Prioritize Electrification of High-Mileage Fleets
- Accelerate Public Transport Modernization
- Implement National EV Charging Infrastructure Roadmap
- Consider Complementary Vehicle Emission/Efficiency Standards

These recommendations are designed to provide a comprehensive set of incentives that work in concert to improve the current Grenada fiscal incentives and to lower the barriers for EVs and hybrid purchase, while giving priority status to EVs. The report proposes several new regulatory limits (including age limits for used ICEV and EV/hybrid imports, and fuel consumption efficiency standards for ICEVs) and operational and financial recommendations (such as public/private partnerships to provide capital for public fleet acquisition and public infrastructure charging systems). Ongoing monitoring and evaluation recommendations are designed to assure adjustment of incentives to changing market conditions and to assure that EVs are integrated with minimal adverse impact on the grid and with increased RE generation to power the grid.

7.3 Task 4, Deliverable 3 – Jamaica Country Report

The Jamaica Country report draft delivered on June 20, 2025, did not receive any detailed comments from participants, and was finalized in the August 14, 2025 Task 4 final report to GIZ NDC-TEC staff.

The report summarizes the status of Jamaica's transport sector, one of the largest in the Caribbean. In 2020, the Jamaica national fleet consisted of almost 723,000 four-wheeler vehicles (data includes passenger cars, vans, pickups, lorries, road tractors, buses and motor coaches), and around 20,000 two-wheeler vehicles. Nearly all of the fleet are ICEVs, and the country's transportation sector is still heavily dependent on products made from oil.

Transportation is a major contributor to the emission of GHGs due to its high fossil fuel consumption. The transport sector's share of petroleum consumption represents almost as much as the electricity sector fossil fuel consumption. These facts inform the GoJ's prioritization of a a shift to EVs, combined with an increase in electricity generation from RE resources, to enable Jamaica to meets its NDC targets for GHG emission reduction.

The report explains that Jamaica has one of the most mature and detailed policy frameworks to support clean energy and e-mobility transition in the Caribbean region. The policy development process over the last 30 years culminated in the development of the comprehensive Electric Vehicle Policy, June 2023, led by the Ministry of Science, Energy, Telecommunications and Transport (MSETT). The key policies of the energy and transport sector related to EVs are reviewed in detail, with the conclusion that the combination of the Strategic Framework for Electric Mobility (March 2021), and EV Policy, 2023, with its implementation action plan, clearly support adoption of incentives for EVs that align with all six Case Study fiscal, operational, regulatory, and financial incentives described in the Project's December 24, 2024, "Review of Incentive Mechanisms for Electric Vehicle Report," including vehicle registration tax, support for fast chargers, fuel consumption standard, zero emission mandate, mobility privileges for EVs, and VAT incentives.

The report explains that these policies support Jamaica's implementation of its international commitments in its 2020 Update of Nationally Determined Contributions under the Paris Agreement, pledging that by 2030, Jamaica's energy sector and land use/forestry sector will achieve GHG emission reductions of between 25.4 per cent (unconditional) and 28.5 per cent (conditional) relative to a business-as-usual scenario (which takes into account policies in place as of 2005) (equivalent to 1.8 to 2.0 MtCO2e lower than they otherwise would be),

To support its international commitments and policy objectives, Jamaica already has committed to EV adoption targets of:

- 12% of privately owned fleets being EVs by 2030;
- 16% of public transport fleet being EVs by 2030; and
- 100% of GOJ fleet being EVs by 2030.

This report then undertakes a quantitative assessment of the most current Jamaica data on vehicle registrations, vehicle imports, current personal and commercial fleet profiles, and fossil fuel consumption to assess the current levels of electric vehicle uptake by Jamaica residents. The quantitative assessment key conclusions included:

• strong post-COVID-19 recovery in vehicle imports and associated costs, with 2023 sales nearing pre-pandemic sales in 2019;

• vehicle imports are overwhelmingly conventional gasoline-powered private cars, presenting a significant challenge to decarbonization goals;

• imports of EVs and hybrids have grown slowly in spite of import duty and consumption tax concessions: over the period from 2014 to 2023, 2,310 vehicles were imported, and hybrid vehicles account for just 51 imports (≈2 %) and EVs account for 32 imports (≈1 %). Sales have grown slightly, with hybrids reaching 4.8% of imports in 2023 and EVs reaching 6.8% by 2023;

• Jamaica's age limit of 6 years from manufacture for imported passenger vehicles has contributed to a declining trend in the average age of vehicles in the Jamaica fleet, but the fleet continues to have a significant number of vehicles over 6 years of age; and

• The majority of Jamaica's fleet has shifted from gasoline-powered to diesel-powered. The high calculated annual fuel consumption per active diesel vehicle (approx. 5,933 litres)

highlights the disproportionate contribution of the commercial fleet to fuel imports, costs, and emissions.

The report's MCDA qualitative assessment of the application of the original report six financial incentives in Jamaica, included participation by six key transportation stakeholders active in Jamaica transportation field. Although more were invited, drawing extensively from a broad pool of public and private sector stakeholders, the respondent pool was relatively small. The MCDA participants represented several institutions directly involved in transportation locally, ensuring a diverse range of perspectives crucial for policy development.

The MCDA qualitative assessment by public and private sector stakeholders reinforce the EV Policy Action Plan priorities, highlighting the urgent necessity to develop robust charging infrastructure and implement targeted affordability incentives, especially through supporting the used electric vehicle market for vehicles up to 5 years old. Stakeholders demonstrated moderate support for fiscal incentives and expressed strong confidence in regulatory mechanisms, such as zero-emission mandates, to sustainably expand electric vehicle availability and adoption.

Based upon this quantitative and qualitative analysis, the report concludes with a series of recommendations under nine categories concerning electric vehicle incentive implementation. These recommendations, based upon the quantitative and qualitative data, are consistent with Jamaica's 2023 EV Policy Action items. The nine categories included:

- Institutional and Policy Integration;
- Prioritize Electric Vehicle Adoption;
- Charging Infrastructure Expansion;
- Modernizing Public Transportation Fleets;
- Economic Transition and Workforce Development;
- Enhanced Data Management and Transparency;
- Supporting Non-Motorized and Micromobility Options;
- Cross-Sectoral Integration and Renewable Energy Synergies; and
- Policy Implementation and Adaptive Management.

Consistent with Jamaica's extensive EV policy development, these report recommendations provide a comprehensive approach, promoting institutional consolidation, infrastructure investment, targeted market incentives, regulatory clarity, workforce development, and enhanced data transparency. Additionally, the recommendations emphasize cross-sectoral integration, including Vehicle-to-Grid (V2G) technologies and urban micromobility solutions, reinforcing the interconnectedness of Jamaica's transport, energy, and environmental policy frameworks.

The report concludes with the observation that successful achievement of Jamaica's sustainable transportation and electric mobility goals will require coordinated policy implementation, continuous stakeholder engagement, and adaptive management supported by

accurate data and responsive governance structures. This urgent need for timely and efficient inter-agency cooperation in Jamaica supports a revival of the Jamaica EV Council, or Working Group, to provide a joint, collaborative workforce from the GoJ agencies responsible for EV Policy Action Plan objectives. The strategic insights presented in this report can guide policymakers toward informed decisions, leveraging targeted incentives, robust infrastructure, and clear regulatory mechanisms to drive an effective and equitable transformation of Jamaica's transportation landscape, aligning closely with Jamaica's international climate commitments and broader economic resilience goals.

8.0 Task 5 Validation Workshops

Task 5 requires that the consulting team hold validation workshops with country counterparts to review the Task 4 Country Reports and facilitate counterpart selection of at least one (and up to 3) incentive mechanism to facilitate EV transition for further detailed cost/benefit evaluation under Task 6.

The preparation and organization of each validation workshop followed the same pattern. Consultants prepared with GIZ NDC-TEC staff for the workshops, and provided an agenda, a Powerpoint presentation, and a table of recommended incentives from the Task 4 Country Report to facilitate workshop discussions. GIZ staff arranged the workshops with country counterparts, and hosted the Zoom validation workshop meeting. The consultants made the workshop presentations using the Powerpoint presentation and incentives tables following introduction by the GIZ staff. The Task 5 deliverable includes a workshop report, minutes of the meeting, and table of incentives discussed.

Highlights from the three workshops follow.

8.1 Saint Lucia

The July 4, 2025 Saint Lucia Validation Workshop (over 90 minutes long) included participation by six GoSL representatives, including Kurt Inglis, Head of Energy and Public Utilities (KI), and Gracelyn Victorin, Chief Transport Officer, with the Ministry of Infrastructure, Ports, Transport, Physical Development, and Urban Renewal ("MIP").

After introduction by GIZ NDC-TEC project lead, Antonio Sealy, the consulting team made presentations on the project work to date, including the Saint Lucia Country Report. Following the presentation, they led a discussion on the Report's recommended incentives and which of those incentives the Saint Lucia EV working group would like to select for further analysis and ultimate presentation to the Cabinet to support the Government of Saint Lucia's e-mobility goals.

The Saint Lucia counterparts' feedback on the Country Report was very favorable. The Public Utilities Officer noted that the Report provided the most comprehensive picture of the Saint Lucia transport sector to date and expressed appreciation for the detailed report and analysis, and the Chief Transport Officer agreed, noting that the information will be helpful as St. Lucia moved forward to make decisions on incentives.

Key inputs from the GoSL stakeholders included:

1 - Important that any additional concession for EVs or hybrids in the import duty, fees, or VAT carefully define hybrid to ensure that "mild hybrids" which run principally on fossil fuels, are not included in the definitions.

2 - Overall, there is strong support for an extension of incentives to include VAT, with an age and EV prioritization. This "blended approach," referenced in the Country Report as favoured by the St Lucia counterparts, could include a 15% VAT on hybrids and 0% VAT on EVs.

3 – To implement this "blended approach", the GoSL must complete the ongoing upgrade of the current GoSL harmonized system for import data and vehicle registration data to enable aggregation of vehicle age and technology. In the interim a simple stand-alone age restriction on all vehicles could be imposed.

4 – There is strong support for public transport and GoSL vehicle fleet transition, but more work is needed to better organize delivery of the incentive into the highly fragmented public transport sector, which has many individual drivers, many of whom lease vehicles from owners.

5 – The CTO noted a major market barrier due to market restrictions on vehicle insurance for EVs and hybrids. Few insurers offer coverage for EVs, due in part to perceived high risk of electrical fires and also the insurer's concern about high cost and related delays in repair if vehicles are damaged, given lack of solid market experience with repairs and maintenance of EVs and hybrids. Extensive discussion around potential solutions included consultant observations that the multi-jurisdictional insurers which currently offer EV/hybrid insurance on a competitive basis with ICEV insurance in other Caribbean countries should be engaged directly to discuss why the insurer is treating Saint Lucia consumers differently than consumers in other jurisdictions.

At the conclusion of the session, the stakeholders advised that the other time commitments of the stakeholder Ministries would prevent them from any significant additional work on incentive selection until year end. All agreed that GIZ NDC-TEC staff should confer with the Utilities Officer to select the best aligned incentive.

On July 11, after further discussion with Saint Lucia counterparts, the Utilities Officer sent an email to GIZ NDC TEC staff and consultants requesting that GIZ NDC TEC consider VAT removal for fully electric vehicles as the incentive mechanism for detailed analysis, with attention to the financial impact, the potential reduction in cost and how close this would bring EVs to price parity.

8.2 Grenada

The July 31, 2025 Grenada Validation Workshop (over 90 minutes long) had five GoG staff from the EV Working Group, including Mr. Leslie Smith, Director, Renewable Energy Unit, Ministry of Climate Resilience, the Environment and Renewable Energy, Mr. David Bartholomew, ,the CEO of the Transport Commission, Ms. Kimica Donald, Policy Analyst, Macroeconomic Policy Unit, Ministry of Finance (MoF), as well as staff assigned to the EV

project, Kebra Sylvester, Sebastian Thomas, and Nicole Gelineau.

The Renewable Energy Unit and MoF representatives expressed appreciation for the scope of the Country Report and the expert analysis, noting that they were impressed by the well-presented data in the report, and would use the data in ongoing public awareness campaigns.

Key Stakeholder observations included:

1 - Only one Grenada car dealer sells EVs, and an ongoing public awareness campaign is important to build public understanding and confidence in EVs.

2 - The Transport Commission CEO noted that it will be essential for the GoG to show the way for citizens by converting public fleets to EVs promptly. This will help to build the maintenance, repair, and resale ecosystem for EVs in Grenada and to enable private sector vehicle owners to become familiar with EVs.

3 – The stakeholders discussed the concern that fiscal incentives for the public transport sector would need to be carefully designed to accommodate the market structure of public transport, with vehicle owners who lease vehicles to drivers, and how to assure that any fiscal concessions benefit the drivers as well as owners.

4 – Several stakeholders shared consumer reports that they did not receive the full benefit of the current Grenada reduced import concessions, and therefore more must be done to assure that the car dealers pass through the benefit of import duty concessions so that the purpose of the incentives (to make EVs more affordable) are realized.

5 – The MoF is currently reviewing EV incentives and the need to update incentives to achieve NDC targets, including upgrades such as lowering the age of Grenada fleet vehicles to protect both the environment and consumers. The MoF is aware of the inherent conflict between EV incentives and possible increase in traffic congestions and related greenhouse gas emissions.

The workshop concluded with the agreement that the Grenada EV Working Group, led by Mr. Leslie Smith of the Renewable Energy Unit, would confer further and advise the GIZ NDC-TEC staff on the incentives for analysis. Multiple interactions between the consulting team and Mr. Smith followed on possible incentive scenarios. Mr. Smith ultimately requested, and GIZ NDC-TEC staff approved, an analysis of the three complementary incentives, including continuation of the current fiscal incentives for EV imports, implementation of a new disincentive for ICEV imports, and adoption of an age limitation to capture the benefits of the most modern technology and highest efficiency vehicles in both EV and ICEV models.

8.3 Jamaica

The July 18, 2025 Jamaica validation workshop (over 90 minutes long) provided an excellent opportunity for public and private sector stakeholders to participate in a dialogue on how best to accelerate transition to EVs. The stakeholders included experts in their respective finance, policy, utility, and automobile sales fields, with extensive understanding of the EV market. All participants gave positive reviews of the Country Report, noting that the data on the status of the EV transition is very helpful to guide recommendation of incentives. Their key observations included:

1 – The MoFPS team (led by Mr. Cebert Mitchell, with multiple expert staff) took an active role in this workshop, as well as multiple follow-on meetings and correspondence with the consultant team to refine the feasible financial incentive for consideration in the Task 7 detailed analysis report.

2 – The MoFPS team observed that there were undoubtedly several incentive mechanisms that could be effective in encouraging adoption of EVs, but that it was clear that the GoJ was not advancing in a timely manner on its public transport and government fleet conversion goals for EVs. Mr. Mitchell noted that these public transport and government fleet objectives might be considered a priority for incentives, given that the citizens of Jamaica might be reluctant to adopt EVs if the public transport fleet and government fleet continued to purchase ICEVs. Public transport and government fleet EV adoption would provide an opportunity for citizens to observe and become familiar with EVs, without direct consumer investment. They would also assure incentives are focused on high-mileage vehicle fleets where the maximum GHG savings could be realized.

3 – The MEGJC representative, Mr. Omar Alcock, noted that the report data and recommendations will be very helpful to the GoJ as it finalizes a revised and more detailed roadmap to meet NDC targets. Mr. Alcock confirmed that Jamaica is behind on the Strategic Framework for E-Mobility targets for EV adoption by 2030 (12% private vehicle fleet, 16% public transport and 100% of GoJ fleet) and that the size of the ICEV fleet is a challenge.

4 - The prior JM EV Working Group, facilitated by the IDB EV projects, has been inactive for some time, leaving a gap in coordination of public and private initiatives to implement the EV Framework action plan.

5 – The workshop concluded with the plan for consultants to meet further with the MoFPS to refine the Task 6 financial mechanism for detailed review. There were several follow-up sessions in which the MoFPS team provided updated customs information on the current 30% import duty, the CARICOM external tariff minimum of 10% for EVs, and the MoFPS's perspective, and on the burden of proof of exponential fiscal or environmental benefits to offset any erosion of essential governmental revenues from the import duty. This follow-up enabled the consultant team, with GIZ NDC-TEC approval, to focus on the fiscal and environmental impacts of reducing the import duty from the current 30% to 10%, the minimum level allowed under the CARICOM External Tariff Treaty.

9.0 Task 6 Detailed Report on Selected Incentives

9.1 Grenada

The Task 6 Grenada Report on Selected Incentives responds to the request of the Grenada EV policy team request for a detailed analysis of the fiscal and environmental costs and benefits of a three-part package of policy tools, combining:

- a regulatory limitation (vehicle age);
- A fiscal incentive ("bonus") for consumers who adopt EVs (continuation of the current zero-tax incentive on EVs); and

- a fiscal disincentive ("malus") designed to discourage consumers from purchasing ICE vehicles (an emission tax on ICE vehicles).

The team's selection of incentives for detailed analysis is informed by the prior detailed analysis on policy options for EV incentives outlined in the June 5, 2025 Grenada Country Report and its Multi-Criteria Decision Analysis outcomes, as well as the July 31, 2025 Validation Workshop and follow-on discussions.

The report addresses the complex interplay of fiscal and regulatory incentives in the Grenada context. Fiscal incentive are among the most widely implemented policy instruments to support EV market penetration in developing economies, but their implementation has multiple inter-related impacts. Reducing VAT on EVs lowers upfront vehicle costs and can stimulate adoption, but it simultaneously reduces government revenues at point-of-sale downstream fuel tax collections. Conversely, higher electricity consumption generates modest VAT gains and avoided fuel imports provide critical FX savings and increased energy security.

The report addresses how these interlinked fiscal and economic trade-offs can be accounted for in the design of sustainable transport policies in the Grenada resource-constrained settings. The design process also must address Grenada's experience with the recent surge in total vehicle fleet size, driven primarily by ICEV imports, thereby increasing Grenada's challenge in meeting GHG emission reduction targets and serious road congestion issues. The fast-growing Grenada fleet emphasizes the need to refine Grenada fiscal incentives and regulatory controls to create more targeted incentives for EVs and disincentives for ICEVs.

The status of the Grenada Transport Sector and the current Grenada policy and legal framework for EV transition is examined, with a focus on Grenada's NDC commitment to a 40% reduction of economy-wide GHG emissions from 2010 levels by 2030 and the material role of transport in that outcome. Grenada's multiple EV policies set a sectoral ambition for electric vehicles (EVs) to comprise ~30% of registered vehicles by 2030 and sketches the enabling ecosystem—vehicle incentives, charging infrastructure, and power-system integration—needed to deliver it. Similarly, the 2022 Grenada Sustainable Public Transport Plan anticipates transition of the public transport fleet to EVs, and improved public transport to better enable curb growing private vehicle ownership. The draft Energy Efficiency Act anticipates transport instruments that may be activated during the transition—inefficient-vehicle import taxes (a "malus"), minimum fuel-efficiency standards, and an environmental levy on polluting vehicles—creating a statutory authorization for performance-based disincentives and standards. Thus, the proposed 3-part package of incentives is fully aligned with the draft policies and law.

The report is designed to provide Grenada decision-makers with data-driven analysis of the fiscal and environmental impacts of the incentive, disincentive and regulatory controls in a single model. The model addresses the fiscal impacts of import concessions at the time of import, as well during the EV operation phase, including revenue trajectory as electrification scales—loss of petrol-tax receipts, offsetting VAT and environmental-levy receipts from EV charging. The model also addresses the potential revenues from a performance-based disincentive on ICEVs as well as the impact of a regulatory measure to limit the age of imported vehicles and, import-age rules (banded or maximum-age caps). The report

objective is to address the data gaps that are crucial to design of a balanced policy package that sustains EV uptake while maintaining predictable public revenues.

Report Methodology

This report responds to this knowledge gap with a unified, reproducible model of Grenada's light-duty transport system (2015–2035) that links:

- fleet stock evolution;
- energy use and CO_2;
- a comprehensive fiscal ledger (historic foregone import duties on EVs, petrol-tax revenues from 2023 onward, residential VAT, and environmental levy from EV charging);
- an optional malus on inefficient imports; and
- a parts-market transformation module.

The model enables:

1. Calibration of a single per-g/km disincentive (malus) on future ICEV/HEV/PHEV registrations (2026–2035), indexed to a tightening CO_2 standard, such that the cumulative net fiscal impact during this timeframe is approximately neutral; this yields policy-ready rates and shows how the malus interacts with petrol-tax erosion and EV-charging receipts.

2. Quantification of import-age policies—a 5–8-year "band" and maximum-age caps (≤5 and ≤8 years)—reporting both ΔCIF and best-estimate ΔRevenue based on observed effective tax-to-CIF ratios, plus heatmaps of CIF removed by age band.

3. Development of a parts module that tracks EV-specific, ICE-specific, and shared parts CIF and their implied tax shifts as the fleet electrifies, noting data/classification limits and the need for improved HS-code practice.

Methodologically, the model anticipates Grenada fleet growth anchored to a two-point logistic that hits ~30% EV stock by 2030; energy intensities are documented by drivetrain; grid-emissions intensity declines linearly to 2030; household billing rules follow Grenada's tariff and levy structure (lifeline ≤99 kWh VAT-free tier); and the counterfactual ICEV tax schedule mirrors age/engine-cc practice (CET/CSC/EVL/Excise plus 15% VAT) for historic foregone-revenue calculations, and the vehicles parts market shifts are captured. All parameter values, assumptions, and acceptance checks are exported alongside results to support journal-grade reproducibility and policy audit.

Conclusions and Recommendations

The Grenada Detailed Incentives Mechanism Report provides Grenada with evidence-based options for a balanced approach to a fiscally sustainable EV transition using a three-part policy package including:

- continuation of existing fiscal incentive (current zero-tax incentive on EVs);
- introduction of a new fiscal disincentive to discourage import of ICEVs; and

- introduction of new regulatory measures to limit imported vehicle age to capture safety/efficiency gains with manageable CIF impacts.

Model results indicate that the three-part policy package will maintain EV adoption momentum, maintain near fiscal neutrality for governmental revenues, align with existing policy guidance, and provide a credible bridge to longer-term, technology-neutral road-use charges as EVs become the norm.

The package aligns with Grenada's emerging regulatory architecture so that policy choices can be sequenced and adjusted with confidence as EV adoption accelerates.

9.2 Saint Lucia

The Saint Lucia Report on Selective Incentives provides a detailed analysis of the fiscal and environmental impacts of a reduction in the Saint Lucia VAT on fully electric vehicles. The report models two primary policy scenarios—an EV VAT rate of 0% and an EV VAT rate of 10%—against the current baseline of 12.5% VAT.

The Saint Lucia EV policy team selected these VAT rate adjustment scenarios for detailed analysis in this final stage of the GIZ NDC-TEC project. The team's decision is informed by the prior detailed analysis on policy options for EV incentives outlined in the May 20, 2025 Country Report and its Multi-Criteria Decision Analysis outcomes, as well as the July 4, 2025 Validation Workshop discussions. The Saint Lucia EV policy team requested a detailed analysis of the impacts of reduction of the VAT rate for EVs (fully electric) to determine whether this single incentive is best suited to implement the e-mobility goals of the Saint Lucia Third Nationally Determined Contribution (NDC) February 2025 report. The Third NDC report references transportation decarbonization as the "cornerstone of Saint Lucia's mitigation efforts" and sets targets to achieve 30% EV sales by 2030, increasing to 40% by 2035. That report anticipates that the e-mobility transition will be supported by fiscal incentives, as well as investments in charging infrastructure, pilot demonstrations, capacity building and public outreach initiatives.

This report analyzes the impact of VAT policies on the adoption of EVs in Saint Lucia, considering effects on public finances, foreign exchange (FX) reserves, and carbon dioxide (CO_2) emissions. The report models two primary policy scenarios—an EV VAT rate of 0% and an EV VAT rate of 10%—against a baseline of 12.5% VAT. These scenarios are assessed under both a market-driven adoption pathway and a "Target Enforced" pathway, which mandates a 30% EV market share of vehicle sales by 2030 and 40% by 2035.

This study develops a novel modelling framework that integrates market adoption dynamics, fiscal flows, FX savings, and CO_2 impacts to assess the implications of alternative EV VAT policies for Saint Lucia. At the core of the analysis is a multinomial logit (MNL) model of vehicle choice, parameterized by total cost of ownership (TCO) and alternative-specific constants (ASC). The model allows for two parallel adoption pathways: a baseline scenario where consumer choice evolves according to price competitiveness, and a target-enforced scenario where ASC values are iteratively solved to align EV market shares with government adoption targets (30% by 2030 and 40% by 2035).

By linking EV adoption outcomes to customs data, fuel imports, VAT revenues, and emissions accounting, the framework provides a transparent "data-to-decision" pipeline. This enables policymakers to trace how a marginal change in VAT policy affects fiscal balances, FX savings, and CO_2 reductions on a per-vehicle and economy-wide basis.

Methodology

This report analysis is built on a transparent, data-driven pipeline that integrates customs and vehicle registration data into a behavioral adoption model and a comprehensive accounting framework.

1. The report uses customs import data, vehicle registrations (EV, Hybrid, Gasoline), and fuel import prices to calculate the retail price and the 10-year Total Cost of Ownership (TCO) for each vehicle type.
2. A Multinomial Logit (MNL) model simulates consumer choice based on vehicle TCO and other attributes (Alternative Specific Constants, or ASCs), predicting annual market shares for EVs, Hybrids, and Gasoline vehicles.
3. In the Target Enforced pathway, the model calculates the required non-price incentives (calibrated via Alternative Specific Constants for EV) needed to achieve the specified 2030 and 2035 EV market share targets.
4. The model quantifies fiscal impacts (changes in VAT at customs, fuel duty and VAT losses, electricity VAT gains), FX savings from reduced fuel imports, and net CO2 emissions reductions.

Key Findings

- Vehicle Adoption**:** Lowering the EV VAT rate significantly reduces the TCO, which accelerates market-driven adoption. The Target Enforced model confirms that the 2030 and 2035 goals are attainable but require substantial non-price measures to supplement tax policy.
- Fiscal Impact: Reducing the EV VAT below the 12.5% baseline creates an immediate revenue shortfall at the import stage. This revenue shortfall is increased by downstream losses from related foregone fossil fuel duties during the EV operation stage. These losses are partially offset by VAT gains from electricity sales related to EV charging. The 0% VAT scenario leads to the fastest adoption rate for EVs, but also leads to the largest near-term fiscal deficits. The 10% VAT policy moderates these losses while still incentivizing EV adoption.
- Foreign Exchange and Energy Security: Faster EV adoption generates significant FX savings by reducing reliance on imported fossil fuels, and related fuel purchases in foreign currencies. These savings grow in direct proportion to the number of gasoline-powered vehicles displaced and can partially offset the fiscal revenue losses, thereby improving Saint Lucia's balance of payments.
- CO2 Emissions: Net CO2 reduction benefits are positive, as the reduction in tailpipe emissions outweighs the emissions from electricity generation for charging. These benefits will increase as Saint Lucia's energy grid becomes cleaner.

Conclusions and Recommendations

The report offers the following conclusions and recommendations:

1. **Select VAT Rate**: Choose between the 0% VAT and 10% VAT options, balancing the desired speed of EV adoption against near-term fiscal constraints and approve immediate implementation.
2. **Continue EV Team approach**. A tightly coordinated inter-ministerial approach will continue to be needed to drive EV transition and assure ongoing progress reports to Parliament and the public. The MoSD has coordinated inter-agency collaboration on the implementation of the EV Policy, but has noted that the MoFPS would have lead authority on any VAT reduction or other fiscal initiative.
3. **Adopt National Targets and Implementation Strategy**: Formally adopt national targets of 30% EV market share by 2030 and 40% by 2035 as official policy goals and adopt a clear and detailed implementation strategy to meet those goals to guide public and private sector investment (including the approved VAT reduction). Approve the necessary funding and legislative support for the full package of non-fiscal measures anticipated by the Third NDC Report to achieve the national EV adoption targets, and require annual reporting on progress and recommendations by designated Ministry to allow for policy adjustments if needed to achieve national targets. The comprehensive strategy should be accompanied by an implementation timeline.
4. **Design a Multi-Part Policy Package**: A standalone VAT reduction is insufficient to meet the 2030/2035 targets for EV adoption. The VAT incentive must be bundled with complementary measures such as government fleet conversion to EVs, public investment in public charging infrastructure, public transport mandates, disincentives for ICEVs, and public awareness campaigns.
5. **Manage Revenue Proactively**: The anticipated decline in fuel tax revenue requires proactive management. To maintain fiscal neutrality, the GoSL may wish to explore another tax revenue source designed to encourage the EV transition and to ensure sustainable funding for road maintenance and other essential services. One feasible approach would be to dedicate a portion of FX savings or EV-related electricity VAT revenues to this purpose. The use of a disincentive for ICEVs would target the continued growth of the ICEV fleet through imports.
6. **Ensure Equitable Access**: The multi-part policy design should address the needs of all Saint Lucia citizens. VAT reform should be paired with incentives for the electrification of public transport (buses) and commercial goods vehicles. Reforms should assure that lower-income households have access to affordable clean transport.
7. **Assure Adequate Charging Infrastructure, Supported by Adequate Grid Capacity**: A strategic rollout of charging infrastructure is critical to assure adequate EV charging locations and affordable rates throughout the island, while also assuring that the Grid operator can manage the increased electricity demand and maintain grid stability.

9.3 Jamaica

The Jamaica Report on Selected Incentives provides a detailed analysis of the fiscal and environmental impacts of a reduction in the Jamaica import duty on EVs (fully electric) from the current 30% to 10% (the minimum import duty required under the CARICOM External Tariff Treaty, List C).

The report examines the fiscal and environmental costs and benefits to Jamaica and its citizens of a reduction of the import duty from 30% to 10%, to assist the GoJ in determining whether the fiscal and environmental benefits flowing from a lower import duty justify the foregone revenue otherwise collectible under the 30% tariff.

The report models two primary policy scenarios—the current import duty of 30% and a reduced import duty of 10%. These scenarios are assessed under both a market-driven adoption pathway and a "Target Enforced" pathway, which assumes the achievement of Jamaica's 2030 EV adoption targets (12% private vehicle LDV fleet; 16% public transport fleet). The model addresses the three key areas impacted by EV transition, including public finances, foreign-exchange (FX) resilience, and transport-sector emissions. It is important to note that the blending of a "Target Enforced" pathway assumption that Jamaica will meet its 2030 targets is essential to understanding the full revenue difference under the two scenarios. The model should not be interpreted to predict that Jamaica will meet those targets (which would require a different market study relying upon detailed Jamaica automobile sector historical data on new and used vehicle sales and on availability and pricing of future EV models).

Using customs records, fuel price series, and transparent engineering parameters, the report quantifies historic fiscal costs of EV incentives and projects the future fiscal, foreign exchange (FX), and CO_2 reduction outcomes to 2040 under the 10% and 30% EV import-duty scenarios for vehicles ≤3 years old. The model includes not only import stage impacts, but also operating-stage impacts, by applying a GCT of 15% to the estimated electricity sales needed to charge the imported EVs, and estimating the reduced fuel sales for ICEVs, in terms of both FX savings and reduced fuel tax collections. The environmental impacts assessment for both scenarios assumes that Jamaica will reach its 50% renewable electricity in electricity sector generation by 2030, lowering the grid emission factor for EV charging.

The analysis addresses five practical questions of direct relevance to budget and energy planning:

1. how much import-stage revenue was historically forgone due to EV tax preferences (tax-expenditure);

2. how import-stage and operating-stage revenues from 2025–2040 under EV duty would vary under 10% vs 30% import duties;

3. how much FX Jamaica saves as EVs displace gasoline and diesel vehicles;

4. how much net CO_2 reductions occur once tailpipe emissions avoided are set against EV-charging emissions on a decarbonizing grid; and

5. how these fiscal and environmental outcomes trade off when policy levers change.

The analysis focuses on road transport, covering cars/SUVs, pickups/vans, buses, and motorcycles and three powertrains (battery electric, gasoline ICE, diesel ICE). The historic window of 2018–2024 anchors the model to observed customs lines and fuel price series and creates projections for the window of 2025–2040. The analysis links four accounting blocks:

1. an import-stage fiscal module that computes actual taxes and an ICEV counterfactual to measure tax-expenditure and to project border revenues;

2. a TCO + adoption module, blended with a policy anchor that is targeted to reach Jamaica's 2030 EV-share targets;

3. a stock-turnover and energy module that converts fleets and vehicle-kilometres travelled into fuel litres and EV kWh; and

4. operating-stage, FX, and emissions modules that value taxes, import-bill savings (CIF $/L), and net CO_2 (tailpipe minus grid).

The model analysis of the fiscal and environmental impacts of a 30% vs 10% import duty on EVs assumes achievement of Jamaica's EV adoption targets and 50% RE electrification targets and provides a comparison of the net effects under each scenario.

The key findings from the model analysis include:

- **Import Duty Impacts**
  Total import-stage collections grow in both the 10% and 30% duty scenarios as the EV market expands, but the 30% EV duty consistently yields higher revenue than the 10% duty**.** In 2030**,** the model indicates ~US$90m revenues under the 30% duty versus ~US$82m revenues under the 10% duty; by 2040 the gap remains, with revenues around US$105m and US$95m**,** respectively.

- **Operating Stage Tax Collections**
  Total operating stage tax collections under both 10% and 30% duty scenarios (Figure 5) remain dominated by fuel taxes, which rise gently from just over US$40 million in the mid-2020s to roughly US$46–47 million by 2040. Electricity VAT (GCT) contributes a small but steadily growing wedge on top of fuel tax receipts—consistent with increasing EV kilometres charged at a 15% VAT—yet it remains modest relative to liquid fuel taxation over that time horizon. The 30% duty case displays a slightly flatter VAT trajectory and marginally higher fuel tax retention than the 10% duty case, reflecting slower EV uptake.

- **Foreign-exchange Relief**
  Foreign-exchange relief grows nearly one-for-one with the EV stock, reaching ~US$21 million in 2040 under both scenarios due to the assumed target achievement.

- **Environmental Benefits**
  Net transport CO_2 falls from ~3 kt in 2025 to ~18 kt in 2030 and ~45 kt by 2040 in both 10% and 30% import duty scenarios due to the assumed target achievement. As the grid's emission factor improves with the 50% renewable electricity milestone by 2030, a larger share of tailpipe savings is realized, lifting the slope of net reductions after 2030.

Conclusions

The report conclusions include:

- Jamaica's history with a temporary period of a 10% import duty for EVs driving higher EV sales supports the conclusion that the reduced 10% import duty would accelerate EV transition more quickly than the 30% import duty scenario. The precise rate of EV sales and the related incremental GHG emission and FX savings to be achieved with the lower 10% duty scenario cannot be predicted with precision due to complex market factors that shape retail vehicle prices, but Jamaica's experience supports gives high confidence that the 10% duty will reduce vehicle purchase price and encourage EV purchases.

- The GoJ will maximize the beneficial impacts of import duty concessions by focusing concessions on replacement of high-VKT vehicle fleets that are most impactful on GHG emissions and fossil fuel sales, and by creating a disincentive on heavy and less efficient EVs (SUVs). In sum, the foregone revenue would effectively purchase more of the desired GHG reductions and FX savings.

- If the GoJ decides to keep the 30% import duty, it could allocate some portion of the premium to accelerate e-mobility transition, such as charging infrastructure build-out, purchase of EVs for GoJ-owned fleet and public transport, and even support for financing concession for conversion of privately owned high mileage fleets. This maximizes the CO_2 and FX returns per dollar than across-the-board incentives.

- The GoJ should regard the planned electricity sector pivot to RE generation as an essential companion to EV transition to meet NDC targets because the assumed 50% RE by 2030 has a multiplier effect on CO_2 tailpipe savings. Coordinating EV rollout with RE generation roll-out and managing EV charging (e.g., by time-of-use tariffs) maximizes climate benefits at least cost.

- The model highlights the FX savings bonus for fuel savings from EV transition, reaching ~US$21m in 2040 if Jamaica meets its EV transition targets, significantly improving Jamaica's resilience to oil price/supply shocks.

- Assuming Jamaica realization of its current adoption targets and the 50% RE grid path, Jamaica can preserve and even raise transport-related revenues at the border, save FX reliably, and cut CO_2 year after year. The strategic choice is how to recycle some portion of the incremental border-tax raised by the import duty and fees to accelerate electrification in the high mileage fleets, so that fiscal policy, energy security, and climate commitments reinforce one another through 2030 and beyond.

Recommendations

Jamaica can minimize revenue impacts while maximizing GHG emission reductions and FX savings per tax concession dollar with the following measures under either the 10% or 30% EV import duty scenarios:

- **Target high-VKT segments**. Prioritize buses, government fleets, commercial fleets, and logistics via procurement mandates and concessional capital (guarantees/green bonds).

- **Invest in enabling infrastructure**. If 30% import duty is retained, dedicate some portion of duties to co-finance depot charging, public fast charging, and grid upgrades at priority nodes.

- **Adopt tariff tools to shape electricity load and maximize energy efficiency.** Introduce time-of-use tariffs and demand-response programs for at least fleet and public charging to align EV load with renewable generation.

- **Refine eligibility and performance**. Maintain an age limit (ideally ≤3-year) for EVs (and ICEVs) and add minimum efficiency (kWh/km) criteria so the duty concessions effectively purchase more fuel savings. This can be implemented by a disincentive on heavy electric vehicles which targets less efficient SUVs and larger private passenger vehicles.

- **Protect fiscal stability**. Index fuel excises to inflation; keep GCT=15% on EV electricity, and consider the option to target revenues to improve public charging stations if needed.

- **Complementary Measures**. The import duty concession alone is not likely to enable Jamaica to achieve its EV transition targets. Jamaica will need to implement the complementary EV Policy and Strategic Framework Action Plan initiatives to assure that Jamaica can achieve the EV transition targets essential to NDC target compliance.

10.0 Conclusion

The report provides a data-driven analysis of the fiscal and environmental impacts of three different approaches to EV incentives, including:

- A three part package of fiscal incentive (current import duty concessions), fiscal disincentives on ICEVs, and regulatory controls on vehicle age limits (Grenada);
- Import duty relief from 30% to 10% (Jamaica); and
- Import VAT reduction to zero or 10% from a current 12.5% VAT baseline (Saint Lucia).

The analysis and approach provide a helpful template for incentive analysis by the three project flagship countries as well as other CARICOM nations as they select incentives, and evaluate whether specific incentives will be help to accelerate e-mobility transition. The model emphasizes the importance of both import stage and operational phase revenue analysis to inform selection of fiscal incentives for acceptable fiscal impacts, maximum environmental benefit, and FX savings. This analysis framework contributes to the CARICOM region discourse on fiscal and regulatory policy design for transport electrification in SIDS, offering a replicable tool for evidence-based decision-making in other small, import-dependent economies.

The flagship countries' experience to date confirms that more governmental action is needed to achieve 2030 and 2040 EV transition targets. A combination of financial incentive mechanisms with disincentive mechanisms and regulatory measures will be needed to address the significant portion of Caribbean national vehicle fleets that are ICEVs and older inefficient vehicles. This combination approach also enables CARICOM nations to prioritize fiscal incentives on higher mileage fleets that will be most impactful in enabling countries to achieve their EV transition goals and related NDC GHG emission reduction commitments.

In addition to this Final Report summary of the project, the consulting team will make a November 13, 2025 presentation in a CARICOM Energy Month webinar on the project outcomes.