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CARIBBEAN CLEAN ENERGY PROGRAM QUARTERLY PERFORMANCE REPORT

REPORTING PERIOD
FROM October 1, 2017 – December 31, 2017



January 15, 2018

This publication was produced for review by the United States Agency for International Development. It was prepared by Deloitte Consulting LLP.

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CONSULTING LLP

USAID/DOMINICAN REPUBLIC OFFICE OF
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TABLE OF ACRONYMS

Acronym	Description
AEE	Association of Energy Engineers
AMI	Advanced Metering Infrastructure
BOJ	Bank of Jamaica
BSJ	Bureau of Standards
CARCEP	USAID Caribbean Clean Energy Program
CAREC	Caribbean Renewable Energy Community
CARICOM	Caribbean Community and Common Market
CARILEC	Caribbean Electric Utility Services Corporation
CDB	Caribbean Development Bank
CE	Clean Energy
CEADIR	Climate Economic Analysis for Development, Investment, and Resilience
CEFF-CCA	Clean Energy Financing Facility for the Caribbean and Central America
CEM	Certified Energy Manager
CHEMI	Caribbean Hotels Environmental Manager Initiative
CHENACT	Caribbean Hotel Energy Efficiency Action
CHENACT-AP	Caribbean Hotel Energy Efficiency Action – Advanced Program
CHIEF	Caribbean Hospitality Industry Exchange Forum
CHTA	Caribbean Hotel and Tourism Association
CO	Country Office
COP	Chief of Party
COR	Contracting Officers Representative
COTR	Contracting Officers Technical Representative
CREEEM	Caribbean Renewable Energy and Energy Efficiency Matrix
C-SERMS	Caribbean Sustainable Energy Roadmap & Strategy
CSGWG	Caribbean Smart Grid Working Group
CTO	Caribbean Tourism Organization
CWEEL	Council for Women in Energy and Environmental Leadership
DBJ	Development Bank of Jamaica
DCA	Development Credit Authority
DCOP	Deputy Chief of Party
DFID	UK Department for International Development
DG	Distributed Generation
DOMLEC	Dominica Electricity Services Limited
DSM	Demand Side Management
DTT	Deloitte Trinidad & Tobago
EAST	Environmental Audits for Sustainable Tourism
ECERA	Eastern Caribbean Energy Regulatory Authority
ECS	Eastern Caribbean States
EDL	Company Name – Energy Dynamics Ltd
EE	Energy Efficiency
EEIF	Electricity Efficiency Improvement Fund
EPC	Energy Performance Contract
EPE	Company Name – Electric Power Engineers
ESC	Eastern and Southern Caribbean
ESCO	Energy Service Company
ESET	Electric Sector Enterprise Team
EU	European Union
EXIM	Export Import
FGB	First Global Bank

Acronym	Description
GCC	Global Climate Change
GDP	Gross Domestic Product
GEI	Government Electrical Inspectorate
GESI	Gender Equality and Social Inclusion
GHG	Greenhouse Gases
GIZ	Gesellschaft für Internationale Zusammenarbeit
GOJ	Government of Jamaica
GRENELEC	Grenada Electricity Services Ltd
HEART Trust/NTA	Human Employment and Resource Training Trust, National Training Agency
IDB	Inter-American Development Bank
IFI	International Financial Institutions
IPP	Independent Power Producer
IRP	Integrated Resource Planning
IRRP	Integrated Resource and Resilience Planning
JAMALCO	Jamaica Alumina Company
JHTA	Jamaica Hotel and Tourist Association
JMA	Jamaica Manufacturers Association
JNSBL	Jamaica National Small Business Loan
JPC	Jamaica Productivity Centre
JPS	Jamaica Public Service Company
JSEE	Jamaica Society of Energy Engineers
JSIF	Jamaica Social Investment Fund
JUTC	Jamaica Urban Transit Company Limited
KEMA	Keuring van Elektrotechnische Materialen te Arnhem (now DVN)
kWh	Kilowatt Hours
LEDS	Low Emission Development Strategies
LOE	Level of Effort
LSGWG	Local Smart Grid Working Group
LUCELEC	St. Lucia Electricity Services Limited
M&E	Monitoring and Evaluation
MIPEL	St. Lucia's Ministry of Infrastructure, Ports, Energy and Labour
MoF	Ministry of Finance
MOU	Memorandum of Understanding
MSET	Ministry of Science, Energy. and Technology
MW	Megawatt
MWLECC	Ministry of Water, Land, Environment and Climate Change
NABCEP	North American Board of Certified Energy Professionals
NARUC	National Association of Regulatory Utility Commissioners
NDA	Non-Disclosure Agreement
NETS	MIPEL's National Energy Transition Strategy
NEVLEC	Nevis Electricity Company Limited
NGO	Non-governmental Organization
NHTA	National Hotel & Tourism Association
NURC	National Utility Regulatory Commission, St. Lucia
NWC	National Water Commission
OAS	Organization of American States
OECS	Organization of Eastern Caribbean States
OLADE	Latin American Energy Organization
OOCUR	Organization Of Caribbean Utility Regulators
OPIC	Overseas Private Investment Corporation
OUR	Office of Utilities Regulation, Jamaica

Acronym	Description
PAHO	Pan American Health Organization
PCJ	Petroleum Corporation of Jamaica
PIOJ	Planning Institute of Jamaica
PMO	Project Management Office
PPA	Power Purchase Agreement
PSOJ	Private Sector Organization of Jamaica
PV	Photovoltaic
RE	Renewable Energy
REDLab	Renewable Energy Design Laboratory
SEKLEC	St. Kitts Electricity Company
SRUC	Sector Reform and Utility Commercialization
SSM	Supply Side Management
SVG	St. Vincent & the Grenadines
TA	Technical Assistance
TOCOR	Task Order Contracting Office's Representative
TOR	Terms of Reference
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
USG	United States Government
USTDA	US Trade and Development Agency
UTech	University of Technology
UWI	University of the West Indies

EXECUTIVE SUMMARY

The United States Agency for International Development's Caribbean Clean Energy Program ("USAID CARCEP" Contract Number: AID-OAA-I-13-00018; Task Order Number: AID-532-TO-15-00003) was executed with Deloitte Consulting LLP on October 1, 2015. The purpose of USAID CARCEP is to assist certain countries of the Caribbean – with emphasis on Jamaica and the Eastern Caribbean – in establishing effective policy and regulatory environments, as well as incentives, for greater energy efficiency and for low-emission growth in the energy sector. This program also works with the public and private sectors in these countries to spur on investment in Clean Energy (CE) development.

The program has six major task areas:

1. Improve Enabling Environment for Clean Energy Development
2. Optimizing Variable Renewable Energy Integration
3. Accelerating Private Sector Clean Energy Investment
4. Energy Efficiency Benchmarking in the Hotel and Tourism Sector
5. Coordination and Promotion of USAID and United States Government (USG) Inter-Agency Activities in the Energy Sector and Sharing Lessons Learned with other Island Nations
6. Coordination with the Caribbean Community (CARICOM)

In addition to these specific Tasks, the program focuses on cross-cutting areas, such as the Innovation Fund (grants), the promotion of gender equality, measurement and evaluations, and communication. This document serves as the **USAID CARCEP Year 3 First Quarter Report**. The report is divided into seven sections, consisting of the six tasks listed above as well as a section on cross-cutting activities.

In late September 2017, USAID CARCEP was notified that USAID would not be able to continue funding the project through its original close date in March 2020 and/or through its original intended funding of [REDACTED]. As a result, USAID CARCEP is facing an early closeout, currently estimated for mid-2018, and a significant amount of planning was required in Quarter 1 FY18 to determine the final activities for each task as well as to ensure the project could fund those activities. Formal communications to stakeholders regarding the closeout is planned in the second quarter of this fiscal year.

Task 1: Improve Enabling Environment for Clean Energy Development

During the first quarter of CARCEP Year 3, the Task 1 team continued implementation of the work plans developed during CARCEP Year 2 with the CARCEP countries, focusing on drafting of new and revised laws and regulations, technical assistance to the Jamaica electricity sector on the upcoming five year base tariff proceeding, and technical capacity building training for CARCEP national and regional regulators. While the first quarter schedule and rate of progress reflected the traditional extended holiday season in both Jamaica and the Eastern Caribbean, and the more limited bandwidth of CARCEP countries to focus on the CARCEP issues, significant progress was made on legal framework and technical assistance projects. The USAID decision to curtail funding to CARCEP required the Task 1 team to expend considerable time and effort throughout the quarter on revised budget and planning tasks for USAID, drawing time away from the projected work plan items.

The diverse Task 1 initiatives are all focused on the two key impediments that have delayed the pace of RE/EE projects in CARCEP nations described in the Year 2 Annual Report: (1) the lack of regulatory certainty that has impeded development of RE or EE projects by utilities, businesses, and individuals, as well as private sector project financing; and (2) the lack of

technical capacity within each of the key stakeholder institutions and their staff that has delayed progress on the refinement of a stable framework of policies, laws, and regulations essential for an enabling regulatory environment to support RE/EE projects.

In the Eastern Caribbean, we focused primarily on: Grenada (drafting Grid Codes and working with technical working group); Saint Vincent and the Grenadines (EV workshop on private sector EV pilot launch); and Saint Lucia (preparing an initiative on review of laws and regulations).

In Jamaica, our work focused on technical assistance and capacity building. We provided detailed technical assistance training to OUR staff and Commissioners. We also provided capacity building to OUR staff and other electricity sector stakeholders to help them prepare for the upcoming tariff proceeding. Finally, we supported UNDP GEF in their workshop on the Energy Services Company (ESCO) model providing training and recommendations for further action to promote that sector.

At the regional level, USAID CARCEP took advantage of several annual forums in the Caribbean to deliver training and capacity building. We attended the Caribbean Renewable Energy Forum in Miami, the USAID CARCEP Donor Roundtable event scheduled in conjunction with that event, and the OOCUR forum in Trinidad and Tobago to provide training and technical assistance to CARCEP nations. Finally, the USAID CARCEP team worked in partnership with the Saint Vincent and the Grenadines Ministry of Energy and Chamber of Commerce and Industry to sponsor and deliver training at a workshop on EV pilot study, and made the training available via webinar to interested parties. The event was recorded and will be uploaded to a public website and/or offered to CAREC as a permanent resource. During these events, the Task 1 team met with several CARCEP nations and interested electricity sector stakeholders to obtain the most current information on new legislative and regulatory developments and project development plans.

Task 2: Optimizing Variable Renewable Energy Integration

Based on USAID CARCEP's significantly shortened timeline, the Task 2 team developed focal areas for FY18 that will be pursued to both achieve maximum results for USAID and guarantee turnover of key activities for their continuation when CARCEP closes.

Years 1 and 2 of USAID CARCEP's work with JPS saw significant progress in the face of several key challenges, notably the signing of a complex NDA and the installation of a new CEO, Emmanuel DaRosa. USAID CARCEP is continuing this progress with the utility on key interventions in the Fourth Quarter and throughout Year 3, with several key initiatives planned with JPS, including:

- Grid Integration Training focused on steady state and short circuit training
- Grid Integration Training focused on dynamic stability training
- Support for JPS' forecasting endeavors and upcoming demos of forecasting software

Other areas of support for the utility include work on Electric Vehicles, EE for customers, JPS' exploration of adopting an Energy Services Company (ESCO) business model, a Smart City program through collaboration with the USAID CARCEP Caribbean Smart Grid Working Group, and other related RE/EE initiatives.

USAID CARCEP is currently working with the Electric Power Engineers (EPE) subcontractor regarding next steps for the Caribbean Smart Grid Working Group (CSGWG) before the completion of CARCEP. Advisory content is being prepared as a follow up from the last CSGWG meeting in October 2017 at the Smart Grid Symposium, and will address the focal areas discussed in the meeting for the utilities to address in their respective evolutions towards a smarter grid.

Task 3: Accelerating Private Sector Clean Energy Investment

Work in Task 3 in the first quarter of FY18 capitalizing on relationships developed in Years 1 and 2 of the project to deliver results regarding increasing investments in clean energy and encouraging energy efficiency and conservation efforts. USAID CARCEP's previous assistance to the Eight Rivers Project, a [REDACTED], 37 MW solar PV project, was formally recognized at their groundbreaking ceremony in Westmoreland. Moreover, USAID CARCEP conducted multiple trainings in this first quarter for Eight Rivers' potential employee pool in workforce safety and PV installation. More training is planned in upcoming quarters.

USAID CARCEP's work with the YMCA also reached a critical success point; the energy audit previously conducted was finalized and presented to YMCA's Board of Directors, who immediately voted to move forwards with securing financing to implement USAID CARCEP's key recommendations outlined in the report. USAID CARCEP is looking forward to continuing support to YMCA to attract donor financing as well as private sector lending if necessary.

Task 4: Energy Efficiency Benchmarking in the Hotel and Tourism Sector

Task 4 activities during the first quarter of FY18 expanded on the work conducted in Years 1 and 2 of the project to develop and deploy the Energy Benchmarking Tool (EBT). It also included high-level meetings with various stakeholders throughout the region. The Task 4 Team conducted EBT workshops with St. Vincent and Dominica in August and EBT workshop in St. Kitts & Nevis October 31 - November 1st. Work with the manufacturing sector in Jamaica continued and a workshop for their members was held on November 8-9th.

Tourism partners in Dominica were badly hit by the hurricanes Irma and Maria. CARCEP provided assistance to hoteliers and PAHO with their rebuilding efforts and hurricane relief efforts and rebuilding. High-level meetings designed to facilitate future activities were conducted with the following people and/or entities:

- Consultation with key stakeholders in Grenada
- Consultation with key stakeholders in St. Vincent
- Consultations with key stakeholders in St. Kitts
- A presentation on why EE and RE matters and Resiliency Planning was given to the CTO (Caribbean Tourism Organization) **Climate Smart Sustainable Tourism Forum (CSSTF 2017)**, held December 12 – 14 in St. Kitts
- Discussions were held with Luca Pierantoni. Head of the Regional Cooperation and Trade Section at the EU Delegation to Barbados and the Eastern Caribbean and his team to discuss EU's potential interest in continuing on with CARCEP efforts after project wraps up.
- Ongoing consultations with PAHO (Pan-American Health Organization) continued. The stage was set for the development of EBT for PAHO to be used throughout the Caribbean in the 1000 health facilities they are associated with. PAHO expressed interest in applying the EBT to hospitals, and the USAID CARCEP team working with PAHO on this topic during year three.

Other activities included ongoing USAID CARCEP outreach to secure donors for the proposed [REDACTED] energy efficiency fund to develop the ESCO industry in the region. Meetings were held with the Caribbean Development Fund (CDF) to discuss CARCEP participation with their program being developed to support ESCOs and provide seed funding to them; continued partnership with CHTA and the local hotel and tourism associations to rollout a series of energy efficiency training programs; and continued efforts with Energy Dynamics Limited (EDL) to conduct energy audits on hotels in beneficiary nations and manufacturers in Jamaica.

Task 5: Coordination and Promotion of USAID and USG Inter-Agency Activities in the

Energy Sector and Sharing Lessons Learned with other Island Nations

Under Task 5, USAID CARCEP hosted its second annual Donor Roundtable in Miami for donors and stakeholders to present the full spectrum of USG offerings of technical assistance, grants, and project financing support in the region.

USAID CARCEP continued its efforts to build strong ties with USG donors and stakeholders, multilateral development banks, regional organizations, and other entities focused on renewable energy development in the Caribbean. This included an extensive outreach effort that sought to connect, or re-connect, with relevant entities and led to over a dozen consultations, during which USAID CARCEP provided updates on its activities and sought out areas of potential collaboration. For example, USAID CARCEP conducted a webinar presentation in June in collaboration with the US Department of Energy Office of Energy Efficiency and Renewable Energy, focused on the EBT. The webinar generated keen interest from the twenty-three participants representing four different USG entities and there have already been expressions of interest regarding potential opportunities for collaboration and promotion of the EBT.

USAID CARCEP established new partnership initiatives and linkages with the International Renewable Energy Agency (IRENA) Sustainable Energy Marketplace Program, the Atlantic Council, a DC-based think tank, and CAREC, a Caribbean regional organization focused on renewable energy. USAID CARCEP also developed new outreach materials, increasing the regularity of communication with USG stakeholders, and leveraging relationships with other international and multilateral organizations that have similar goals in the region to maximize efforts. The two key benefits from Task 5 activities this year were establishing USAID CARCEP as a major player active in the Caribbean, and showcasing its capabilities and willingness to implement programs in close coordination with other large international donor agencies.

Task 6: Coordination with CARICOM

Task 6 is the additional work stream added to USAID CARCEP's scope and contract by USAID in the Third Quarter of Year 2. Key activities this past quarter included delivering a Business Plan for the CARICOM Integrated Renewable Energy Atlas, co-hosting along with CARICOM a workshop on renewable resource forecasting and integration. Also, consistent with CARICOM's goal of promoting professional certification below that of (and less expensive than) the CEM (Certified Energy Managers), we held a workforce development training in conjunction with the Eight Rivers Project, and as a result, 37 community members took the test for Caribbean Vocational Certification in regard to solar project workplace safety. USAID's decision to curtail funding to CARCEP will dampen the possibilities for long lead time activities characteristic of CARICOM Task 6 activities.

TASK 1: IMPROVE ENABLING ENVIRONMENT FOR CLEAN ENERGY DEVELOPMENT

Top Achievements

- Caribbean Renewable Energy Forum (CREF) presentations
- OOCUR Conference presentations
- SVG EV Pilot Project Launch

Key Activities and Accomplishments of Task 1

During the quarter, USAID CARCEP made significant progress on legislative and regulatory framework improvement and technical assistance training with key stakeholders in Jamaica and the Eastern Caribbean beneficiary nations. Key Task 1 program activities and accomplishments during the third quarter are listed below:

Regional

Caribbean Renewable Energy Forum (CREF) – CREF is the premier annual event for renewable energy in Caribbean Region. USAID CARCEP's Task 1 Lead, Elizabeth Butler, spoke as a panelist on the "Future of Transportation", a panel discussion focused on the roadmap of EV penetration in the Caribbean. Held on Friday, October 20th, the panel was moderated by Chief of Party Dan Potash and included experts from the United States and Canada on EV fleet deployment and charging stations, as well as Government of Saint Lucia Permanent Secretary of Sustainable Energy Unit explaining their public fleet conversion initiative.

Organization of Caribbean Utility Regulators (OOCUR) Annual Conference – USAID CARCEP delivered multiple presentations at the 15th annual OOCUR Conference held on November 8-10th in Trinidad & Tobago. Mr. Welch and Ms. Butler both delivered their presentations as part of panel discussions; there were a few questions from the conference participants, and some interplay among panelists. These presentations were as follows:

- "Regulatory Issues in EV Deployment," Tom Welch
- "Effective National and Regional Communication in Decision Making," Tom Welch
- "Disaster Planning and Recovery: A Regulatory Perspective," Tom Welch
- "Legal Discussion: License Strategies," Elizabeth Butler

The conference also provided the opportunity to meet informally with representatives of the St. Lucia, Jamaica and Barbados commissions to discuss future activities. In particular, Mr. Welch and Ms. Butler explored future OOCUR work in Jamaica on accounting issues, and the details of the renewable energy legislative drafting project with members of the St. Lucia National Utilities Regulatory Commission.

Jamaica

Jamaica Solar Energy Association Presentation – At the invitation of USAID's Gerald Lindo, Elizabeth Butler of USAID CARCEP made a presentation on the Emerging Policy,



Figure 1: International expert on utility regulation, Tom Welch presents at the OOCUR Annual Conference

Legal and Regulatory Issues Concerning Storage on the Jamaica Grid at the December 14, 2017 membership meeting of the Jamaica Solar Energy Association. The meeting was hosted by USAID at its Kingston offices in the US Embassy complex. The meeting offered an opportunity to discuss the opportunities and challenges presented by increasing affordable and technologically feasible storage systems from a regulatory perspective. Several small business entrepreneurs attending the meeting posed a number of questions about new business opportunities. A representative of Jamaica's rural electrification agency, NeSol, under the umbrella of the Ministry of Science, Energy, and Technology also attended and expressed interest in working with USAID CARCEP to address RE/EE for rural customers without access to the JPS grid. The meeting was attended by approximately 20 persons, including USAID staff.

OUR – USAID CARCEP was invited to the 20th anniversary of the OUR establishment and long service awards, which was held on December 9th. Task 1 Lead Elizabeth Butler represented USAID CARCEP at the event, which was attended by the OOCUR chair as well as other government ministries to celebrate the independent regulator's service to Jamaica over the past two decades.

Training Material Library – The Task 1 team collected all presentations made at the September OUR-USAIC-MSET Workshop on Tariffs and created an external Deloitte sharefile link, enabling tariff attendees to access copies of all presentations.

Barbados

Training Material Library - The presentation materials from both the June and July training workshops for the Fair Trading Commission and St. Lucia NURC were compiled and posted on a Deloitte Sharefile link that USAID CARCEP shared with workshop participants. This enables the FTC and NURC staff to revisit the presentations and the workshop content and to share with fellow staff.

Grenada

Grid Code Development – USAID CARCEP continued to work with the Ministry and with Grenlec representatives to develop the Grid Codes in spite of continued strong dispute between the government and the utility concerning the amendment of the Grenlec license and dilution of its monopoly in the generation, transmission, and distribution sectors. This matter is now in arbitration and we understand that there is little or no communication between the government and Grenlec on electricity sector issues. The most recent round of proposed revisions to the Electricity Supply Act of 2016 have compounded the tension. But USAID CARCEP was able to advance the project work by shuttling between the parties to build drafts and then to host review calls. USAID CARCEP is developing a new version to reflect comments received to date, and awaits comments of Grenlec on the Generation Code draft.

St. Lucia

Legislative and Regulatory Review project – USAID CARCEP discussed this project with NURC and is developing a staged approach for discussion with the relevant ministries.

St Vincent & the Grenadines

Electric Vehicle Seminar – USAID CARCEP held an Electric Vehicle Seminar on December 6th in collaboration with the SVG Chamber of Commerce, the SVG Energy Unit, and UNDP GEF. 32 participants from private and public stakeholders attended, and the event was also broadcast live online to encourage remote access.

Challenges/Solutions

During the first quarter, the Task 1 team encountered several significant challenges,

displayed below:

CHALLENGE	PROPOSED SOLUTION
Jamaica MSET has not had the bandwidth to move forward with EV study or technical assistance discussions	CARCEP worked with USAID to engage with Ministry of Transport, which will work in consultation with MSET and Climate Change Division. The EV Impact Study is now under development
Jamaica MSET has not shared a copy of the draft IRP with CARCEP for comment	CARCEP took the opportunity to emphasize the IRP process interconnection with the Jamaica tariff process and related JPS business plan development process, and to follow up with OUR and JPS on these inputs to the tariff process
Jamaica MSET has not shared the revised Drafting Instructions on Net Billing, Power Wheeling, and Auxiliary Connections rule, and significant further work is likely to be needed on the rules.	USAID CARCEP has standing offers to MSET PS Alexander to review the pending rule. CARCEP worked with OUR to address the wheeling issues through the OUR tariff and planning workshop in September, offering options to Jamaica sector stakeholders on how to address wheeling issues. At this workshop, we learned that the draft MSET rule has been distributed to OUR and to JPS. Although MSET has not shared the draft rule with CARCEP, we will review the draft rule if requested.
Jamaica MSET staff and Minister have expressed interest in updating and obtaining Parliamentary approval for sub-sector policies on RE and EE under the National Energy Plan, but have not responded to offers of assistance.	USAID CARCEP has offered support to MSET to revise the policies since October 2016 Work Plan and again offered assistance in our meeting with Permanent Secretary Hilary Alexander. Offer remains pending.
Regional/St. Lucia Capturing and keeping the attention of the Eastern Caribbean countries when the USAID CARCEP team is not in country.	USAID CARCEP Task 1 team member Daryl Raymond provides in country presence in St. Lucia and remains in close contact with SVG Energy Unit. USAID CARCEP also experimented with the webinar format in the SVG EV Workshop, enabling delivery of the content on a remote basis.
Grenada On May 5, 2017, GRENLEC major shareholder, Grenada Private Power Limited (GPPL), with its parent company, WRB Enterprises, Inc., filed a request for arbitration of GPPL's demand to the Government of Grenada to repurchase shares under the original sale agreement. The arbitration will be resolved in the World Bank's International Centre for Settlement of Investment Disputes. (ICSID).	The already strained relations between GRENLEC and the Ministry have worsened, and communication has basically ceased between the Ministry and GRENLEC, complicating the Grid Code development process. USAID CARCEP continues to build upon the original consensus that a Grid Code is needed regardless of the license dispute, and to work with the Ministry and GRENLEC to develop the Grid Code. CARCEP has developed a close working relationship with GIZ representative in Grenada, facilitating otherwise challenging communications with the Energy Ministry.

TASK 2: OPTIMIZING VARIABLE RENEWABLE ENERGY INTEGRATION

Top Achievements

- Hosted the Smart Grid Symposium in Trinidad to connect smart grid suppliers and service providers with Caribbean power sector stakeholders, and showcase US providers.
- Convened a Smart Grid Working Group Meeting, which identified focal areas for utilities in their progress towards smarter grids.

Key Activities and Accomplishments of Task 2

During the quarter, USAID CARCEP made significant progress towards optimizing variable renewable energy integration in Jamaica and the Eastern Caribbean. Key Task 2 program activities and accomplishments are listed below:

Regional

USAID-CARILEC Smart Grid Symposium – USAID CARCEP, in close collaboration with Caribbean Electric Utility Services Corporation (“CARILEC”), hosted the Smart Grid Symposium from October 23-26th in Trinidad, themed “Digital Transformation: The Modern Utility.” The conference provided an opportunity for smart grid suppliers and service providers to connect with Caribbean power sector representatives and stakeholders.

This initiative was led by Task 2 Lead, Dwight DaCosta and USAID CARCEP’s support included the staging of an Electric Vehicle panel discussion during the main conference as well as a post-conference meeting with the Caribbean Smart Grid Working Group members which enlisted the expertise of International Consultant Hala Ballouz to help the utility representatives with advancing their national smart grid roadmaps. USAID CARCEP also participated in a 2-day conference exhibition which allowed for further outreach and promotion of the project’s achievements.



Figure 2: Conference participants pose with a Tesla Electric Vehicle

Caribbean Smart Grid Working Group/CARILEC – USAID CARCEP convened the Caribbean Smart Grid Working Group at the Smart Grid Symposium on October 25th. Although a half-day session was planned, participants requested the presentation be extended to last the whole day. Led by Ms. Ballouz, the working group session was attended by members of Barbados Light and Power, JPS, SKELEC, the Trinidad and Tobago Electricity Commission (TTEC), GRENLEC, LUCELEC, and the Grand Bahama Power Company.



Figure 3: CSGWG members focus on Hala Ballouz's presentation

The Working Group meeting established a foundation for the smart grid roadmap process approach by identifying focal areas of smart grid engagement, including smart meters, renewable integration, and electric vehicles. A preliminary gap assessment was conducted

by the working group members for the attendant utilities' islands to determine next steps and focal points for their evolution to a smarter grid.

Caribbean Renewable Energy Forum – USAID CARCEP attended CREF in October 2017 and had discussions with several of its counterparts and stakeholders in the energy sectors of the Caribbean across a wide range of issues.

Jamaica

JPS – USAID CARCEP met with JPS on December 8th to discuss a collaborative agenda for 2018 including electric vehicles, energy storage solutions, and the integrated utility services (IUS) model. JPS intends to build a business case for the adoption of electric fleet vehicles, and then build that case into a broader national pilot. JPS is in discussions with GIZ regarding the IUS model, although indicated they are unlikely to commit to funding a pilot.

Challenges/Solutions

CHALLENGE	PROPOSED SOLUTION
MSET has been slow in agreeing and approving a work plan to engage on with USAID CARCEP.	USAID CARCEP with the assistance of USAID will continue to engage MSET at all levels to encourage focus in the critical areas of the energy sector and to offer support where they can add value. It is anticipated that work will progress shortly in the area of EV.
The impact of JPS' organization changes on the speed of execution of proposed support efforts in some task areas.	USAID CARCEP will continue to foster improved collaboration in areas (i.e. EVs, IUS) where progress can be made and give support and guidance to contribute to a smooth transition and early settling down of the new organizations.

TASK 3: ACCELERATING PRIVATE SECTOR CLEAN ENERGY INVESTMENT

Top Achievements

- Conducted two training workshops for the Eight Rivers Project community regarding workforce preparation, safety, and PV installation. Additional training sessions were immediately requested.
- USAID CARCEP was invited to the groundbreaking ceremony for Eight Rivers' 37 MW Solar Plant, and gave a brief presentation at the event.
- Delivered training to Petroleum Corporation of Jamaica (PCJ) on December 4th regarding developing an energy management strategy and ESCO finance modeling, which will help PCJ's transformation into an energy service company; received an immediate request for additional training on assessing energy audit data.
- Delivered training to members of the Jamaica Manufacturers Association on the value of improving the energy efficiency and conservation process, as well as basic financing techniques and ESCO finance modeling.
- Presented finalized audit report to the YMCA board and drafted a solicitation letter for funding support from Sandals and other foundations such as the Jamaica National Bank.

Key Activities and Accomplishments of Task 3

During the quarter, USAID CARCEP continued Task 3 with a primary emphasis on increasing investments in clean energy and to catalyze the positive multipliers resulting from energy efficiency, energy conservation, and climate mitigation throughout Jamaica and the Eastern Caribbean beneficiary nations. The main areas of focus are as follows:

Eight Rivers Project Community Training – USAID CARCEP conducted two training workshops for the Eight Rivers Project Community in Westmoreland, Jamaica. The first training was held in collaboration with the Clinton Climate Foundation on November 21st, where 63 participants were trained on the importance of and various implementation methods for energy conservation, as well as general workforce training.

USAID CARCEP partnered with the Human Employment and Resource Training (HEART) Trust to offer the second training, which was held on November 28-30th. HEART is the premier training and certifying body in Jamaica for technical industries. 53 participants were trained regarding occupational safety and photovoltaic (PV) installation; 37 of these participants took an official unit exam on workplace safety to earn the Level I HEART Trust Certification, with an 84% pass rate.

For both of the trainings, USAID CARCEP conducted significant outreach to the Social Development Commission as well as Petersfield High School, a technical school in the area. The certification is a solid step towards boosting the employability of these individuals when Eight Rivers' begins construction on their solar power plant in 2018.

Based on the positive results, Eight Rivers has requested USAID CARCEP provide additional trainings on workplace safety and basic PV installation, which we anticipate completing in the second quarter of FY18. USAID CARCEP is also exploring the feasibility of offering training leading to a HEART Level I Certification in basic photovoltaic installation.

Eight Rivers Groundbreaking Ceremony – USAID CARCEP was invited to attend and speak at the Eight Rivers' groundbreaking ceremony on its [REDACTED], 37 MW solar power plant in Westmoreland, Jamaica. COP Dan Potash attended the event, where USAID CARCEP was thanked for our previous help securing attractive financing and our current work with the community in workforce training and development.



Figure 4: COP Dan Potash (right) with Angela Rainford, Managing Director of Eight Rivers Project, and David Delaire of MPC Capital, lead investors in the project

PCJ Energy Management Training – On December 4th, USAID CARCEP conducted a training in energy management for 25 participating PCJ staff. This activity was aimed at encouraging uptake of energy efficiency and renewable energy best-practices at the PCJ Facility. The workshop which was led by USAID CARCEP's Program Development Specialist and Certified Energy Manager Owen Gunning, aimed at identifying and exploring improved strategies for getting more out of existing energy processes and equipment, assisting participants to capitalize on EE opportunities. Additional training was immediately requested regarding assessing energy audit data, which USAID CARCEP intends to complete in the upcoming quarter.



Figure 5: USAID CARCEP delivers audit report presentation to YMCA

YMCA Presentation – USAID CARCEP visited the YMCA board to discuss the finalized energy audit report and also helped draft a solicitation letter for them to request funding support from the Sandals/Stewart system.

Challenges/Solutions

USAID CARCEP Task 3 encountered challenges similar to Task 2, as indicated in previous reports. The team remains committed its proposed solutions displayed in the following table:

CHALLENGE	PROPOSED SOLUTION
National and Commercial Banks continue to use the standard assessment process on EE and RE loans and are reluctant to invest significantly in the industry	Continued dialogue and training of banks as to the importance, size and value of the clean energy market, and train and assist aspiring ESCOs to develop. Assist banks in developing a product mix that includes Renewable energy and to demonstrate its positive effect on the banks profitability.
There is still low penetration of RE installation and investment in the Eastern Caribbean States, partly due to their small size and inability to attract investors	Continue conducting in-person meetings and interactions with stakeholder in the ECS; offer more training and certification courses to key energy professionals in the ECS; and propagate the success of projects in the more developed countries to the lesser developed ones. Projects can also be bundled to achieve economies of scale.
Lack of a secondary market for RE in the event of acquisition of this equipment by banks or investors	Continue working with solar equipment suppliers to develop a resale market for used RE equipment similar to the used car market; encourage the Utility Companies and Regulators to adjust their business models to include RE solutions to domestic and commercial customers.
There are no suitable demonstration projects with actual data to assuage the fears of financiers	USAID CARCEP has done an energy audit for the YMCA and will present the report to donor organizations to fund same; and USAID CARCEP will monitor and evaluate the performance of this pilot project which it will use as a benchmark to embark on similar projects.

TASK 4: ENERGY EFFICIENT BENCHMARKING IN THE HOTEL AND TOURISM SECTOR

Top Achievements

- USAID CARCEP conducted an audit of the Jamaica Manufacturer's Association's (JMA) headquarters, which was then used as a case study for a workshop offered to JMA members.
- The Energy Benchmarking Tool (EBT) was unveiled in St. Kitts and Nevis.
- Task 4 Lead John Marcocchio gave a presentation at the CTO's Climate and Smart Sustainable Tourism Forum regarding the importance of EE and Climate Resiliency.

Key Activities and Accomplishments of Task 4

During the quarter, USAID CARCEP made significant progress towards energy efficiency benchmarking in the hotel and tourism sector in the Eastern Caribbean beneficiary nations. Key Task 4 program activities and accomplishments are listed below:

Jamaica

Jamaica Manufacturer's Association (JMA) Headquarters Training and Audit

– USAID CARCEP held a two-day training at the JMA headquarters on energy efficiency and renewable energy from November 8-9th for association members. An audit of the facility was done prior to the workshop and was used as a case study for the membership. The workshop was organized to assist members of the association with understanding the importance and impact of EE and RE for the manufacturing sector, and explored challenges and budget decisions impacting the bottom line. Given that the manufacturing sector is also one of the biggest consumers of electricity, USAID CARCEP supported this initiative to help ensure that the sector stays strong and profitable by lower the operating costs. USAID CARCEP's Program Development Specialist and Certified Energy Manager, Owen Gunning was the main instructor for the training. Presentations were also made by John Marcocchio, USAID CARCEP Energy Efficiency Promotion Specialist and a testimonial by Metry Seaga, Managing Director Jamaica Fibreglass Products.



Figure 6: Owen Gunning presents at the JMA headquarters

After the training, several JMA members requested support from USAID CARCEP to conduct energy audits of their facilities. USAID CARCEP is currently considering the requests and mobilizing resources in an effort to provide the requested aid.

CHTA Webinar – USAID CARCEP hosted a webinar in collaboration with the Caribbean Hotel and Tourism Association (CHTA) titled “Rebuilding and Restoration for Sustainability and Efficiency.”

PAHO (Pan American Health Organization) Regional meeting participation and Agreement - USAID CARCEP participated in a two day regional strategy and planning session with representatives of Ministries of Health throughout the region. PAHO presented their “SMART” Hospitals project the regional Ministries of Health. It was agreed to tie USAID CARCEP's EBT to the “Baseline Assessment Tool” (BAT) being rolled out by PAHO, increasing the effectiveness and utility of the SMART Hospitals project.

St. Kitts and Nevis

Energy Benchmarking Workshop – USAID CARCEP hosted its Energy Benchmarking

Tool Workshop in St. Kitts and Nevis during October 31st – November 1st for hoteliers and other institutions. Nine participants were trained and all feedback data collected indicated the course helped improve their understanding of energy efficiency methods and financial mechanism.

CTO (Caribbean Tourism Organization) Climate Smart Sustainable Tourism Forum (CSSTF 2017) – USAID CARCEP held a presentation on why EE and building for Climate Resiliency matters at the forum, which was held in St. Kitts, from December 11 – 14, 2017. CTO is the regional association of Ministries of Tourism.

Challenges/Solutions

Some challenges arose in this quarter that required response from the USAID CARCEP team.

CHALLENGE	PROPOSED SOLUTION
Task 4 workplan was designed to unfold through to March 2020. Year 1 & 2 was spent developing the EBT And introducing the tool throughout the region to the CHTA local membership. Year 3 was intended to be a year spent promoting the tool to the greater hotel community as well as supporting existing users. Measurable levels of financial investment reduction of GHG emissions would have been expected towards the end of Year 3 and into Year 4.	<p>USAID CARCEP is focusing on maximizing the number of users in the hotel sector and providing as much assistance as time allows to encourage use of the tool to demonstrate its value. These efforts will continue to maximize use of the tool. Desired outcomes of increased EE & RE investments and GHG emissions will be realized beyond the end of the program.</p> <p>In addition, we are developing a modified EBT that will be incorporated into PAHO's regional SMART Hospitals program. Savings generated by EE efforts will be redirect into additional EE investments. The potential impact of this effort will be far reaching and will impact the entire Caribbean region.</p>

TASK 5: COORDINATION AND PROMOTION OF USAID AND USG INTER-AGENCY ACTIVITIES

Top Achievements

- Hosted the Donor Roundtable where 19 international stakeholders and US agencies met to discuss key projects and progress towards RE in the Caribbean
- Hosted a delegation from Haiti on behalf of USEA and USAID and offered important advice and assistance around establishing a new regulatory agency

Key Activities and Accomplishments of Task 5

During the quarter, USAID CARCEP made significant progress towards coordination of stakeholders and promotion of renewable energy in the Caribbean. Key Task 5 program activities and accomplishments are listed below:

Donor Roundtable at the Caribbean Renewable Energy Forum (CREF) – On October 17th, USAID CARCEP hosted its second annual Donor Roundtable in Miami for donors and stakeholders to present the full spectrum of USG offerings of technical assistance, grants, and project financing support in the region. It was also an opportunity to engage with other key non-USG donors involved in clean energy development activities in the Caribbean. The goal of the forum was to share information and exchange knowledge on work within the region and develop consensus around key themes to be raised by the US State Department in support of its participation in CARICOM's C-SERMS (Caribbean Sustainable Energy Road Map) platform.



Figure 7: Stakeholders meet at the Donor Roundtable

Representatives from CARICOM's Energy Unit, the US Trade and Development Agency (USTDA), the Overseas Private Investment Corporation (OPIC), the Department of State's Bureau of Western Hemisphere Affairs (DOS/WHA), the DoS' Bureau of Energy Resources (DOS/ENR), the National Renewable Energy Laboratory (NREL), and the Department of Commerce (DOC) gave presentations detailing their work in the region.

Following the presentations, an open discussion was led by USAID CARCEP's Chief of Party, Dan Potash during which non-USG participants asked questions and provided insights from their development experiences. In the final session, USAID CARCEP's Energy and Regulatory Governance Specialist, Elizabeth Butler, led a dialogue among participants and reached consensus on six key themes that were then shared with the US State Department to be included in its discussions as part of its participation in CARICOM's C-SERMS platform. These six themes are listed as follows:

- Seizing opportunities to radically accelerate RE/EE projects as part of power system reconstruction in hurricane-damaged islands
- Building coordinated international donor support for coherent IRP processes at the national level
- Coordination of donor projects to maximize value of investments in countries
- The urgency with which all Caribbean nations need to examine viable business models in the face of disruptive technology that undermines traditional utility revenues
- Private sector demand for viable projects in the region to advance RE and hybrid solutions

- Building a database to support informed decisions

Twenty-six attendees participated in the roundtable which was held from 9am – 2pm at the JW Marriott.

USEA/USAID Haitian Delegation – USAID CARCEP received a delegation of Haitian government and utility stakeholders on November 13th to the USAID CARCEP office to discuss Jamaica’s experience with instituting a regulator and other best practices in the energy sector. Hosted by the USEA/USAID “Executive Exchange on Developing an Electric Regulatory Authority,” USAID CARCEP offered advice to the stakeholders regarding the role of independent regulators in the energy sector; the Government of Haiti recently passed legislation to create a new electric regulatory authority as part of their goal to reform the power sector in Haiti. The delegation was very engaged and requested future collaboration with USAID CARCEP as their progress continues.

European Union Technical Assistance Facility (EU TAF) – Meeting at the CREF event in October, the EU TAF expressed interest in continuing elements of USAID CARCEP’s work after the program completes in FY18. USAID CARCEP sent the EU TAF an overview of its work and staff, and meetings have been scheduled in the upcoming quarter to explore common areas of interest.

Challenges/Solutions

This quarter, the USAID CARCEP Task 5 team recognized, and has taken steps to overcome, challenges regarding its responsibility to spearhead coordination and communication on renewable energy and energy efficiency efforts with USG and other international donors and stakeholders.

CHALLENGE	PROPOSED SOLUTION
There are multiple donor agencies and regional organizations that are aiming to make an impact in the regional through cleaner energy development. These often have overlapping missions and varying levels of funding. Coordinating amongst these entities can be difficult.	Coordination with large multilateral organizations, such as the World Bank (WB), and the US State Department, which led USG efforts under the Caribbean Energy Security Initiative (CESI). Also, working with regional entities, like CARICOM that are mandated to ensure projects are effectively impacting countries. Task 6 will play a big role in helping to tackle this issue.

TASK 6: COORDINATION WITH CARICOM

Top Achievements

- CVQ training for local community members to work in the solar industry
- Progress was made on Program for Integrating Variable Renewable Energy, working with JPS on developing a training program on forecasting and integration

Key Activities and Accomplishments of Task 6

Task 6 is the additional work stream added to USAID CARCEP's scope and contract by USAID in the Third Quarter of Year 2. However, due to projected early termination of CARCEP, many of the activities in Task 6 had to be curtailed. Still we continued with training programs towards professional as Certified Energy Manager and Caribbean Vocational Qualification. Those activities are described in Task 3.

The Program for Integrating Variable Renewable Energy was advanced, emanating from the related workshop held in July at the CARILEC Engineers Conference. CARCEP met with JPS and charted a work program for additional consulting to be carried out with AWS, the firm that CARCEP had arranged to provide the training, either with CARCEP funding or on a commercial basis.

CARICOM invited CARCEP to help inaugurate a regional working group on electric vehicles. An initial conference call was held in October with GiZ technical assistance experts. While not contemplated when Task 6 was developed, the subject of EV is increasingly emerging as an important issue with counterparts and stakeholders. CARICOM held the first meeting of its EV Working Group on November 2nd via webinar, which USAID CARCEP attended.

Challenges/Solutions

Task 6 and USAID CARCEP's relationship with CARICOM have been largely established in the Third Quarter. Challenges and solutions are set forth below.

CHALLENGE	PROPOSED SOLUTION
USAID had difficulty scheduling a meeting with CARICOM to discuss wind-down consistent with CARCEP early termination.	This issue will hopefully get resolved in Q2. CARCEP prepared a document outlining achievements versus plan. There is possibility of EU funding to take over some CARCEP activities, which could possibly apply here.

CROSS-CUTTING AREAS

Key Activities and Accomplishments in Cross-Cutting Areas

Communication, Training and Events

Donor and Stakeholder Roundtable

On Tuesday, October 17, 2017, USAID CARCEP hosted a donor and stakeholder forum to present the full spectrum of USG offerings of technical assistance, grants, and project financing support in the region. The goal of the forum was to share information and exchange knowledge on work within the region and develop consensus around key themes to be raised by the US State Department in support of its participation in CARICOM's C-SERMS platform. It was also an opportunity to engage with other key non-USG donors involved in clean energy development activities in the Caribbean. The forum was held from 9:00 am – 2:00 pm at The JW Marriott Hotel in Miami, Florida.



Figure 8: Participants pose at the Donor Roundtable

Following the presentations, an open discussion was led by USAID CARCEP's COP, Daniel Potash during which non-USG participants asked questions and provided insights from their development experiences. In the final session, USAID CARCEP's Energy and Regulatory Governance Specialist, Elizabeth Butler, led a dialogue among participants and reached consensus on six key themes that were then shared with the US State Department to be included in its discussions as part of its participation in CARICOM's C-SERMS platform.

Caribbean Renewable Energy Forum 2017

USAID CARCEP participated in the CREF, from October 18-20 at the JW Marriott Marquis Hotel, Miami. In addition to seven team members participating in the conference, COP Daniel Potash and Energy and Regulatory Governance Specialist Elizabeth Butler participated in a panel discussion on *Electric Vehicle – The Future of Transportation*. This was a multi-stakeholder session exploring building blocks for a successful roadmap to the scaling up and procurement of EVs in the Caribbean. COP moderated the session allowing for different perspectives from manufacturers, policy-makers, utilities and financiers. USAID CARCEP also participated in a 3-day conference exhibition which allowed for further outreach and promotion of the project's development objectives and achievements.



Figure 9: Ms. Butler presenting at the electric vehicle panel discussion

Go Green Expo (Jamaica Youth Climate Change Council)

USAID CARCEP co-hosted a public Go Green Expo and Youth Forum led by Jamaica Youth Climate Change Council in Jamaica on October 21 in Kingston, Jamaica. USAID CARCEP team: Sharazarrie McIntosh, April Higgins and Toni-Ann Dacres promoted the program activities and energy



Figure 10: Ms. Dacres promoting program activities to expo participants

conservation and tips, as well as, demonstrated the efficiency of LED bulbs.

USAID/CARILEC Smart Grid Symposium (Trinidad)

As part of its Task 2 Activities, USAID CARCEP partnered with CARILEC to co-host a Smart Grid Symposium in Trinidad. The conference, which was held from October 23-26, provided an opportunity for smart grid suppliers and service providers to connect with Caribbean power sector representatives and stakeholders. This initiative was led by Task 2 Lead Dwight DaCosta and USAID CARCEP's support included the staging of an Electric Vehicle panel discussion during the main conference as well as a post-conference meeting with the Caribbean Smart Grid Working Group members which enlisted the expertise of International Consultant Hala Ballouz to



Figure 4: Participants at the Smart Grid Symposium

help the utility representatives with advancing their national smart grid roadmaps. USAID CARCEP also participated in a 2-day conference exhibition which allowed for further outreach and promotion of the project's development objectives and achievements.

Jamaica Manufacturer's Association (JMA) EE and RE Training

On October 26 & 27, USAID CARCEP conducted an EE and RE Training Workshop at the Jamaica Manufacturer's Association Office in Kingston Jamaica. The workshop was organized to assist members of the association with understanding the importance and impact of EE and RE for the manufacturing sector, and explored challenges and budget decisions impacting the bottom line. Given that the manufacturing sector is also one of the biggest consumers of electricity, USAID CARCEP supported this initiative to help ensure that the sector stays strong and profitable by lower the operating costs. USAID CARCEP's Program Development Specialist and Certified Energy Manager was the main instructor for the training. Presentations were also made by John Marcocchio, USAID CARCEP Energy Efficiency Promotion Specialist and a testimonial by Metry Seaga, Managing Director Jamaica Fibreglass Products.

OOCUR Conference

USAID CARCEP participated in the 15th Annual OOCUR Conference which was held in Tobago from November 8-10. USAID CARCEP's contribution included three key presentation delivered by Energy and Regulatory Governance Specialist Elizabeth Butler and International Consultant Tom Welch during the main conference: Regulatory Issues Concerning Electric Vehicles; Regulatory Tools for Planning for, and Recovering from, Disasters; and The Value of, and Techniques for, Regional and National Information Sharing and Policy Development.

Workplace Safety Training

As part of USAID CARCEP's outreach activities, a two-day Workplace Safety Training was conducted on November 29 & 30 in Westmorland, Jamaica. The training, which was done in partnership with Heart Trust NTA, Petersfield High School, Westmorland Fie department and Westmorland Social Development Commission, was designed to give participants the knowledge necessary to function safely in a Photovoltaic (PV) environment. The parish will be home to some 30 MW of electrical energy which is produced using PV technology and as such this basic safety



Figure 5: Participants examine a solar panel

training was offered to equip targeted parish residents with the necessary knowledge requirement for certification at the NVQJ/CVQ Unit assessment. A total of 53 participants from Paradise Park and surrounding communities were trained.

PCJ Energy Management Training

On December 4, USAID CARCEP conducted a one-day training on Energy Management at the PCJ Office in Kingston, Jamaica. This activity was aimed at encouraging uptake of energy efficiency and renewable energy best-practices at the PCJ Facility. The workshop which was led by USAID CARCEP's Program Development Specialist and Certified Energy Manager Owen Gunning, aimed at identifying and exploring improved strategies for getting more out of existing energy processes and equipment, assisting participants to capitalize on EE opportunities.

Saint Vincent & the Grenadines (SVG) Electric Vehicle Seminar

On December 6, SVG Energy Unit, SVG Chamber of Commerce and USAID CARCEP partnered to conduct a workshop with key stakeholders interested in electrification of SVG transport. The Workshop, which was held at the National Insurance Services (NIS) Conference Room in SVG, examined the opportunities presented by EVs for SVG businesses and offered businesses the opportunity to give input on design of a project to accelerate deployment of EVs in SVG private sector vehicle fleets. The Workshop goals were to identify: (i) advantages of EV use in private sector fleets, (ii) obstacles to adoption of EVs in SVG private fleets; (iii) pragmatic solutions to overcome those obstacles; and (iv) a pilot project design that combines the skills and resources of public and private sectors to gather detailed data on the cost savings and environmental benefits of SVG private sector EV fleets. This initiative also build upon the prior research work of the Promoting Access to Clean Energy Services (PACES) project funded by UNDP).



Figure 6: Daryl Raymond opening the SVG Electric Vehicle Seminar

Performance Monitoring and Evaluation

USAID CARCEP's Monitoring and Evaluation (M&E) strategy is a concerted and ongoing effort to diligently collect and track our indicators to ensure that our efforts are appropriately matched with results. The CARCEP M&E Advisor follows progress daily and is responsible for conducting weekly assessments of activities and indicators.

Quarterly Report Data Sheet

1) EG 12- 6 Greenhouse gas (GHG) emissions, estimated in metric tons of CO₂e, reduced, sequestered, and/or avoided as a result of USG assistance	
Year 3 Target Annual	792 Metric tons CO ₂ e
Year to Date Actual	0 Metric tons CO ₂ e
Q1 Actual	0 Metric tons CO ₂ e
Comments	The USAID CARCEP team anticipated realizing progress in this indicator within the year. Unfortunately, there were start-up problems with the Caribshare Biogas Project. Year 2 saw the initialization the CaribShare Biogas Project, which will include a potential reservoir for methane storage. At this nascent

	stage of the project, the biogas generated from the waste collected is not being stored, but storage is planned in future phases of the project. The amount of methane emissions reduced, sequestered, and/or avoided as a result of this storage process will be reflected in subsequent reports. The methane will be expressed as equivalent CO ₂ e.											
2) EG 12-7 Projected greenhouse gas emissions reduced or avoided through 2030 from adopted laws, policies, regulations, or technologies related to clean energy as supported by USG assistance												
Year 3 Annual Target	62,046 Metric tons CO ₂ e											
Year to Date Actual	762,137 Metric tons CO ₂ e											
Q1 Actual	762,137 Metric tons CO ₂ e											
Comments	<p>The Year to Date Actual of projected greenhouse gas emissions reduced or avoided through 2030 of 762,137 tons CO₂e, is based on the total projected GHG emissions reduced or avoided by Eight Rivers Project. This was an unexpectedly high result as a result of this large project coming to fruition relatively early in the project lifecycle.</p> <p>The USAID CARCEP team used the Clean Energy Emission Reduction (CLEER) Tool (https://www.cleertool.org/) to quantify GHG emissions reduced or avoided through 2030.</p> <p>The team acquired the amount of power the project is expected to generate. This value was entered into the CLEER Tool and the greenhouse emissions reduced or avoided was projected through 2030. For future reporting, CARCEP will reevaluate this methodology to account for methane sequestration, if appropriate.</p> <p>The CLEER Tool reported 762,137 tons CO₂e for the Eight Rivers Project (a grid-tied solar project) stemming from an expected production of 37 MW of energy.</p> <p><i>Projected GHG emission reduced from projects.</i></p> <table><tr><th>Projected Gas Emission</th><th>Project</th><th>Date</th><th>Supporting Document</th></tr><tr><td>762,137 tons CO₂e</td><td>Eight Rivers Project (Jamaica)</td><td>December 2017</td><td>Financial Mobilization Memo CLEER Output</td></tr></table>				Projected Gas Emission	Project	Date	Supporting Document	762,137 tons CO ₂ e	Eight Rivers Project (Jamaica)	December 2017	Financial Mobilization Memo CLEER Output
Projected Gas Emission	Project	Date	Supporting Document									
762,137 tons CO ₂ e	Eight Rivers Project (Jamaica)	December 2017	Financial Mobilization Memo CLEER Output									
3) CUSTOM 1 Expected lifetime energy savings from energy efficiency or energy conservation, as a result of USG assistance												
Year 3 Target Annual	792 GJ											
Year to Date Actual	0 GJ											
Q1 Actual	0 GJ											
Comments	USAID CARCEP team performed several energy audits and reports within the hospitality sector. Based on the energy audits conducted, several Energy Management Opportunities (EMOs) were recommended to save energy and reduce the cost of electricity at the resorts. EMOs implemented by the resorts will be reflected in subsequent report for this indicator.											
4) EG 12-4 Amount of investment mobilized (in USD) for clean energy as supported by USG assistance												
Year 3 Target Annual												
Year to Date Actual												
Q1 Actual												
Comments	With USAID CARCEP technical assistance, the Eight Rivers Project received a private equity and debt investment, and grant of approximately											

	USD from CEFF-CCA to implement 37MW grid-tied solar energy project. USAID CARCEP provided background technical support as Eight Rivers undertook closing on PPA and interconnection with Jamaica Public Service Company Limited, as well as, workforce training.																			
	Investment mobilized on various energy projects.																			
	<table><tr><th>Investment Mobilized</th><th>Project</th><th>Date</th><th>Supporting Document</th></tr><tr><td><div> </div>USD</td><td>Eight Rivers Project</td><td>December 2017</td><td>Financial Mobilization Memo</td></tr></table>	Investment Mobilized	Project	Date	Supporting Document	<div> </div> USD	Eight Rivers Project	December 2017	Financial Mobilization Memo											
Investment Mobilized	Project	Date	Supporting Document																	
<div> </div> USD	Eight Rivers Project	December 2017	Financial Mobilization Memo																	
5) EG 12-2 Number of institutions with improved capacity to address clean energy as a result of USG assistance																				
Year 3 Target Annual	16																			
Year to Date Actual	2																			
Q1 Actual	2																			
Comments	<p>(This indicator does not include hotels and financial institutions, which are accounted for in Indicator 8.)</p> <ol style="list-style-type: none">Petroleum Corporation of Jamaica (PCJ): Working closely with the PCJ staff, the USAID CARCEP team provided technical assistance to PCJ in developing the pertinent skill sets for implementing IDB funded project.Jamaica Manufacturer's Association (JMA): Working closely with JMA, the USAID CARCEP team prepared an energy audit report to support JMA in implementing energy efficiency measures to lower electricity costs for the facility. This energy audit report recommended a series of measures which, if implemented, will lower electricity costs in the near-term for JMA, and generate additional funds in the long-term after paying off the initial financing for the project.OUR?OCCUR?																			
6) GNDR 2 Proportion of female participants in USG-assisted programs designed to increase access to productive economic resources (assets, credit, income or employment)																				
Year 3 Target Annual	45%																			
Year to Date Actual	49%																			
Q1 Actual	49%																			
Comments	<p>The 48% Year to Date Actual for gender participation reflects four types of activities offered by the USAID CARCEP team: technical assistance trainings, mentoring, public workshops, and working groups.</p> <p>Percentage of female participants in energy programs.</p> <table><tr><th>Percentage</th><th>Activity</th><th>Date</th><th>Supporting Document</th></tr><tr><td>50% (F-5, M-5)</td><td>St. Kitts and Nevis Energy Efficiency Training</td><td>October 31 – November 1, 2017</td><td>Registration Sheet and Feedback Sheet</td></tr><tr><td>0% (F-0, M-6)</td><td>Jamaica Manufacturer's Association Energy Efficiency Training</td><td>November 8-9, 2017</td><td>Registration sheet and Feedback Sheet</td></tr><tr><td>56%</td><td>Energy Conservation</td><td>November 21,</td><td>Registration</td></tr></table>				Percentage	Activity	Date	Supporting Document	50% (F-5, M-5)	St. Kitts and Nevis Energy Efficiency Training	October 31 – November 1, 2017	Registration Sheet and Feedback Sheet	0% (F-0, M-6)	Jamaica Manufacturer's Association Energy Efficiency Training	November 8-9, 2017	Registration sheet and Feedback Sheet	56%	Energy Conservation	November 21,	Registration
Percentage	Activity	Date	Supporting Document																	
50% (F-5, M-5)	St. Kitts and Nevis Energy Efficiency Training	October 31 – November 1, 2017	Registration Sheet and Feedback Sheet																	
0% (F-0, M-6)	Jamaica Manufacturer's Association Energy Efficiency Training	November 8-9, 2017	Registration sheet and Feedback Sheet																	
56%	Energy Conservation	November 21,	Registration																	

	(F-35, M-28)	Training (Jamaica)	2017	Sheet
	51% (F-27, M-26)	Workplace Safety Training (Jamaica)	November 29 & 30, 2017	Registration Sheet
	40% (F-10, M-15)	Petroleum Cooperation of Jamaica Energy Management Training	December 4, 2017	Registration Sheet and Feedback Sheet

7) EG 12-3 Number of laws, policies, strategies, plans or regulations addressing clean energy mitigation officially proposed, adopted, or implemented as a result of USG assistance				
Year 3 Target Annual	1			
Year to Date Actual	0			
Q1 Actual	0			
Comments	USAID CARCEP is assisting in the development of the Grenada Grid Code. The Grid Code drafting process is under way and a final draft will be reviewed by various stakeholders.			

8) CUSTOM 2 Number of financial or hospitality sector institutions participating in green financing, capacity-building and/or publicity campaigns											
Year 3 Target Annual	40										
Year to Date Actual	4										
Q1 Actual	4										
Comments	<p>The USAID CARCEP Energy Benchmarking Tool is being well received by the hospitality sector.</p> <p>Following is a list of hospitality sector institutions that participated in the Energy Efficiency and Energy Benchmarking Tool trainings held in St. Kitts and Nevis for the first quarter of the year.</p> <table><tr><th>Title of Activity</th><th>Name of Institution</th></tr><tr><td rowspan="4">St. Kitts and Nevis Energy Efficiency Training</td><td>1. Four Seasons</td></tr><tr><td>2. St. Kitts and Nevis Ministry of Tourism</td></tr><tr><td>3. Hotel and Tourism Association</td></tr><tr><td>4. St. Kitts Tourism Authority</td></tr></table>				Title of Activity	Name of Institution	St. Kitts and Nevis Energy Efficiency Training	1. Four Seasons	2. St. Kitts and Nevis Ministry of Tourism	3. Hotel and Tourism Association	4. St. Kitts Tourism Authority
Title of Activity	Name of Institution										
St. Kitts and Nevis Energy Efficiency Training	1. Four Seasons										
	2. St. Kitts and Nevis Ministry of Tourism										
	3. Hotel and Tourism Association										
	4. St. Kitts Tourism Authority										

9) CUSTOM 3 Number of studies, reports, tools, working groups, campaigns or events for advancement of clean energy or energy efficiency (“Activities”)										
Year 3 Target Annual	10									
Year to Date Actual	8									
Q1 Actual	8									
Comments	<p>This indicator reflects USAID CARCEP activities focused on studies, reports, tools, working group, campaigns and events.</p> <p><i>Disaggregated activities.</i></p> <table><tr><td></td><td>Actual Year to Date</td><td>Actual Q1</td></tr><tr><td></td><td></td><td></td></tr></table>					Actual Year to Date	Actual Q1			
	Actual Year to Date	Actual Q1								

	Studies	0	0
	Reports	1	1
	Tools	0	0
	Working Groups	1	1
	Campaigns	0	0
	Events	6	6
	Detailed list of activities.		
	Activity	Name	Date
	Reports	Jamaica Manufacturer's Association Energy Audit Report	November 22, 2017
	Tools		
	Working Group	Electric Vehicles Working Group	October __, 2017
	Campaigns		
	Events	Donor Coordination Forum	October 17, 2017
		Go Green Expo (Jamaica)	October 21, 2017
		Caribbean Smart Grid Working Group	October 25, 2017
		CHTA Webinar	December 6, 2017
		St. Vincent and the Grenadines Electric Vehicle Seminar	December 6, 2017
Climate Smart Sustainable Tourism Forum (CSSTF)		December 11 – 14, 2017	

10) EG 12-1 Number of people receiving training in global clean energy as a result of USG assistance																			
Year 3 Target Annual	200																		
Year to Date Actual	156																		
Q1 Actual	156																		
Comments	<p>This indicator reflects USAID CARCEP activities focused on technical assistance trainings, mentoring, public workshops, and working groups.</p> <p>Number of persons participating in training activities.</p> <table><tr><td>Number of Participants</td><td>Training</td><td>Date</td><td>Supporting Document</td></tr><tr><td>9</td><td>St. Kitts and Nevis EE Training</td><td>October 31- November 1, 2017</td><td>Registration Sheets and feedback sheet</td></tr><tr><td>6</td><td>JMA EE and RE Training</td><td>November 8-9, 2017</td><td>Registration Sheets and feedback sheet</td></tr><tr><td>63</td><td>Energy Conservation</td><td>November 21,</td><td>Registration</td></tr></table>			Number of Participants	Training	Date	Supporting Document	9	St. Kitts and Nevis EE Training	October 31- November 1, 2017	Registration Sheets and feedback sheet	6	JMA EE and RE Training	November 8-9, 2017	Registration Sheets and feedback sheet	63	Energy Conservation	November 21,	Registration
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		Workshop (Westmoreland)	2017	Sheet
	53	Workplace Safety Training (Westmoreland)	November 29 & 30, 2017	Registration Sheet
	25	PCJ Energy Management Training	December 4, 2017	Registration Sheet and Feedback Sheet

Innovation Fund – Grants

As noted in the FY17 Annual Report, USAID CARCEP suspended further implementation of the Clean Energy Innovation Fund, which was intended to be administered throughout the four and a half years of project implementation. Given USAID CARCEP's early closeout in the second and third quarters of FY18, the Innovation Fund is unable to accept new grant applications. All grant applicants have been made aware of the suspension of the program.