Theme Synopsis

The Caribbean has been a focus of activity due to increasingly levels of climate change related hazards, supply chain challenges, the need to accelerate progress in decarbonisation and reduction of CO2 emissions, as well as navigating the ever-present fuel price fluctuations. In an effort to address these challenges, developments in the implementation of renewable energy technologies (RE), energy efficiency, and e-mobility have been ongoing, albeit at a less than desirable pace and scope. Utility-scale generation projects are increasingly being complemented by small-scale distributed RE projects, allowing homeowners to not only better control their energy demand and usage and monitor consumption patterns, but also to contribute to the decarbonization of Caribbean power grids.

Progress towards the energy transition, at the required pace and scope, continues to be hindered by several factors: the need for detailed, data-driven plans and targets for RE expansion and suitable regulatory frameworks, which have not been adequately addressed. A lack of applicable grid codes, effective procurement procedures and fair tariff methodologies are also of concern. Furthermore, feasible financing for energy storage through the subsidization, lowering and stabilization of existing electricity rates and modernizing tariff structures remain a challenge.

In order to guarantee stability of power grids with the addition of RE technologies and electric vehicle charging stations, greater emphasis on battery energy storage systems (BESS) and grid flexibility to balance supply and demand is of utmost importance. Such initiatives have been experiencing greater attention within the region with the introduction of more intermittent RE generation.

Plans to increase and improve dispatchable distributed energy resources (DER), e-mobility, cost-efficient decarbonization and generation forecasting should be tailored to the respective jurisdictions and their unique needs. Providing innovative options for customers such as Virtual Power Plants (VPPs) which aggregate the capacities of variable DER to enhance power generation, reduce overall cost of electricity systems, decrease dispatch of assets, offer demand side options for load reduction and allow large scale deployment can effectively improve the reliability of the grid as RE is added.

Maintaining cost-efficient storage systems, appropriate smart grid technologies and versatile operative mechanisms ensures grid resilience to intermittent RE and extreme weather events. Implementing effective grid power quality management and utilizing optimal grid management systems can therefore improve the operational awareness of the grid for emergency response and restoration.

More emphasis is also being placed on new energy services, such as the Integrated-Utility-Services (IUS) Model, which can effectively support sustainable energy investments and on the upscaling of e-mobility within the Caribbean providing opportunities for demand-site-management and decentralized RE generation.

The 2024 CAREC Conference will feature best-practices and innovative approaches that promote resilience, sustainability and will advocate for and build capacity for the adoption of cost-effective integration of renewable energy sources such as solar, wind, geothermal and hydropower. The Conference will address critical issues related to the effective leveraging our natural resources and utilizing technological advancements, as we aim to enhance energy security, reduce carbon emissions, and foster economic growth, by accelerating the process of energy transitioning in an inclusive, Informed and innovative manner.

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All interested persons are invited to submit abstracts of approximately 100 words with titles, for preliminary consideration, as presentations for CARILEC 2024 CAREC Conference & Exhibition and Articles for the CARILEC CE Industry Journal.

Presentation Topics

Topics of interest to the CARILEC Conference audience must incorporate the theme of the conference and focus on sub-topics listed below:

Panel Discussion:

Transitioning together: Inclusive. Informed. Innovative

Key Topics (with a focus on best practices, lessons learnt and successful models for replication in the region)

1. **Policy & Regulation for Energy Transition**

- **RE Development–best-practices, challenges and successes in the Region.**
- **Capacity building for RE expansion planning:** knowledge building and innovative processes to develop feasible and realistic RE expansion plans and targets tailored to a Caribbean context.
- **Suitable regulation for clean, affordable and reliable power supply**: electricity codes, effective procurement procedures and fair tariff methodologies to boost energy transition.
- **Decentralized RE generation in the Caribbean** – best-practices and lessons learnt for a smooth and cost-efficient grid integration of small-scale RE.
- **Financing RE expansion** - Successful and innovative funding alternatives for energy transition - from crowd-funded investments over RE levies and grid charges to FI/IFI financed loans and grants
- **LNG in the Caribbean** – benefits and drawbacks in terms of supply security, decarbonization and energy affordability.
- **Hydrogen –** Discussion on trends, developments and potentials: a future fuel to be imported to allow for 100% RE shares in Caribbean power grids or an additional revenue stream, produced with excess electricity from regional RE generation?

2. **Successfully established and innovative RE Technologies for the Caribbean**

- **Utility-scale wind and Solar PV** – Key success factors for project development on small islands
- **Marine Renewable Energy Technologies** – A door opener for cost-efficient decarbonization ready for implementation?

- **Geothermal development -** a cost-efficient option to generate baseload RE for the Caribbean region?
- **Production of green hydrogen from RE** – technology alternatives, trends, potentials and cost examples
- Similar topics related to RE Technologies for the Caribbean.

3. **Smart grids - Technical and operational solutions for grid resilience and flexibility**

- **Critical grid infrastructure for Energy Transition** - cost efficient storage systems, suitable smart grid and flexible energy supply technologies that help to maintain the reliability of the grid of the future facing a high penetration of extreme weather events and intermittent RE
- **Operational mechanisms for more grid flexibility** –that allow higher shares of intermittent RE, such as (hourly) load and generation forecasting, automated network monitoring and control, demand response management etc.
- **Approaches for "building-back-better**" after climate hazards and natural disasters – suitable technology options and innovative financing models.
- Similar topic related to Smart and Grid Infrastructure for the Caribbean.

4. **Alternative Energy Services and E-mobility**

- **Suitable Energy Service Models** to support Energy Transition in the Caribbean such as the Integrated-Utility-Services (IUS) Model or Energy-Service-Contracting (ESCo): experiences, best-practices, and innovative solutions to increase energy efficiency for customers, provide opportunities for demand-site-management and to offer decentralized RE generation.
- **Upscaling E-mobility in the Caribbean** – innovative business models for electric utilities
- **Battery Storage Systems and new energy services -** innovative business models for energy service providers to increase system flexibility and allow a higher share of intermittent RE
- **E-Mobility as an opportunity for RE integration and RE expansion -** how to use e-mobility infrastructure to increase grid flexibility.
- Similar topic related to Alternative Energy Services and E-mobility for the Caribbean.

Utility Case Studies: Presentations on experiences and practices which are relevant to the Region and the Conference theme.

Presenters Guidelines

1. All completed Abstract Submissions Forms must be submitted by **August 5th, 2024.**
2. Selected presenters will be informed by **August 12th, 2024**.
3. Subsequent to notification, a full presentation must be submitted by **October 11th, 2024**, based on the selection committee's allotted time for your presentation:

   Option 1 - Power Point slides, for an approximate 35–60-minute presentation/ working session (inclusive of 15 minutes Q & A)

Option 2 - Power Point slides, for an approximate 20 - 35 minutes presentation (inclusive of 5 - 10 minutes Q & A)
Option 3 - Power Point slides, for an approximate 15–20-minute presentation (inclusive of 5 minutes Q & A)

* A Written Article (Optional) to be considered for publication in the CARILEC's CE Industry Journal. For more information on the Journal email caribbeanelectric@carilec.org

Please send all Submissions to: Marketing and Member Services Department, at events@carilec.org (Early Submissions are highly encouraged). Receipt of your submission will be acknowledged within two days.

General: CARILEC has appointed a selection committee to determine the presentations to be delivered at its conferences. The number of presentations accepted for a conference depends on program size (the number of sessions), technical coverage (the topics to be covered), focused on the subtopics and the number and quality of presentations. The selection committee identifies the best contributions for the agenda.

Awards

Presenters will:

1. Have an opportunity to be published in CARILEC CE Industry Journal.
2. Have their bio, photo and company name published on the CARILEC website.
3. Present to Caribbean Regional Utility Managers and an audience of over 60 delegates.

Criteria for Selection: Your abstract should demonstrate clearly that your presentation:

1. Will focus on the specified theme and general topics;
2. Will be of interest particularly to the target audience of the conference;
3. Will present information that is theoretically sound and accurate;
4. Will present new knowledge or experience, the substance of which has not been previously presented at a CARILEC conference (unless otherwise advised);
5. Will not be commercial in nature and will not promote specific companies, products, or services.

Full Disclosure: Third Party Compensation

All instructors and presenters are required to disclose proprietary interest in any product, instrument, device, service, or material discussed in the experience, event, or program, as well as the source of any compensation related to the presentation.

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***ONLY SIGNED FORMS WILL BE ACCEPTED, NO EXCEPTIONS.**