

# CREF2015

## Caribbean Renewable Energy Forum

October 19 - 21, 2015 | InterContinental Miami | Miami, Florida

### THE AGENDA: HOW IT WORKS

The agenda which follows serves as a broad guide to what CREF 2015 panelists will discuss. CREF 2015 will be broadly presentation-free. Our objective is, instead, to promote discussion, interaction, and the exchange of ideas. Each panel chair will lead a dynamic and structured discussion between his or her panelists, but will also seek questions and interaction from the audience. Please engage!

Any slides which are shown over the course of CREF will be uploaded at the conclusion of the Forum in question to the CREF Online Network. For information on how to access the network, please see "What's On ... and Where".

### MONDAY, OCTOBER 19<sup>TH</sup>

**9:00am - 5:30pm**

**Pre-CREF CARICOM / GOVERNMENT / MULTILATERAL MEETINGS**

**(Invitation Only)**

**12:00pm**

**REGISTRATION OPEN**

**2:00pm - 5:00pm**

**CREF 2015 UTILITY WORKSHOP** *(Balmoral)*  
**(Workshop Registrants Only)**

**HIGH RENEWABLE PENETRATION SCENARIOS:  
CHALLENGES & OPPORTUNITIES FOR ISLAND UTILITIES**  
Co-Hosted by the UK Foreign & Commonwealth Office  
(FCO)

Hosted by The Brattle Group, with the support of the UK FCO, the CREF 2015 utility workshop will provide utilities and governments with key insights into the implications for high renewable penetrations on island grids. The presenters will explore how utilities can mitigate the potential downside and look at models to generate potential upside. The workshop will explore, inter alia:

**Exploring the Economic Implications of High Renewable Penetration Scenarios**

- Higher capital cost and lower operational cost
- Increased ancillary services to balance the intermittency
- Challenge to recover higher fixed costs and lower variable costs through rates or other mechanisms

**Utility Implementation Models**

Incorporating variables such as risk hedging, policy environment and mitigation options, and different customer groups (i.e., low income customers), the workshop will explore:

- Options and approaches to tariff re-design
- Alternatives to tariff redesign, such as rebates
- Introducing tariff redesign to the customer base; exploring best practice.
- Alternative regulatory models compared to the traditional cost of service model

- **Dr. Sanem Sergici**, Senior Associate, The Brattle Group
- **Bruce Tsuchida**, Principal, The Brattle Group
- **Wilson Rickerson**, CEO, Meister Consultants Group  
**(Workshop Facilitator)**

**6:00pm - 8:00pm**

**CREF 2015 OPENING NETWORKING RECEPTION** *(Pool Deck)*

**Welcome Remarks from U.S. Department of State**

- **Amos J. Hochstein**  
Special Envoy, Bureau of Energy Resources  
U.S. Department of State

**TUESDAY, OCTOBER 20<sup>TH</sup>**

**8:15am – 8:45am**

**CREF 2015 OPENING CEREMONY (Versailles)**

- **Luis Alberto Moreno**  
President  
Inter-American Development Bank (IDB)
- **Dr. Warren Smith**  
President  
Caribbean Development Bank (CDB)

**8:45am – 9:00am**

**CREF 2015 WELCOME (Versailles)**

- **Jerry C. Butler**  
Chairman  
Caribbean Renewable Energy Forum (CREF)

**9:00am – 10:00am**

**CREF 2015 MINISTERIAL ROUNDTABLE (Versailles)**

Courted by the world's superpowers, pursued by a bevy of donor organizations, and challenged by a fractured and volatile global energy market, Caribbean policy-makers have their hands full. In CREF's annual blue ribbon session, regional leaders will gather to discuss the reality behind the rhetoric and the challenges of framing long-term energy security in a world full of political and economic uncertainty. The Roundtable will also assess the implications of COP21. Distraction? Or opportunity to access significant climate mitigation funding for the region?

- **Hon. Darcy Boyce**, Minister of State, Office of the Prime Minister - Barbados
- **Joseph Cox**, Assistant Secretary General, CARICOM
- **Hon. James Fletcher**, Minister, Ministry of Public Service, Sustainable Development, Energy, Science and Technology - St. Lucia
- **Hon. Troy Liburd**, Minister, Ministry of Communications, Public Works, Public Utilities, Posts, Physical Planning, Natural Resources, and Environment - Nevis
- **Dr. Jerrol Carl Thompson**  
Special Advisor to the Prime Minister on Renewable Energy | Director of Special Projects
- **Ambassador Nestor Mendez**, Assistant Secretary General, Organization of American States (OAS) (Panel Chair)

**2:00pm – 3:00pm**

**PARALLEL SESSIONS**

(Please note the following sessions take place simultaneously)

**CARIBBEAN RENEWABLES: THE PRIVATE EQUITY PERSPECTIVE (Versailles)**

As the pipeline of projects across the Caribbean deepens, so does the need to draw equity capital into a market that has historically been supported largely by debt provided by the multilaterals. This session will explore private equity perspec-

**10:00am – 10:30am**

**NETWORKING BREAK IN EXHIBITION HALL**

**10:30am – 11:30am**

**UTILITY LEADERS: THE CHANGING FACE OF INTEGRATED RESOURCE PLANNING (Versailles)**

Against a backdrop of global price volatility, how are Caribbean governments and utilities staking out long-term positions on investment in energy generation? How is that volatility impacting the environment for investment in renewables? What strategies are utilities deploying to mitigate the unpredictability of external market conditions? Are governments and utilities in lockstep as decisions are reached impacting long-term energy security?

- **Hugo Hodge**, Executive Director & CEO, Virgin Islands Water and Power Authority
- **Franklin Hoevertsz**, Managing Director, Utilities Aruba
- **Murray Skeete**, Director, Grenada Electricity Services Ltd. (GRENLEC)
- **Kelly Tomblin**, President & CEO, Jamaica Public Service Co.
- **Peter Lilienthal**, CEO, HOMER Energy (Panel Chair)

**11:30am – 12:30pm**

**CUBA: NEW FRONTIER FOR RENEWABLE INVESTMENT? (Versailles)**

The excitement is palpable; the opportunity substantial. A sound understanding, however, of the dynamics of the Cuban energy market still lags. Facilitated by the Government of Canada, and comprising key Cuban stakeholders, this session will cast light on the structure of the market, opportunities, and barriers to entry.

- **Ing. Bárbara Hernández Martínez**, Head of Energy Group, AZCUBA
- **Delice Moreno Garcia**, Director General, Empresa de Ingeniería y Proyecto de la Electricidad (INEL)
- **David Verbiwski**, Counselor & Senior Trade Commissioner, Embassy of Canada - Cuba (Panel Chair)

**12:30am – 2:00pm**

**NETWORKING LUNCH (Bayfront Ballroom)**

**Welcome Remarks from The World Bank**

- **Antonio Barbalho**  
Practice Manager for Latin America and the Caribbean, Energy and Extractives Global Practice  
The World Bank

**DOMINICAN REPUBLIC ENERGY LEADERS: INVESTMENT IN RENEWABLES AND LONG-TERM NATIONAL SECURITY (Trianon)**

While the growth in investment in both utility scale and distributed generation has picked up in recent years, the Dominican Republic's potential remains largely untapped. For the uninitiated, the Dominican Republic remains challenging to navigate;

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### 2:00pm – 3:00pm continued

tives on the bankability of regional projects. Are sovereign and off-taker risk factors a significant issue and how can they be mitigated? How can we catalyze the flow of private capital to SMEs seeking funding for regional projects? How can governments and multilaterals help draw private capital to the table?

- **Douglas C. Anderson**, Managing Director, Director of Research & Due Diligence, Power Capital Partners
- **Mark Crowdis**, Chairman and President, CR Ten, LLC
- **Douglas Hewson**, Managing Partner, Portland Private Equity
- **José Ordóñez**, Managing Director, Mesoamerica Clean Energy Fund, US Renewables Group
- **Miguel Toledo**, Principal Investment Officer, International Finance Corporation (IFC)
- **Lynn Tabernacki**, Managing Director, Renewable Energy & Environmental Finance, Overseas Private Investment Corporation (OPIC) **(Panel Chair)**

for capable and patient investors, however, there is real scale and opportunity in this market. This session will map out the current environment for electricity generation, explore public and private sector perspectives on opportunities for increased utility scale and distributed generation, and debate what we can be done to accelerate the pace of investment.

- **Marcos C. Cochón Abud**, General Manager, Compañía de Electricidad de Puerto Plata
- **Rolando Gonzalez-Bunster**, Chairman and CEO, InterEnergy Holdings
- **Rafael Matas Trillo**, Team Leader, Investment Officer Inter-American Development Bank (IDB) **(Panel Chair)**

### 3:00pm – 4:00pm

#### THE PROJECT DEVELOPMENT SESSION *(Versailles)*

The extent of the opportunity for renewables development in the Caribbean doesn't correlate to the pipeline of projects which remains relatively meagre. Are we any closer to addressing the historical bottlenecks? How do leading developers view the market and how strong is their appetite for engagement? How can developers help shape a fully functional enabling environment? Are developers increasingly focusing on opportunities in the commercial and industrial segment? How can we catalyze that market? This session will also feature the launch of the 2015 CREF/Castalia Project Marketplace, a unique database of regional renewable projects currently in development.

- **Carlos Barrera**, Vice President & General Director - Latin America, Sunedison
- **Margarita Raquel Garcia de Paredes**, Lead Investment Officer, Debt Investments Division, Inter-American Investment Corporation (IIC)
- **Nils Janson**, Executive Vice President, Castalia Advisors
- **Pedro Sánchez Rubal**, CEO, URIEL Renewables
- **Nathan Younge**, Regional Director, U.S. Trade and Development Agency (USTDA) **(Panel Chair)**

#### GRID INTEGRATION AT THE LIMIT - NEW FRONTIERS FOR CARIBBEAN UTILITIES *(Trianon)*

From Guadeloupe to the USVI and Bonaire, some Caribbean islands are pushing the envelope in terms of grid integration of renewables. How is this impacting grid stability? What challenges are incumbent utilities confronting? Is storage part of the story already – or about to be? How is this shaping grid investment strategy?

- **Andreas Boes**, Director, Siemens AG
- **Ronald Davis**, Principal Consultant, DNV GL
- **Pascal Mithois**, Director, EDF Archipel Guadeloupe
- **Wilson Rickerson**, CEO, Meister Consultants Group **(Panel Chair)**

### 4:00pm – 4:30pm

#### NETWORKING BREAK IN EXHIBITION HALL

### 4:30pm – 5:30pm

#### JAMAICA – MARKET IN TRANSITION *(Versailles)*

BMR Energy (36 MW Wind), WRB Energy (20 MW Solar PV) and Wigton Windfarm (24 MW Wind) emerged victorious from Jamaica's 2012 renewable RFP. All three secured PPAs from JPS and are in varying – but advanced – stages of development. What can the region learn from Jamaica's RFP & PPA process? More broadly, how does JPS view prospects for increased renewable generation and how closely does that align with

#### ACCELERATING PRIVATE SECTOR INVESTMENT IN RENEWABLES *(Trianon)*

##### Co-Hosted by The Government of Canada

Drawing on the experience of the Canadian public and private sectors, this session will analyze region-wide opportunities for investment and the barrier to entry for private sector entities seeking to engage in the regional renewable sector. What can we learn from the experience of existing investors in the

4:30pm – 5:30pm continued

government objectives? How does natural gas fit into Jamaica's evolving energy matrix?

- **Earl Barrett**, General Manager, Wigton Windfarm Ltd.
- **Robert Blenker**, CEO, WRB Energy
- **Berisford Grey**, Executive Director - Investment Banking & Capital Market Products, CIBC FirstCaribbean
- **Bruce Levy**, CEO, BMR Energy
- **Fitzroy Vidal**, Director of Energy, Ministry of Science, Technology, Energy and Mining - Jamaica
- **Kelly Tomblin**, President & CEO, Jamaica Public Service Co. (Panel Chair)

region? What new funding tools are available for private sector entities seeking to engage in the region? Substantial private sector-oriented funds, e.g. the Canadian Climate Fund (C2F), exist for precisely this purpose; are they deploying funds in the region and if so on what terms? Is commercial debt now on the table and available?

- **Judith Athaide**, President, The Cogent Group
- **Dale Bishop**, President & CEO, Hydra Renewable Resources, Inc.
- **Jean-Sébastien Charron**, Regional Manager – Caribbean and Central America, Export Development Canada
- **Tim McLeod, P.Eng.**, Principal, International Business Development, CBCL Limited
- **Thomas J. Timmins**, Chair, Global Renewable Energy Law Practice, Gowling Lafleur Henderson LLP (Toronto)
- **Ray Ritcey**, CEO, The Maritimes Energy Association, (Panel Chair)



6:00pm – 8:00pm

CREF 2015 NETWORKING RECEPTION (*Exhibition Hall*)

SEEC PROGRAMME LAUNCH

Sponsored by the Caribbean Development Bank

Official launch of the Sustainable Energy for the Eastern Caribbean (SEEC) Programme co-financed by the Caribbean Development Bank, EU Caribbean Investment Facility (EU-CIF) and UK Department of International Development (DFID).

WEDNESDAY, OCTOBER 21<sup>TH</sup>

8:50am – 9:00am

WELCOME REMARKS (*Versailles*)

- **Matthew Perks**,  
CEO  
New Energy Events

9:00am – 10:00am

COMMERCIAL & INDUSTRIAL: THE NEXT WAVE OF RENEWABLE INVESTMENT (*Versailles*)

As islands transform their regulatory environments and map out the terms of interconnection to national grids, so attention is increasingly turning towards opportunities for large-scale roll out of renewables development, largely PV, amongst Caribbean commercial and industrial entities. Which markets present the greatest opportunities? What do C&I customers need in terms of education & financing? How significant for the development of the market is the absence of ESCOs across the region? Where can we point to success stories?

- **Jake Kheel**, Environmental Director, Grupo Puntacana
- **W. Gerald McElroy**, Director of Project Management, Kaya Energy Group

CREATING A ROADMAP TO CLEAN TRANSPORTATION IN THE CARIBBEAN (*Trianon*)

Region-wide, clean transportation is rising to the top of the political agenda. What tools do regional governments have to incentivize the penetration of clean transportation? How closely does the utility need to be engaged in policy measures? Where should responsibility of government for the financing of infrastructure transfer to the private sector? Should government mandate penetration objectives? Are PPPs the way forward to catalyze investment?

- **Jo Edghill**, Founder & CEO, Megapower
- **Benise Joseph**, Energy Officer, Ministry of Sustainable Development, Energy, Science and Technology - St. Lucia

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- **Vintura Silva**, Team Lead, United Nations Framework Convention on Climate Change (UNFCCC)
- **David Staples**, Director, Williams Industries, Inc.
- **Marc Lopata**, Principal Engineer, Free Island Energy (Panel Chair)
- **Simone Rudder**, Permanent Secretary (Ag.), Ministry of Transport and Works - Barbados
- **Lisa Viscidi**, Director of the Energy, Climate Change and Extractive Industries Program, Inter-American Dialogue
- **Sally Yearwood**, Executive Director, Caribbean Central American Action (CCAA) (Panel Chair)

10:00am – 11:00am

### GEOTHERMAL: MOMENTUM AT LAST? (*Versailles*)

30 years after Guadeloupe opened the Bouillante plant, the Caribbean is still waiting for the next wave of geothermal generation. With fresh sources of funding flowing from the multilaterals, and with St. Kitts and St. Vincent & Grenadines joining Dominica, Nevis, Montserrat & St. Lucia in the hunt for a landmark geothermal project, is there cause for optimism? Do we have workable solutions to upfront risk mitigation and long-term financing? How are the donors & multilaterals shaping the process? Are Caribbean projects lacking in scale and too small to attract the right developers?

- **Aloysius Barthelmy**, Geothermal Technical Coordinator, Ministry of Sustainable Development, Energy, Science & Technology - St. Lucia
- **Ellsworth Dacon**, Director, Energy Unit, Ministry of National Security, Air & Seaport Development - St. Vincent & The Grenadines
- **Hon. Ian "Patches" Liburd**, Minister Ministry of Public Infrastructure, Post, Urban Development and Transport - St. Kitts
- **Tessa Williams-Robertson**, Head, Renewable Energy & Energy Efficiency Unit, Caribbean Development Bank (CDB)
- **Zhihong Zhang**, Clean Technology Fund Senior Program Coordinator, Climate Investment Fund
- **Christiaan Gischler**, Lead Energy Specialist, Inter-American Development Bank (IDB) (Panel Chair)

### CLEAN ENERGY & FLORIDA UTILITIES: APPROACHES & APPLICATIONS FOR THE CARIBBEAN (*Trianon*)

Some are resistant to change, others are embracing; all agree that this is a watershed period for the U.S. utility industry. The economics may be different, but the paradigm is broadly the same. Are renewables an existential threat or opportunity for U.S. – and Caribbean – utility companies? This session will explore various approaches to the deployment of renewables by Florida utilities and will seek to extrapolate policy, regulatory and business practices which may have real-world application in the Caribbean.

- **J. L. "Buck" Martinez**, Senior Director, Office of Clean Energy, Florida Power & Light (FPL)
- **Steve McInall**, Director, Electric Production Resource Planning, Jacksonville Electric Authority (JEA)
- **Bill Shepherd**, Chief Customer Officer, Gainesville Regional Utilities
- **Jennifer Szaro**, Senior Director of Programs, Solar Electric Power Association (Panel Chair)

11:00am – 11:30am

### NETWORKING BREAK IN EXHIBITION HALL

11:30am – 12:30pm

### THE NEXT WAVE OF INVESTMENT IN THE GRID: THE FUTURE OF SMART GRID AND MICROGRID TECHNOLOGIES IN THE CARIBBEAN (*Versailles*)

Caribbean utilities are aggressively exploring – and in some cases actively investing in – smart grid technology. What are the economics and how are utilities weighing the investment against the demand response upside? Given the increasingly high penetration of renewables, is the question not "if" but "when"? What role do microgrids have a role to play in the future of regional grid stability? What are other applications for microgrids in the Caribbean?

- **Nathan Adams**, General Manager, Microgrids, ABB
- **Dr. Miguel Asensio**, Initiative Expert in Smart Grids, EU Technical Assistance Facility (TAF) for SE4ALL

### WHY OCEAN? (*Trianon*)

In the wake of the announcement in 2014 of funding for the DCNS/Akuo OTEC "NEMO" project in Martinique, islands from Aruba to Barbados are actively exploring offshore generation options. Given the technical and regulatory hurdles, and the levelized costs vs. wind and solar, why are offshore options gaining traction? What of hybrid land-based solutions? Is SWAC still on the regional menu? Should the region be considering state-of-the-art heat recovery systems (ORC) which capture energy in seawater? The session will rigorously explore what's credible, and what's not.

- **Diego Acevedo**, VP Business Development, Bluerise BV
- **Jose Andres**, President and CEO, Makai Ocean Engineering
- **Alvaro Atilano**, Principal Executive, Energy, CAF

11:30am – 12:30pm continued

- **Sean Fleming**, General Manager, Solar Global Solutions
- **Ken McCauley**, President & CEO, Princeton Power Systems
- **Tony Shay**, Vice President, Major Accounts, Silver Spring Networks
- **Christina Becker-Birck**, Director, Meister Consultants Group (Panel Chair)
- **Emmanuel Brochard**, VP, Business Development, North America & Caribbean, DCNS
- **Charles Nordstrom**, Head of Business Development, The Americas, BVG Associates
- **Alex Raventos**, Initiative Expert in Ocean & Marine Energy, EU Technical Assistance Facility (TAF) for SE4ALL
- **Michael Murphy**, Vice President, HDR (Panel Chair)

12:30pm – 2:00pm

**NETWORKING LUNCH** (*Bayfront Ballroom*)

**Welcome Remarks from Government of Canada**

- **Thomas J. Timmins**  
Chair, Global Renewable Energy Law Practice  
Gowling Lafleur Henderson Llp (Toronto)

2:00pm – 3:00pm

**ENERGY STORAGE – BEYOND THEORY: IMPLEMENTATION**  
(*Versailles*)

The Caribbean is well beyond the theory of storage and is increasingly well versed in the practice. From within the region, markets from Aruba and Bonaire to Puerto Rico can speak to the successes – and failures – of economic and technical approaches to storage; from without the region, we can also draw on the experience of markets such as Baja California and Kauai. Exploring lessons learned from regional and international implementation.

- **Jake Edie**, Energy Solutions Architect, Power Quality & Energy Storage, S&C Electric Company
- **Phil Giudice**, CEO and President, Ambri
- **Jim McDowall**, Global Head Business Development, Saft
- **Dean Tuel**, VP of Americas Sales, Younicos
- **James White**, CFO, Ice Energy
- **H.G. Chissell**, Principal and Chief Commercial Officer, GridMarket (Panel Chair)

**ST. LUCIA: AN INTEGRATED APPROACH TO ENERGY TRANSITION PLANNING** (*Trianon*)

With support from the World Bank, Carbon War Room, Clinton Climate Initiative and partners, the Government of Saint Lucia and LUCELEC are moving forward a process which will fundamentally change the energy sector in Saint Lucia – adding renewable energy, changing the policy and regulatory framework and enabling new generation partnerships. Beyond the framework, how are the Government and LUCELEC taking action to make this a reality? Through an integrated approach to resource planning that simultaneously investigates the economics, energetics, and regulatory processes to enable successful energy transitions, the Government and LUCELEC have embarked on a transition planning process that ensures the core needs of the system—reliability, sustainability, and financial viability—are met to create a pathway for projects to be developed. This session explores the inclusive and iterative process and the supporting roles partners are playing to achieve a new and dynamic energy pathway in Saint Lucia.

- **Barrymore Felicien**, Head of Energy, Ministry of Sustainable Development, Energy, Science & Technology - St. Lucia
- **Leslie Labruto**, Director of Resilient Communities, Clinton Climate Initiative, Clinton Foundation
- **Justin Locke**, Director of Islands, Rocky Mountain Institute/ Carbon War Room
- **Mark Lambrides**, Senior Energy Specialist, The World Bank (Panel Chair)

**PARALLEL SESSIONS END**

3:00pm – 3:30pm

**NETWORKING BREAK IN EXHIBITION HALL**

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**3:30pm – 4:30pm**

### **HAITI: ENERGY ACCESS, SECURITY & INVESTMENT**

*(Versailles)*

Affordable access to energy: a simple concept but elusive in Haiti, particularly among the rural population. With a fractured grid and a challenged political system, there is no overnight solution. Donor commitment to Haiti remains, however, strong – commitment backed up by substantial capital. Led by the World Bank Group, this session will gather key government, utility and private sector stakeholders to present public sector perspectives on the future of Haiti's energy matrix and private sector perspectives on investment and the development of distributed and utility scale renewables.

- **Dr. Evenson Calixte**, Dean of the Faculty of Science, Quisqueya University
- **Karine Colin**, Deputy Director, Planning Division, Electricité d'Haïti
- **Nicolas Darius Allien**, Senior Renewable Energy Specialist, MTPTC, Government Of Haiti
- **Frederic Verdol**, Senior Energy Specialist, Team Leader The World Bank **(Panel Chair)**

**4:30pm – 5:30pm**

### **MAPPING INTERNATIONAL AND REGIONAL COLLABORATION ON ENERGY SECURITY: THE NEW PARADIGM**

*(Versailles)*

International support for energy security in the Caribbean continues to be strong, just as island capacity to absorb programs and funding remains limited. Increasingly Caribbean jurisdictions are seeking a responsive relationship from donor organizations and partners, one which reflects national rather than developmental objectives. International funding remains vital, no less so Caribbean sovereignty over energy security issues. How do we achieve the right balance and where can we point to success stories?

- **H. E. Ambassador Mikael Barfod**, Head of the EU delegation to Barbados & East Caribbean, European Union
- **Christiaan Gischler**, Lead Energy Specialist, Inter-American Development Bank (IDB)
- **Mark Lambrides**, Senior Energy Specialist, The World Bank
- **Hajime Takeuchi**, Chief Representative - USA Office Japan International Cooperation Agency (JICA)
- **Joseph Williams**, Sustainable Energy Advisor Caribbean Development Bank (CDB)
- **Devon Gardner**, Head, Energy Program, CARICOM, **(Panel Chair)**

**5:30pm**

**CREF 2015 CONFERENCE CLOSE**