



**CEP and the IRRP:
*From One to the Other...***

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CARICOM Secretariat**

**High-Level Webinar on Integrated
Resource & Resilience Planning**

Tuesday, 20 October 2020

THE CARICOM ENERGY POLICY: GUIDING PRINCIPLES

1. Recognition that member states' energy resources and level of energy sector development varies

The CEP is crafted with the understanding that member states will only “commit” to take **INDIVIDUAL ACTIONS** that are both *relevant* and *feasible*.

2. Consistency, complementarity and collaboration

The CEP is based on a principle of **COLLECTIVE APPROACH AND COOPERATION** that takes cognizance of the national energy policies for the respective member states and seek to exploit synergies, *where available*.

3. Subsidiarity

The CEP seeks to emphasize **REGIONAL TREATMENT** of those actions that may gain comparative advantage vis-a-vis the “*country alone*” basis.

CARICOM ENERGY POLICY

C-SERMS

Petroleum

Natural Gas

Renewable Energy

Energy Efficiency

Other Cross-cutting Issues

CLEAN ENERGY

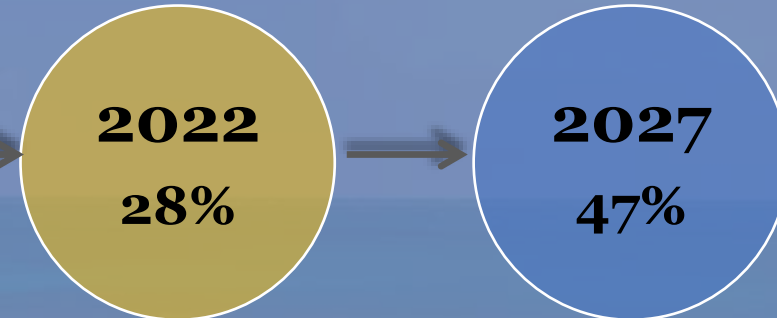
SUSTAINABLE ENERGY

AT A GLANCE

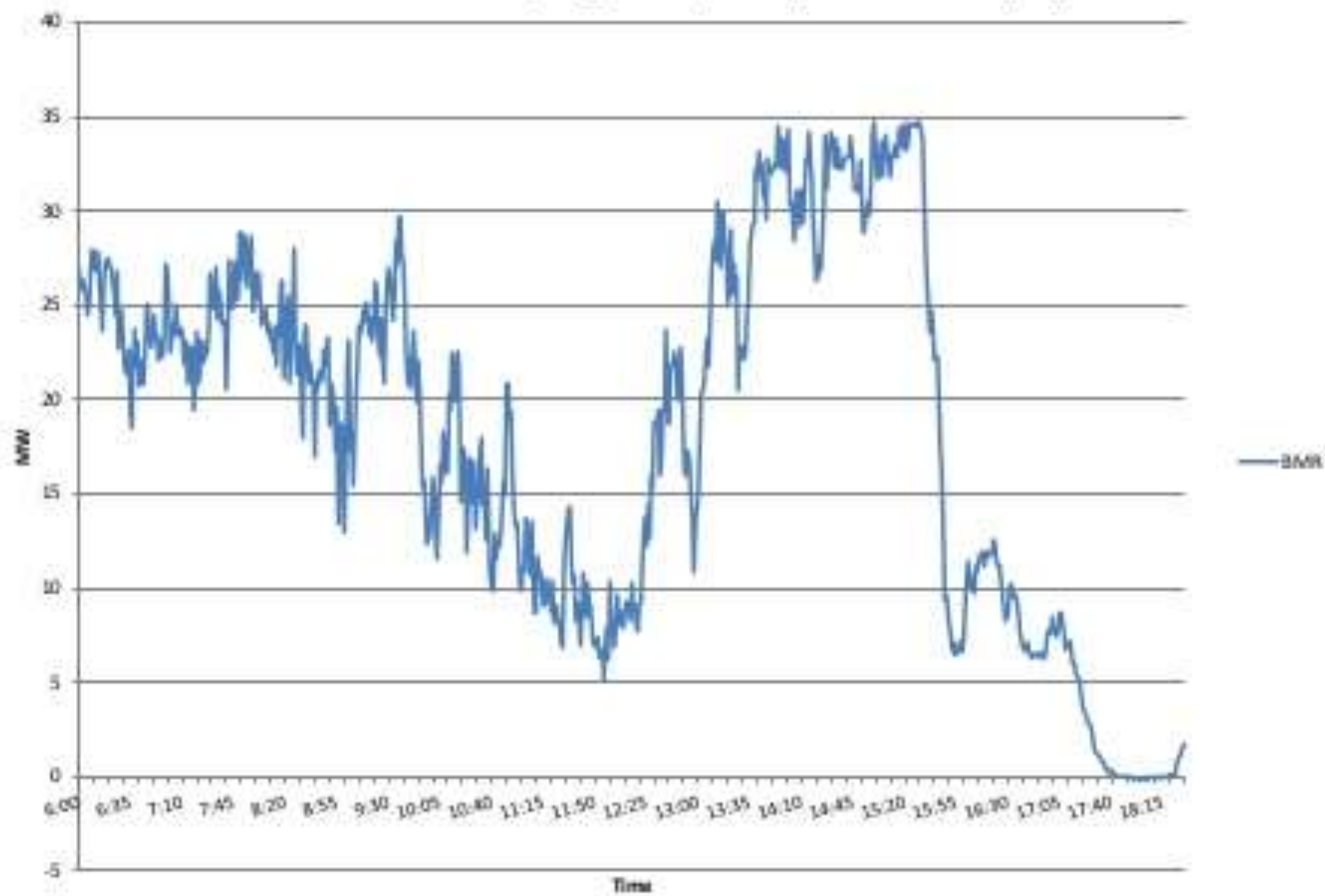
CARICOM ENERGY TRENDS



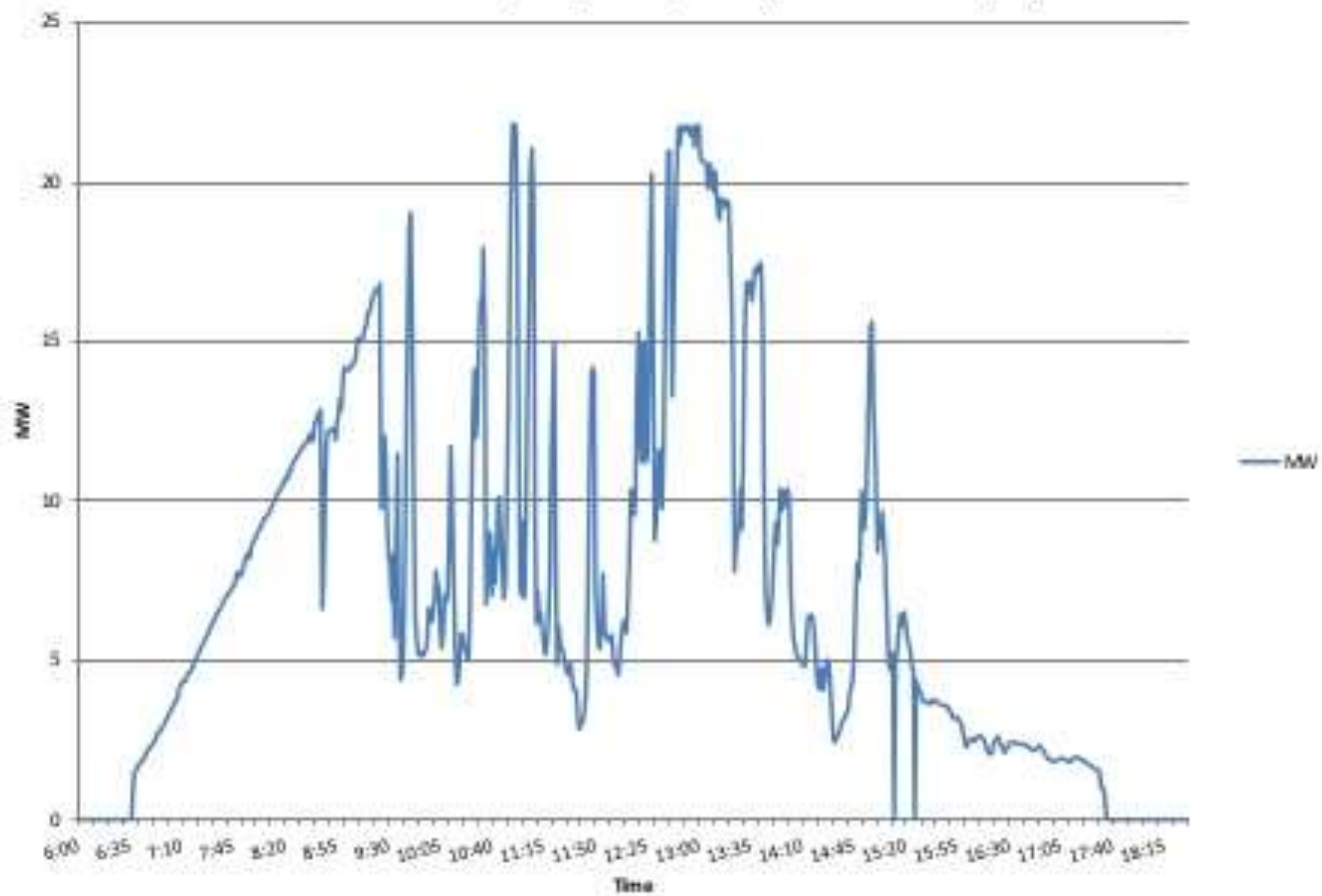
REGIONAL TARGETS



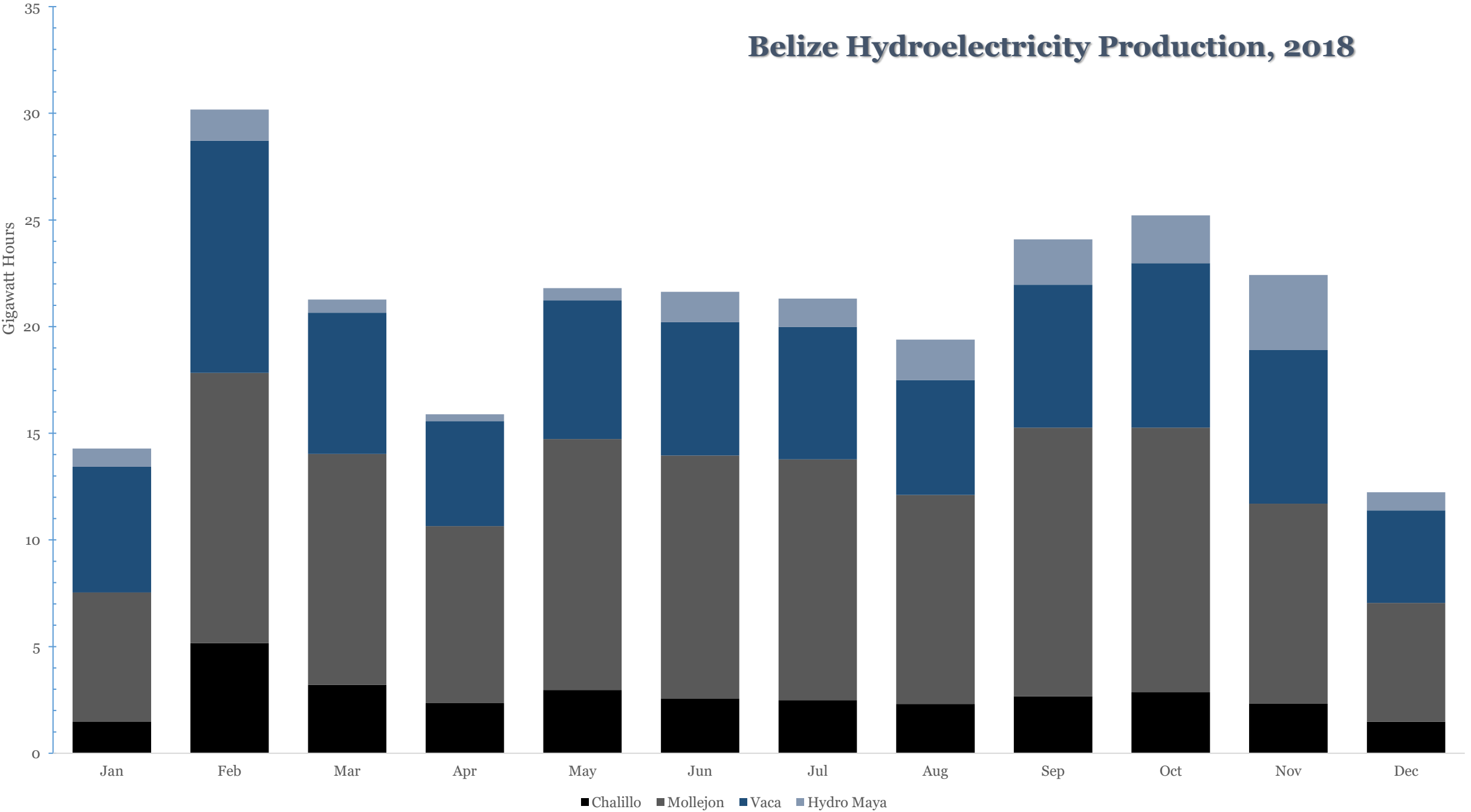
36MW Wind Farm, August 18, 2016 (6:00am - 6:30pm)



20MW PV Plant, August 18, 2016 (6:00am - 6:30pm)



Belize Hydroelectricity Production, 2018



St. Thomas, U.S. Virgin Islands
September 2017



Freeport, Grand Bahamas
October 2016



Central Trinidad, Trinidad & Tobago
October 2018



REGIONAL MANDATES

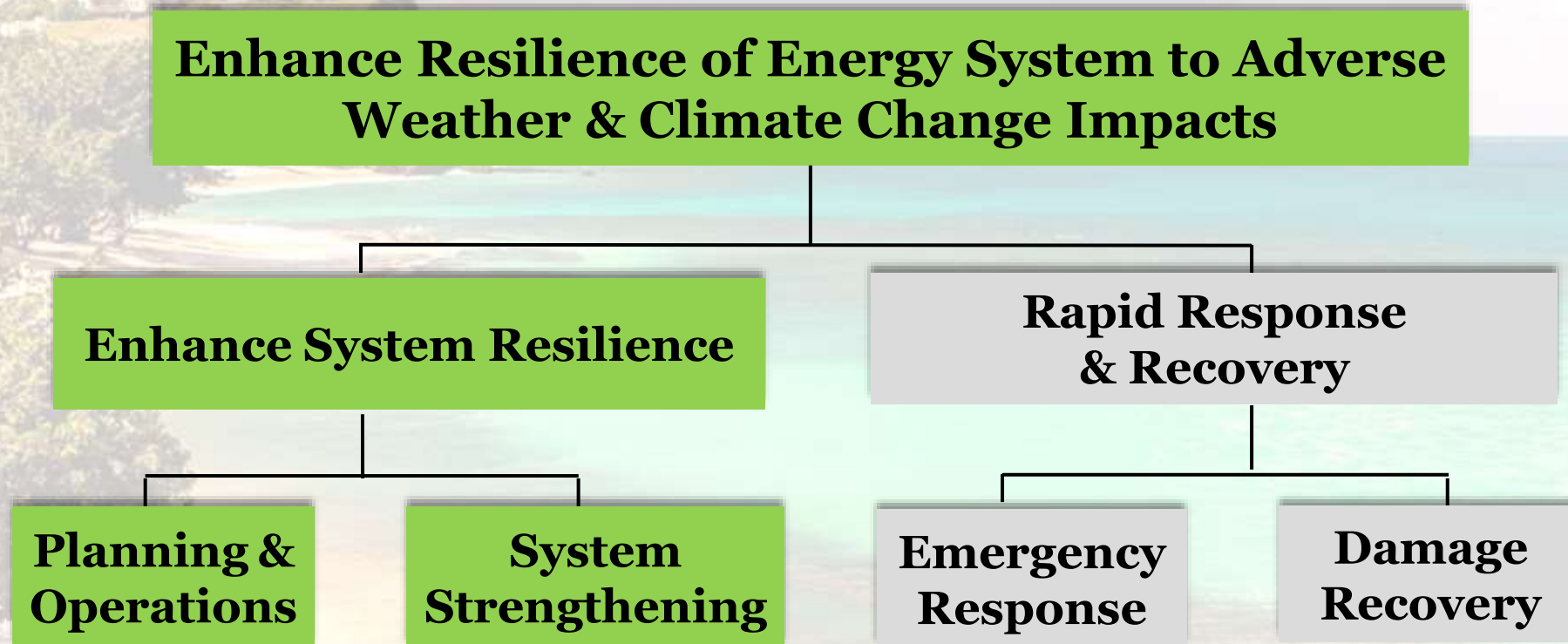
The Seventy-Third Special Meeting of the Council for Trade and Economic Development (COTED) on Energy [**April 2018**]:

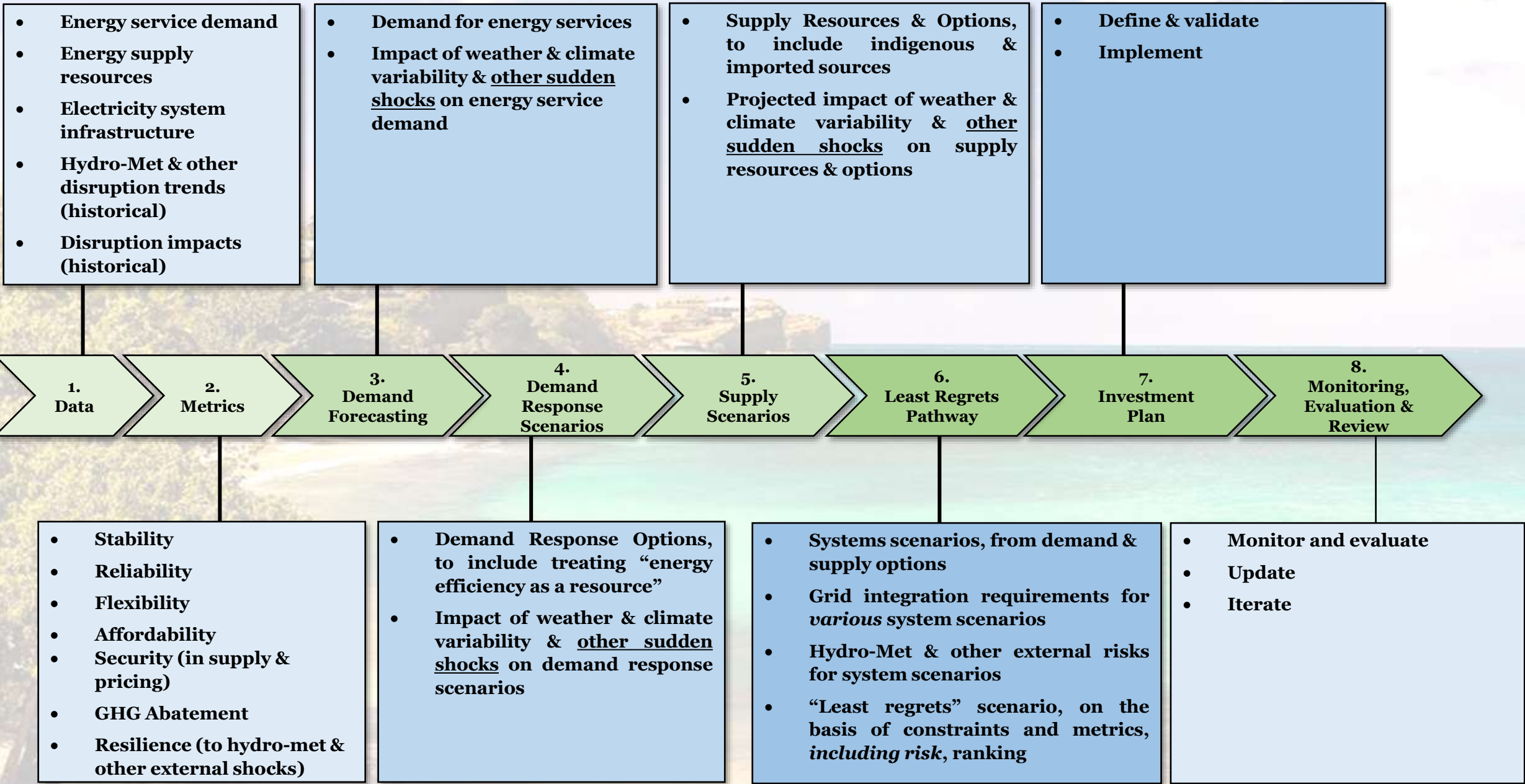
- **Mandated** the Region to, inter alia: “develop an *appropriate mechanism* for systematically addressing the weaknesses in the energy system designs within Member States, to include Integrated Resource and Resilience Planning (IRRP), such that climate and disaster risk are captured within existing sustainable energy policies, strategies and action plans, at national and regional levels”

The Eighty-Second Special Meeting of the Council for Trade and Economic Development (COTED) on Energy [**September 2020**]:

- **Urged** Member States to develop Integrated Resource and Resilience Plans (IRRPs) by 2023, as a means of obtaining details on the requirements for their energy systems to “shift away from the traditional, legacy designs” to modern, smart and resilient designs that are capable of more effectively supporting their sustainable development needs.

FRAMEWORK FOR ENHANCING ENERGY RESILIENCE FOR CLIMATE ADAPTATION

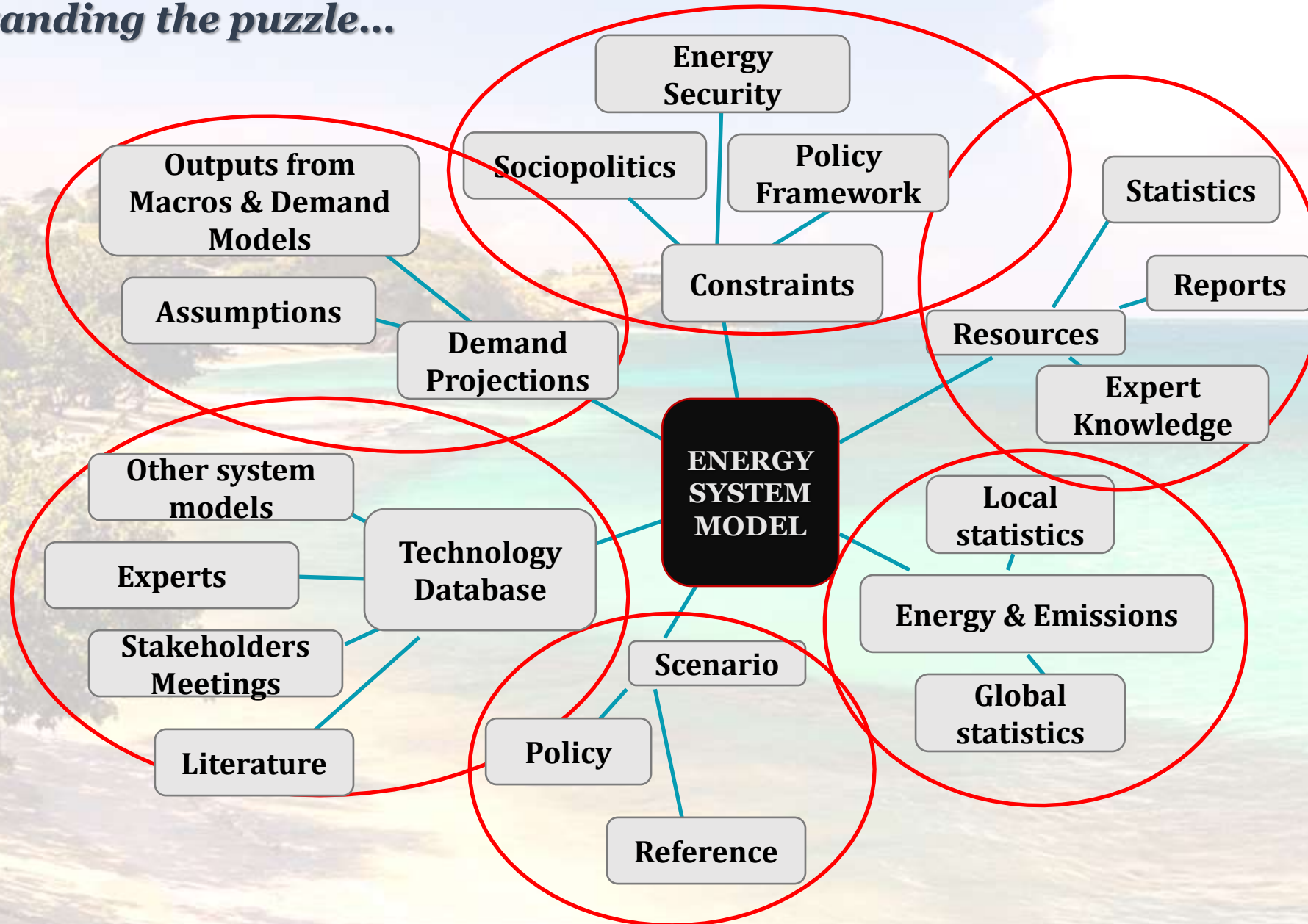




The IRRP Process

REGIONAL ENERGY MODELLING CLUSTER

Understanding the puzzle...



Flexibility Providers

Centralized

- Hydro & gas-fired plants
- Cross border in/outflows
- Power to gas
- Industrial loads

Decentralized

- Demand management
- Electricity storage
- Decentralized generation
- Aggregators



Energy Economics and Policy

How much, where?

Value of Flexibility

Flexibility Applications

- Energy arbitrage
- Load following and ramping
- System capacity & RES integration

- Spinning reserves & ancillary services
- Frequency regulation & stability
- Black start & mitigate outages

- Voltage support & power quality
- Relief network congestions
- Defer distribution and transmission upgrades

- Load shifting (TOU energy charges)
- Increase PV/wind self-consumption
- Power quality and backup



Generation and dispatch

user



System security

user



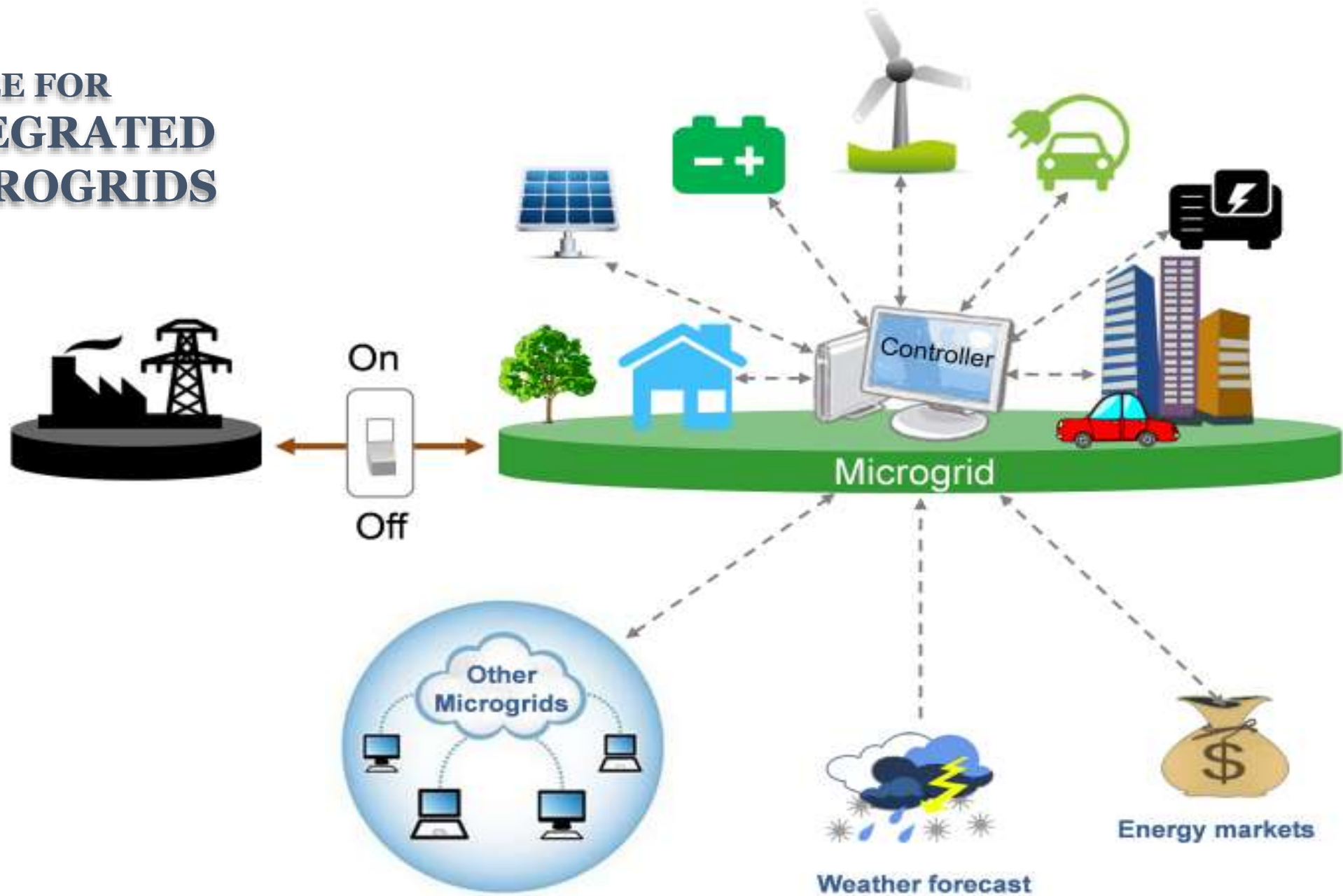
Energy Networks

user



Decentralized Generation and Demand

A ROLE FOR INTEGRATED MICROGRIDS



Arco Norte
Guyana, Suriname, French Guiana
[possibly Brazil]



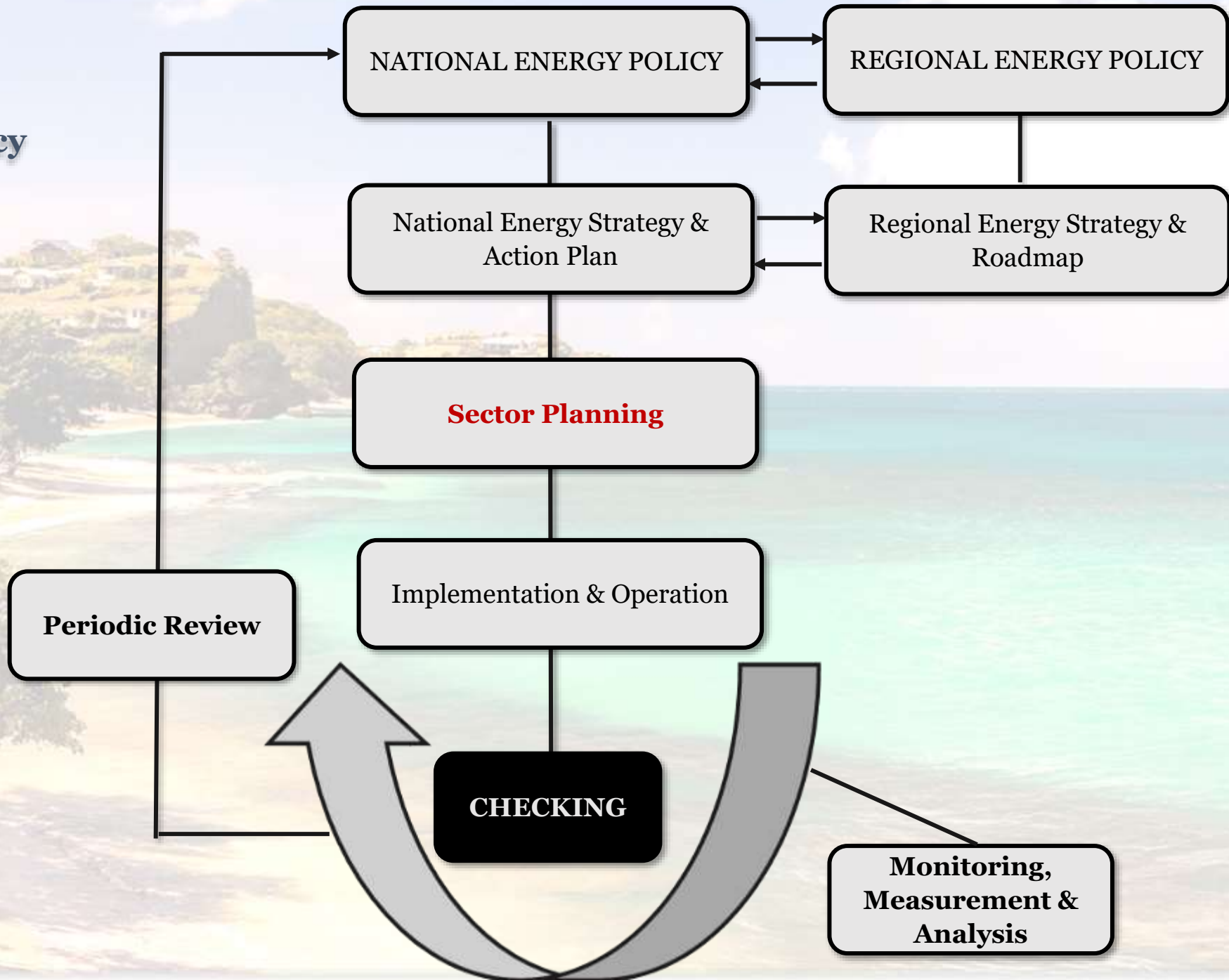


St. Kitts & Nevis

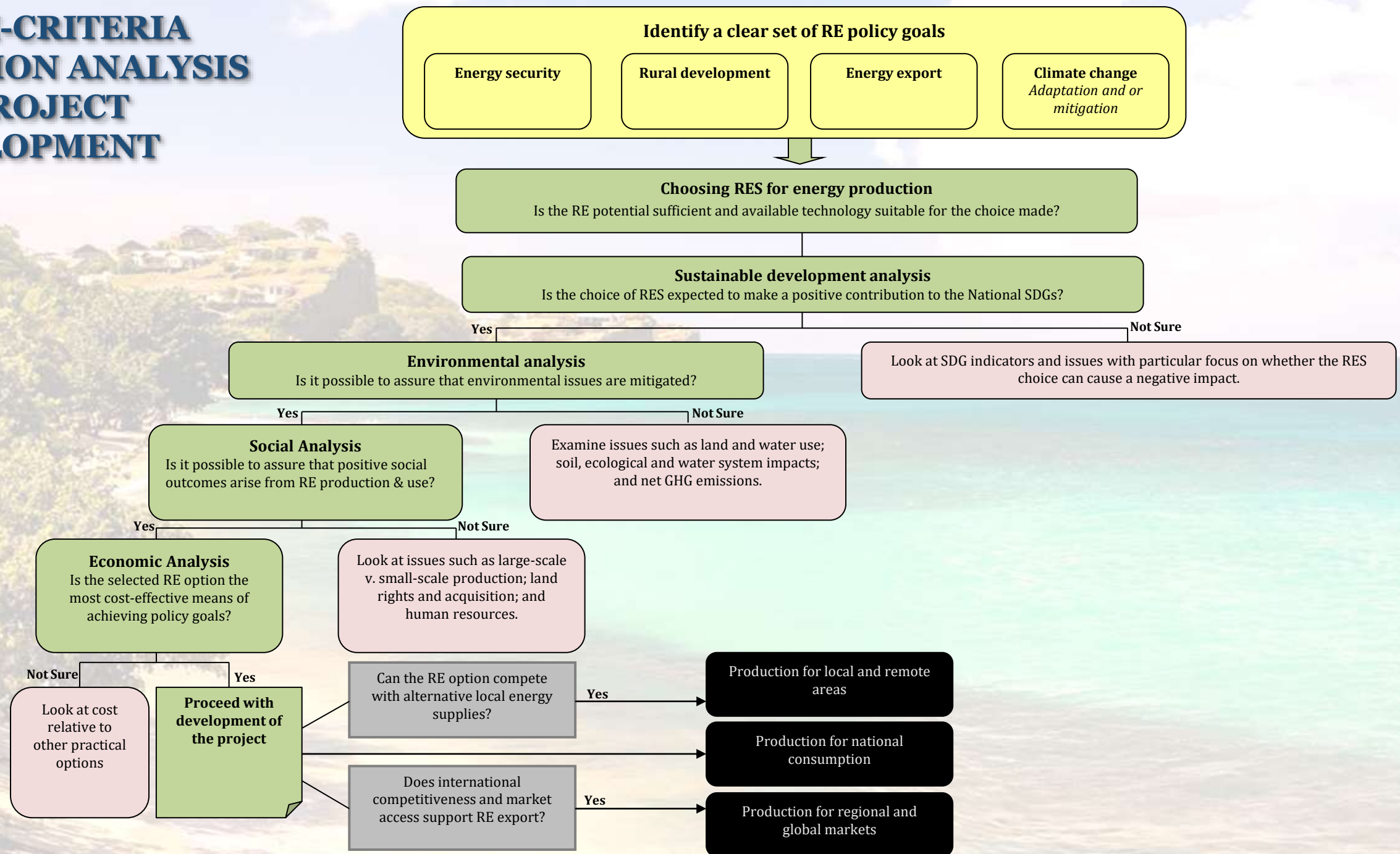
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Max Depth	11 m



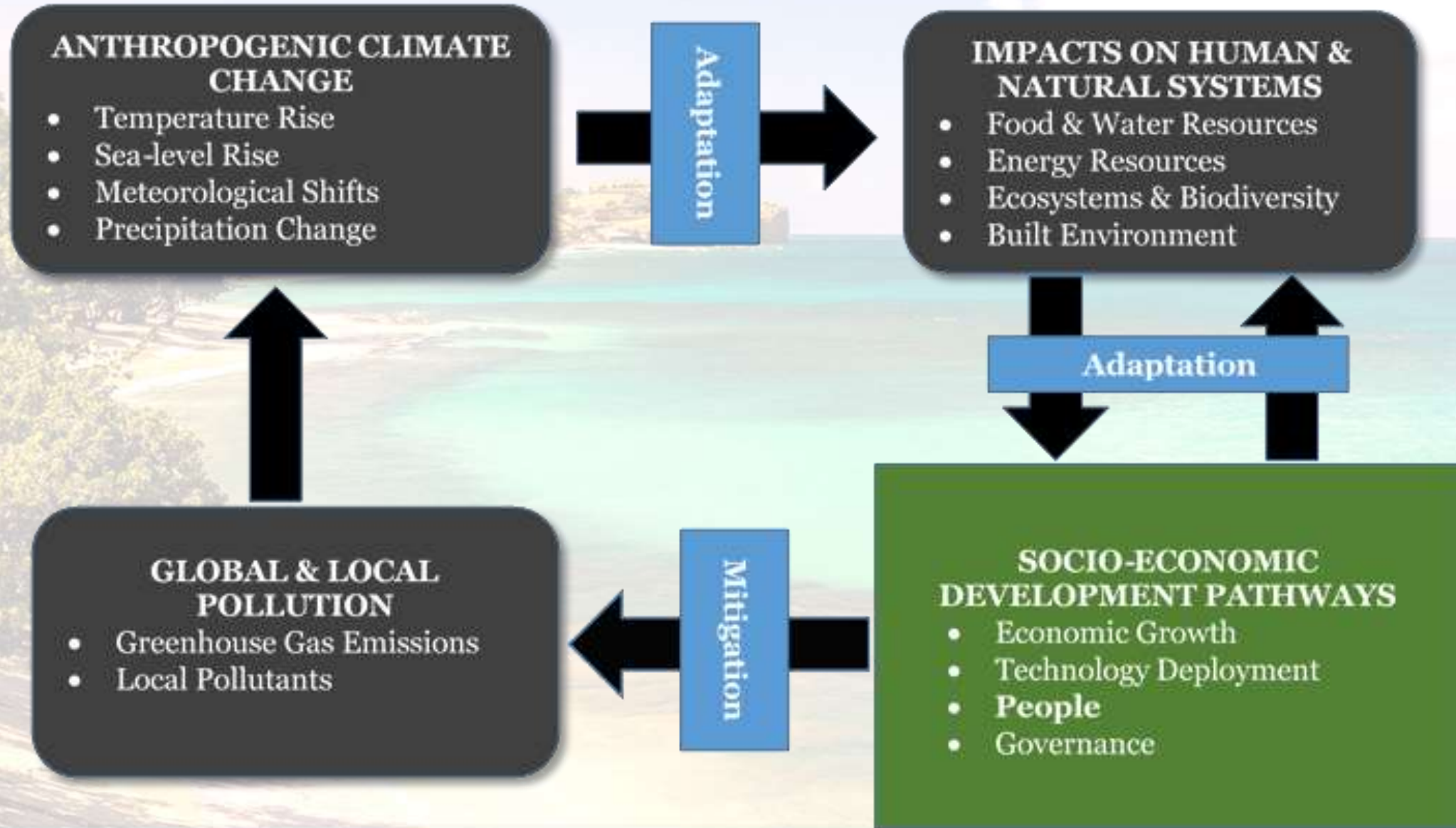
The Self-Consistency Approach



MULTI-CRITERIA DECISION ANALYSIS FOR PROJECT DEVELOPMENT



STRENGTHENING THE NEXUS: CLIMATE & ENERGY




THE COST-VALUE BALANCE



COST

- Technology Cost
- Infrastructure Cost
- Resilience Cost
- **Bounded Rationality**

- 
- Energy Security
 - System Flexibility
 - Multisector Linkages
 - **Blue Economy**



VALUE

**INTEGRATED
PLANNING**

**INFORMATION
& KNOWLEDGE
MANAGEMENT**

**CLIMATE &
DISASTER RISK
MANAGEMENT**

**ENERGY
SECURITY**

**INNOVATION &
TECHNOLOGY
TRANSFER**

**INNOVATIVE
FINANCING**

Energy security is a collective responsibility, which is inherently linked to the sustainable development of the Community

***“For the things we have to learn
before we can do them,
we learn by doing them”
-Aristotle***

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