RELP
Renewables for all.

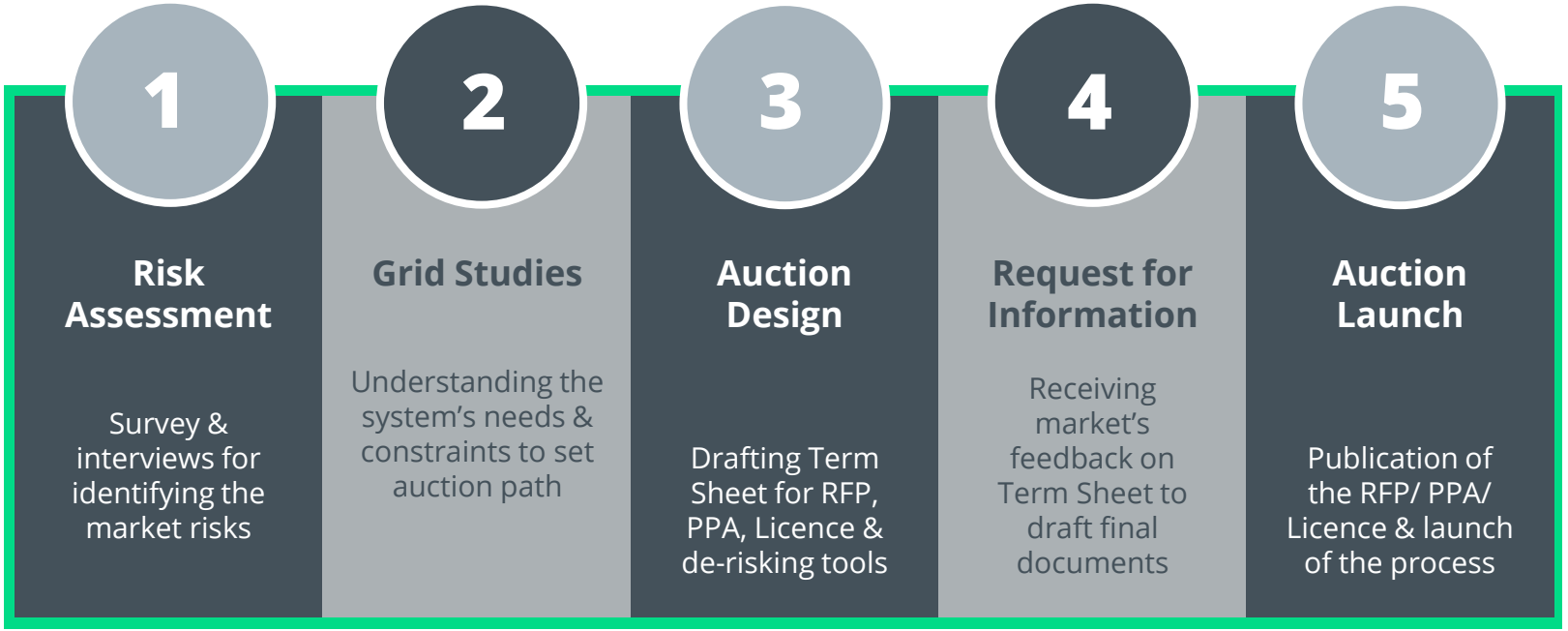
Aggregated Procurement in the Caribbean for BESS and Renewables

Asia Clean Energy Forum

Manila, June 2025

PHOTO: La Cumbre, RenovAr Programme, Argentina

The Methodology



The Work Plan

Engagement

- Building on RELP's regional pipeline with Jamaica and Barbados, IDB, CDB
- Showcase the project to prospect countries
- Commitment of countries to participate

Standardisation

- Deep dive in participating countries.
- Grid characterisation studies to determine BESS/RE individual pipelines.
- Common features of regulatory frameworks.

Implementation

- Tender documents for the region to fit participation of different countries.
- Pooled procurement for clustered participating countries.

The Caribbean

80%

Powered by imported fossil-fuels

+50%

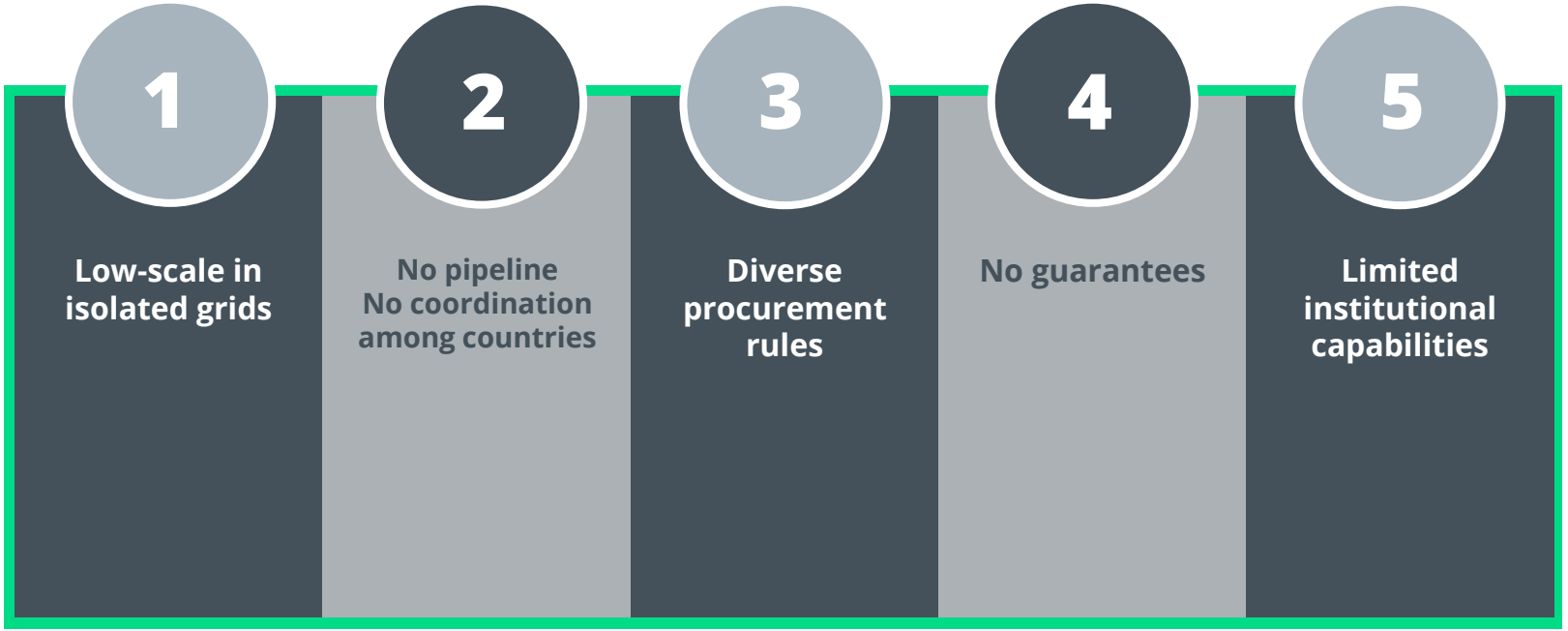
Higher power rates vs. Latam

-50%*

Lower renewables additions in the last 5 years vs. Global

**Excluding Dominican Republic and Puerto Rico*

The Problem

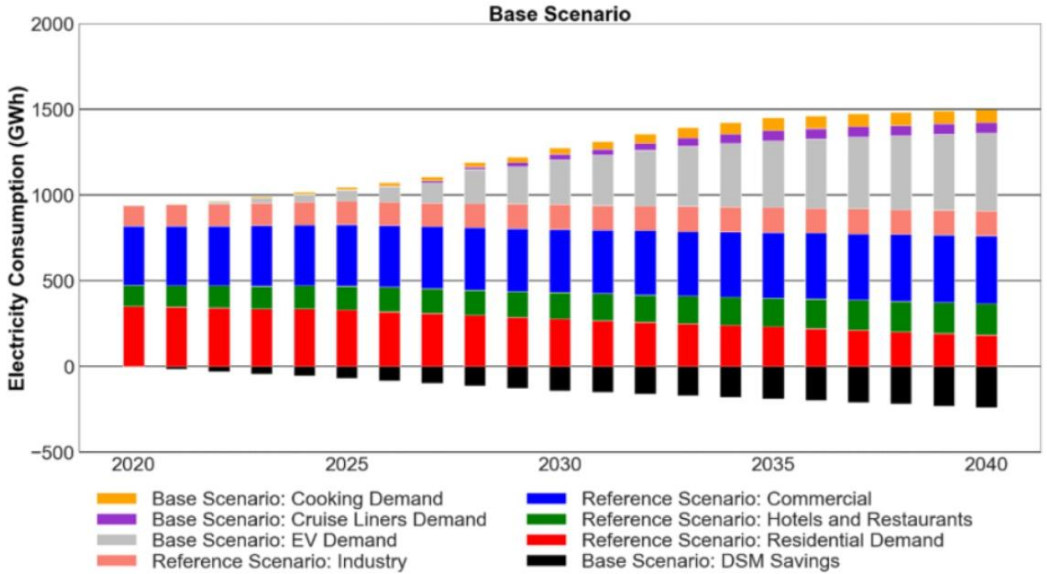

1
Low-scale in isolated grids
2
No pipeline
No coordination among countries
3
Diverse procurement rules
4
No guarantees
5
Limited institutional capabilities

The Solution

1. Large-scale market through aggregated auctions for RE & BESS
2. Pipeline of auctions through coordination of countries
3. Standardisation to fit different regulatory requirements
4. Credit Enhancement Mechanisms
5. Direct expert support

AGGREGATION

GRID CHARACTERISATION in BARBADOS: DEMAND & SUPPLY



Commercial

37%

Residential

37%

Industry

12%

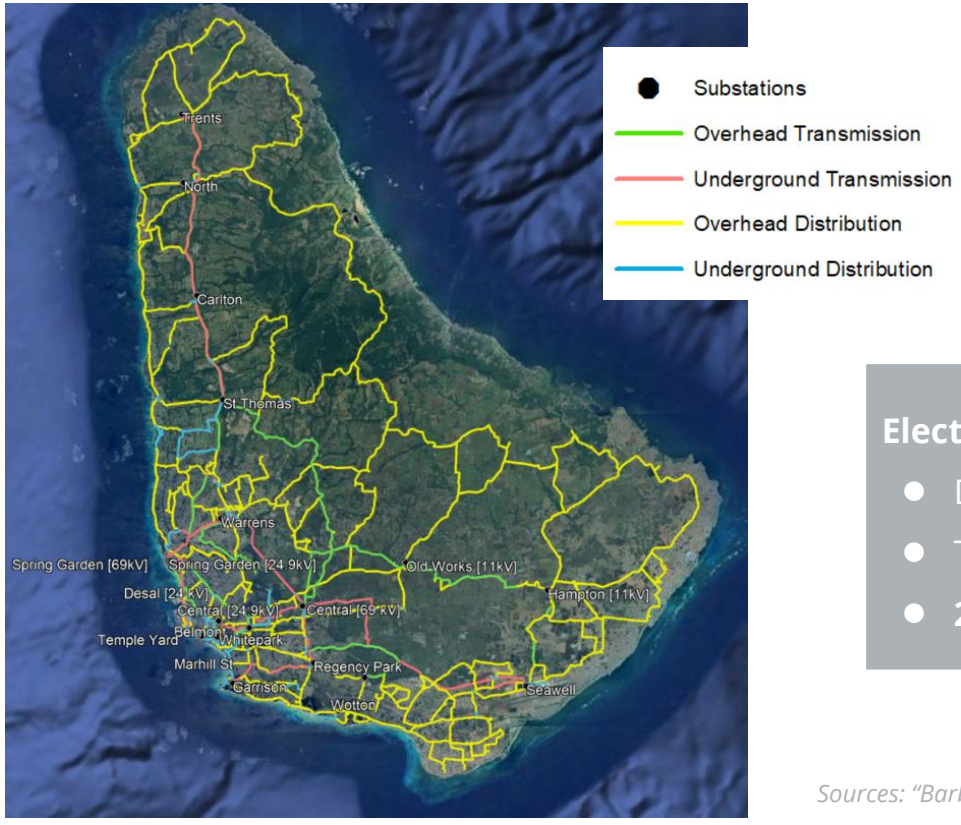
Hotels & restaurants

12%

Projected electricity demand

Source: Mott MacDonald (2024). Update to the integrated Resource and Resiliency Plan for Barbados

ELECTRICAL GRID



Electrical grid composed of:

- Distribution system: **11 kV** and below
- Transmission system: **24.9** and **69 kV**
- **20** substations

Sources: "Barbados T&D grid.kmz" / "BLPC Substations June 2024.xlsx" shared by BLPC

THERMAL GENERATION

Total utility scale capacity

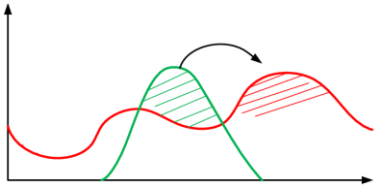
246.6 MW

Unit generator	D10	D11	D12	D13	D14	D15	D16	D17	D18	D19	GT01	GT03	GT04	GT05	GT06	CG01	CG02	SD
Installed Capacity (MW)	12.50	12.50	12.50	12.50	29.70	29.70	8.25	8.25	8.25	8.25	17.5	13	20	20	20	1.5	2.2	10
Year installed	1982	1982	1987	1990	2005	2005	2022	2022	2022	2022	1973	1996	1999	2001	2002	1985	2005	2020
Fuel Type	HFO	HFO	HFO	HFO	HFO	HFO	HFO	HFO	HFO	HFO	Diesel	Jet A1	Jet A1	Jet A1	Jet A1	N/A	N/A	Diesel
Site	Spring Garden	Spring Garden	Spring Garden	Spring Garden	Spring Garden	Spring Garden	Trents	Trents	Trents	Trents	Spring Garden	Seawell	Seawell	Seawell	Seawell	Spring Garden	Spring Garden	Spring Garden

Source: "Unit Info.xlsx" shared by BLPC

DIMENSIONING OF BESS REQUIREMENTS: REQUIRED SERVICES

DIMENSIONING CRITERION → **Bulk energy shifting for VRE congestion relief & peak shaving**



Other services:

- Primary frequency regulation
- Voltage regulation
- Grid forming capability
- Black start capability

Reliant on:

- **Response time**
- **P/Q capability**
- **Power capacity**

Additional assessment required for future tranches (Power flow, operational costs, expansion)

DIMENSIONING BESS REQUIREMENTS & LOCALISATION

Starting point: **Installed PV power and available grid transmission capacity**

↓ To determine

Minimum BESS requirement per feeder, transmission line, and grid, independently of the procurement method

BOUNDARY CONDITIONS

5 MW	PV limit on feeders	*Source: document BLPC data to RELP – Main points of congestion & grid expansion.docx*
100 MW	PV limit of the grid	*Source: document Barbados Wind and Solar Integration Study.pdf + Conversations with BLPC*
119 MW	Installed PV (2024)	*Source: document Network RE Capacity as of 20240401.pdf*
98 MW	Projected PV additions up to 2026	

Where we are


JAMAICA
270 MW + BESS
415 M$ savings
BARBADOS
60 MW BESS
ALGERIA
TOGO
100-150 MW BESS/RE
PAKISTAN
3 GW
LAO PDR
PHILIPPINES
5 GW
5 B$ investments
iTRUST in SAPP
100 M$
SOUTH AFRICA
ARGENTINA
9 GW
40 B$ savings
SUPPORTED MARKETS
ONGOING WORK

PHOTO: Altiplano & La Puna solar farms, RenovAr Programme, Argentina

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