A Regional NAMA Framework for Solar PV in the Caribbean

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Regional workshop facilitating preparation, submission and implementation of NAMAs

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Overview

- NAMAs in the context for sustainable development
- Renewable energy and solar PV in the Caribbean
- Why regional NAMA?
- Business Models and Incentives for Participation
- How do we make it happen and what is needed?
- Next steps

PV System atop Maca Bana Villas and Aquarium Restaurant, Grenada (*Photo credit: Maca Bana Villas and Aquarium Restaurant*)

NAMAs in the context of sustainable development: Interpretation

Nationally Appropriate Mitigation Actions (NAMAs) are voluntary actions taken by developing countries, in the context of sustainable development, in a measurable, reportable and verifiable manner, and supported by financing, technology, and capacity building from developed countries, to reduce or avoid GHG emissions.

NAMA = Sustainable Sector Policy + GHG reduction co-benefit

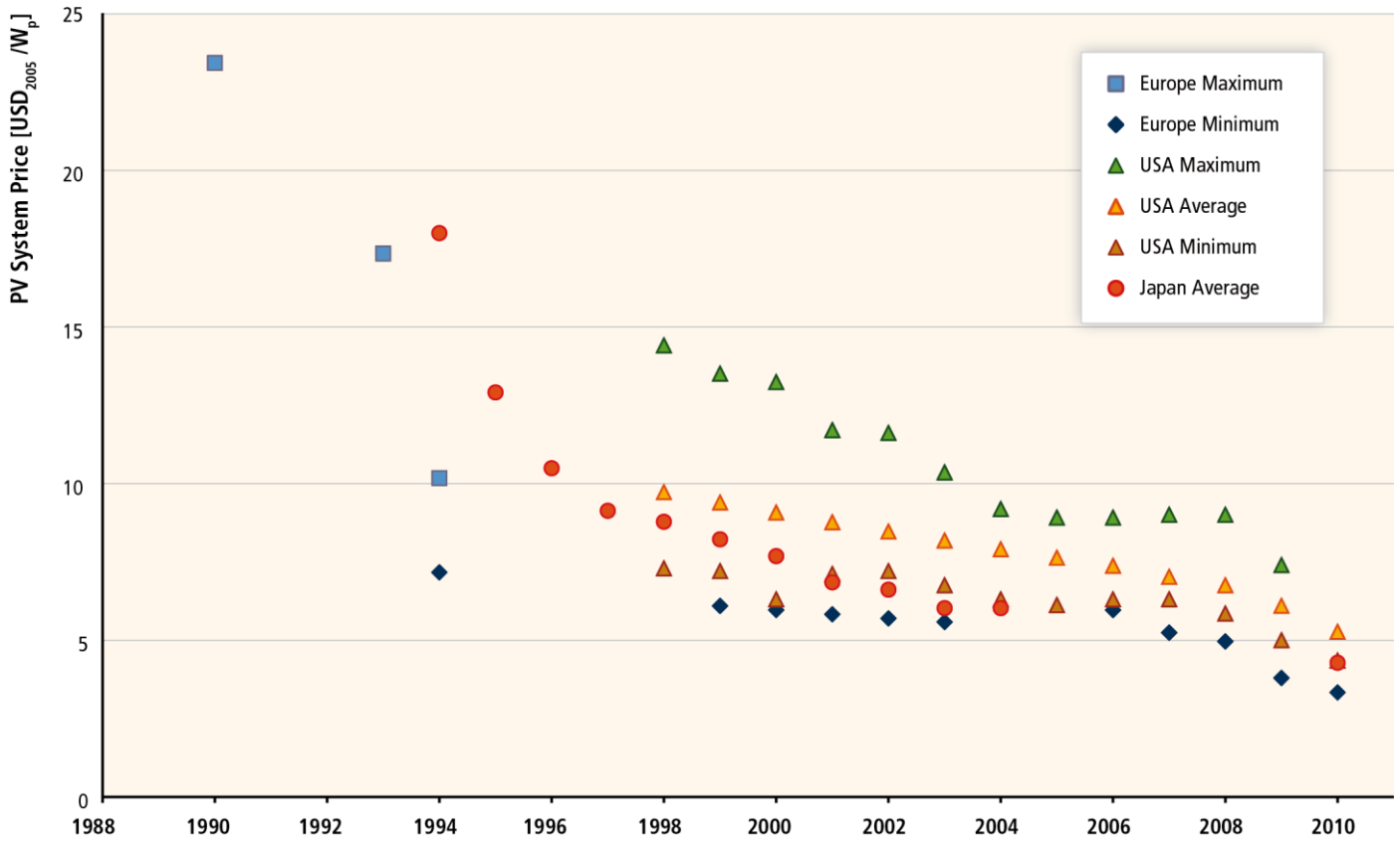
+ MRV

NAMAs in the context of sustainable development: modalities

Unilateral	Supported	Credited
Stand-alone action taken by a developing country without international support	Action taken by a developing country with financial, technological and/or capacity building support from a developed country	Action taken by a developing country with the intention of generating quantifiable emission reductions that may be traded and funded through the international carbon market

Renewable Energy : Taking Advantage of Reducing Costs

The Costs of Renewable Energy are decreasing….



IPCC (2011)

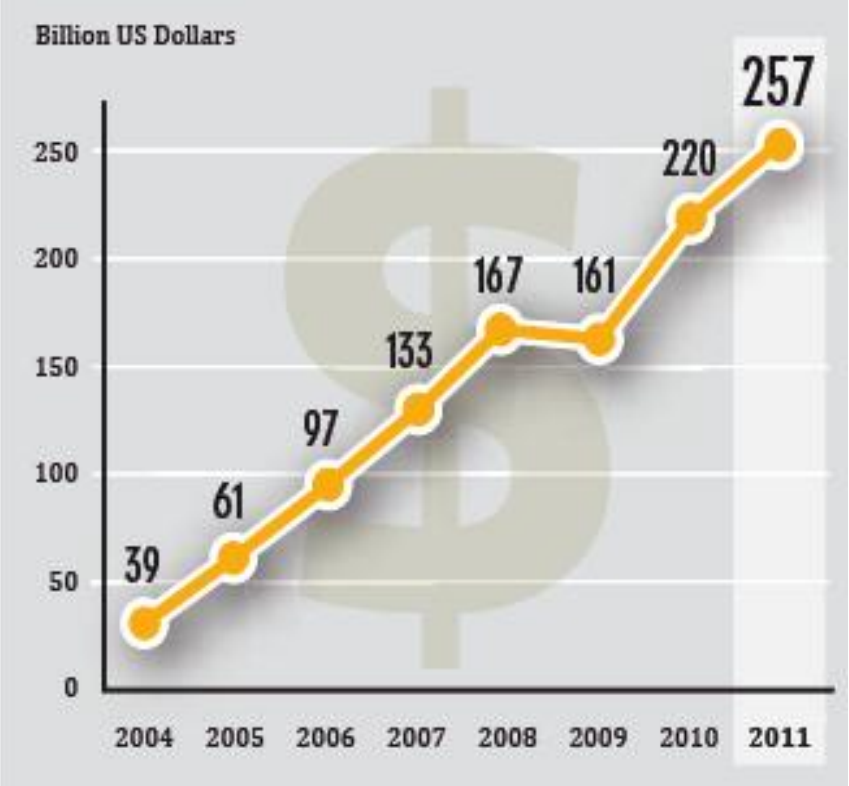
Renewable Energy : Investment Confidence

Renewable Energy Capacity and Investment is increasing…

Between 2000 and 2011, the global capacity of wind power increased from 17.4 GW to 238 GW.

In 2011, Renewable Energy investment was greater than investment in natural gas

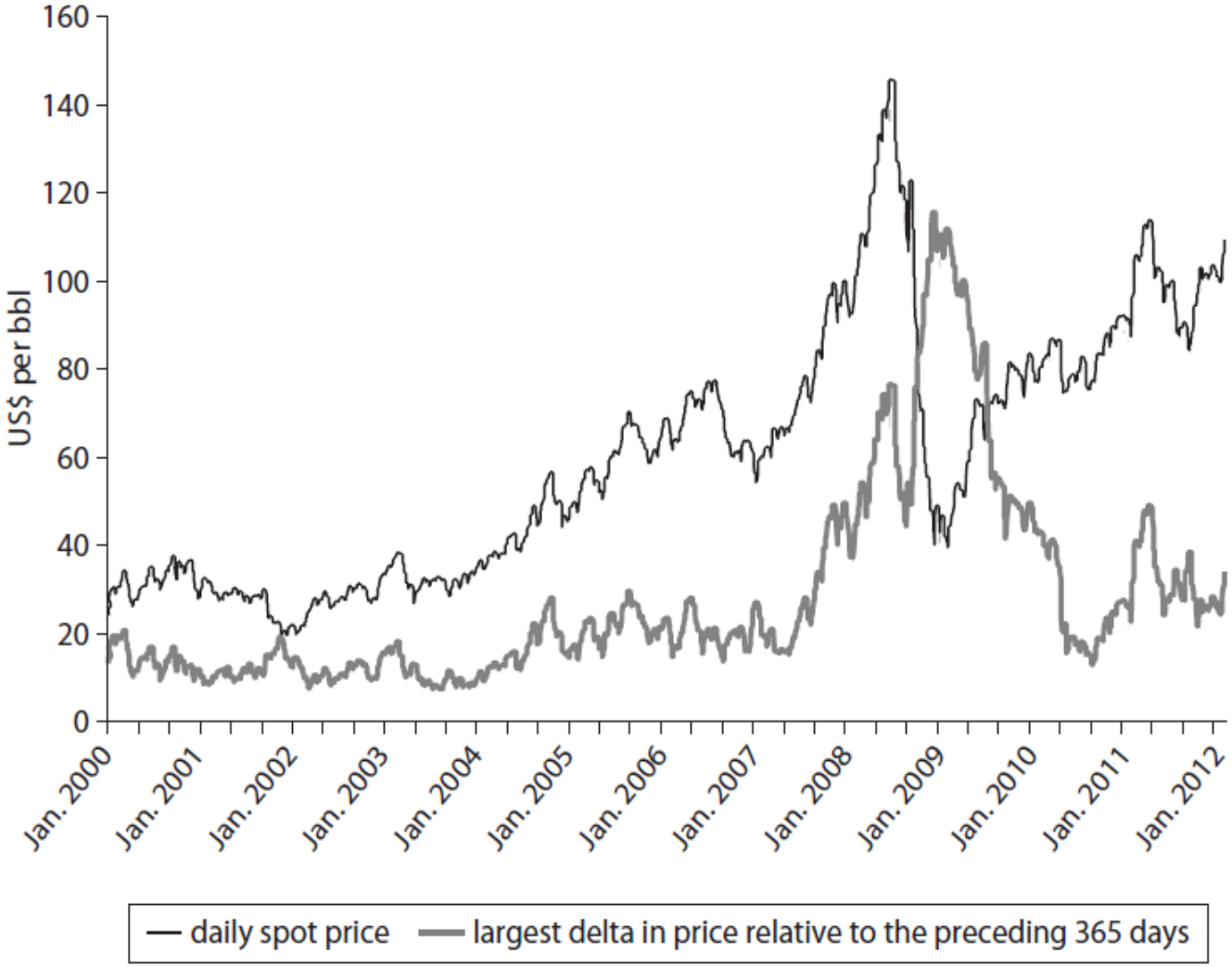
Global New Investments in Renewable Energy, 2004 to 2011



RENS21 (2012)

Renewable Energy: Reduces Exposure to Volatile Oil Prices

Evolution of Oil Prices and Volatility, 2000-12



Oil Price Volatility affects:

1) Trade Balance
2) Fiscal Balance
3) Inflation
4) Competitiveness
5) Consumer Confidence

World Bank, 2012

Renewable Energy in the Caribbean: Tariffs attract investment

Mean tariff: US$0.32 / kWh

Highest tariff (Bermuda): US$0.60 / kWh

FIGURE 1

CARILEC Mid (June) 2011 Tariff Survey

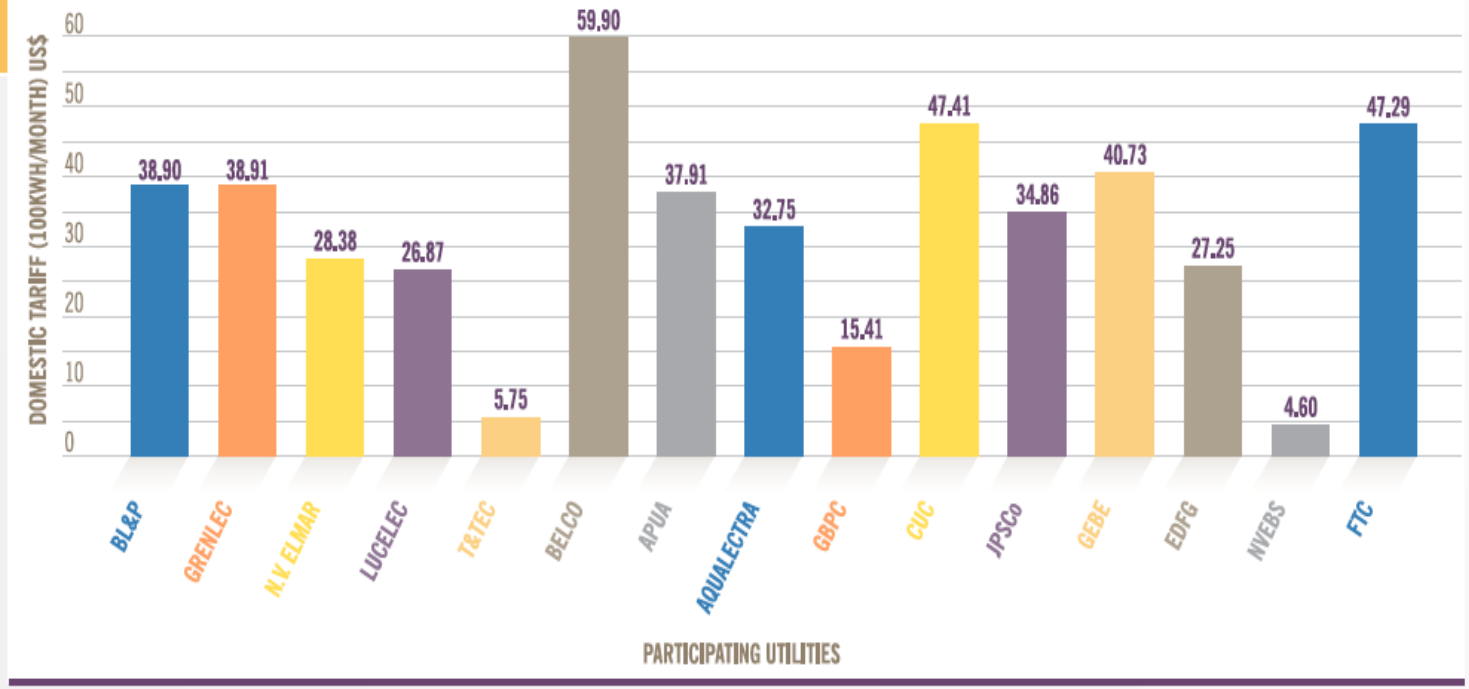


Figure 1 showing the typical bills for 100kWh/month domestic consumers for June 2011 *Source: CARILEC*

CARICOM Sustainable Energy Roadmap & Strategy

C-SERMS Targets for % RE in Electricity Generation		
Baseline year	2012	8%
Short-term target	2017	20%
Medium-term target	2022	28%
Long-term target	2027	47%

Source: Sealy, 2013

Why Regional NAMA?

Objective: To explore how NAMAs can be scaled-up regionally in the Caribbean in order to:

- Achieve Economies of scale through regionalization
- Crowdsource financial, technological, institutional and legislative support from development partners/agencies
- Exchange experiences for participating entities (countries, agencies and private sector)
- Lower Transaction Costs

Approach:

- Multi-national “opt in” framework

with solar PV technology

Note: Related examples exist, e.g. SoWiTec Wind PoA under the CDM for the region

Exhibition in Barbados – Solar House and transportable grid-connected PV System (*Photo credit: Grenada Solar Power Ltd. – Grensol*)

Type of Support Needed for Solar PV?

Financial

- Incentive to owner of PV equipment (e.g. building owner) by means of, for example,:
  - Soft loan through an intermediary agency
  - rebate, tax credit or alternative instrument
  - Long-term maintenance support

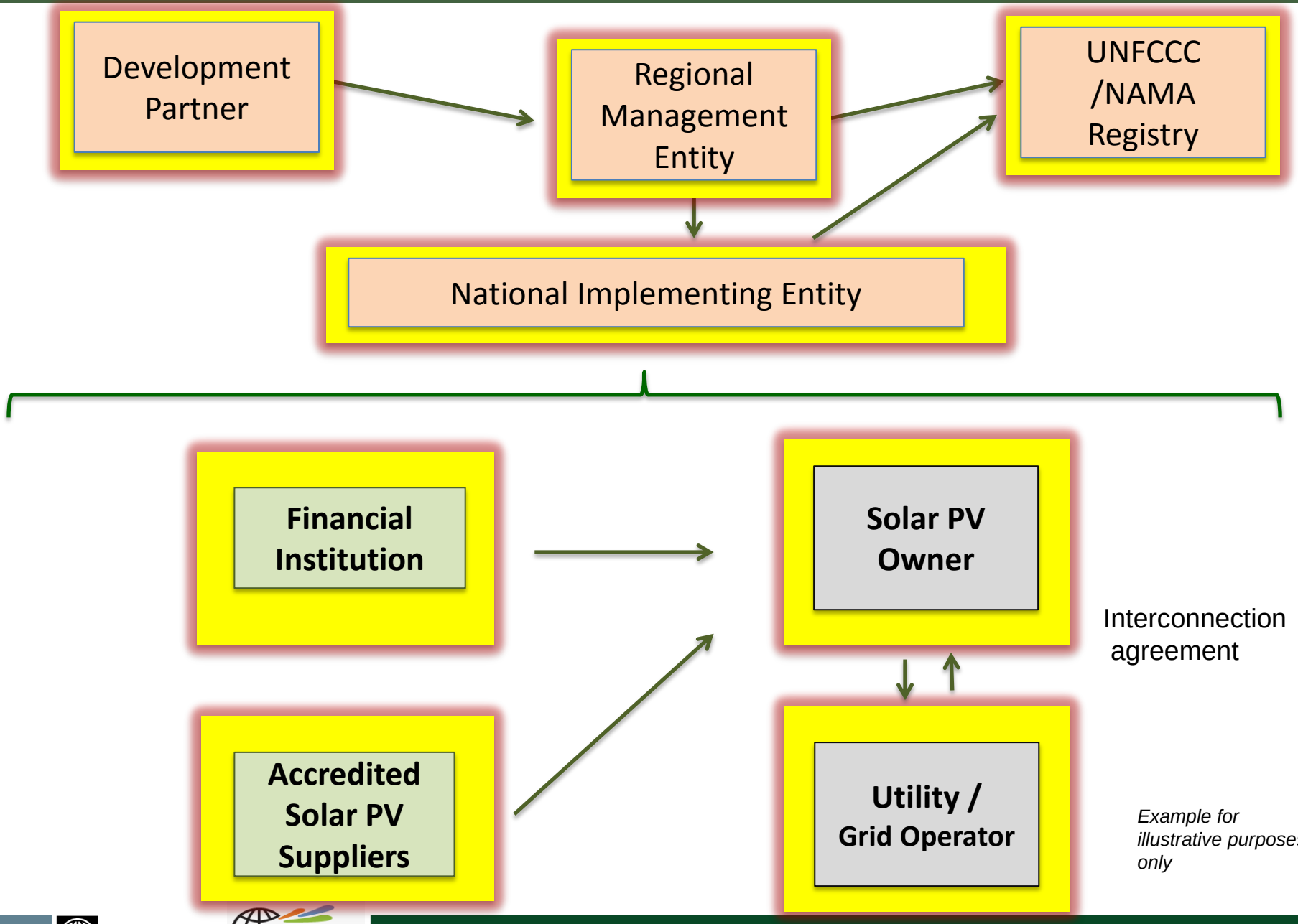
Capacity Building/ Technical Assistance

- Assistance with required technical, legal or financial studies (i.e. grid stability technical thresholds for use of distributed solar PV, grid emission factors)
- Institutional strengthening for the public sector, private sector and the independent regulator
- Assistance to conduct baseline assessments and monitoring, reporting and verification (MRV) requirements

Developing a Regional NAMA: Identification of Key Actors

❑ **UNFCCC Secretariat**	Maintains NAMA Registry, Provides technical support through its Regional Collaboration Centre
❑ **Development Partners**	Support for Preparation, Capacity Building, Loans
❑ **Regional Coordinating Entity (RCE)**	Coordinates NAMA submission(s), coordinates provision of requested support amongst national implement. agencies
❑ **National Implementing Agency**	Receives international support (through the RCE) and distributes/coordinates support amongst the national participants. May need to coordinate/submit NAMA
❑ **Financial Institutions**	Provides loans to project participants to acquire PV equipment
❑ **Program Participants**	Building/Space Owners for solar systems (rooftops) Investment: capital cost for equipment (%)
❑ **Utility/Grid Operator**	Contracts for interconnection, net metering, resource planning
❑ **Others**	Equipment suppliers, ESCOs, MRV

Regional NAMA - Business Model: Generic



Business Models: Many different alternatives can be considered

- Support needed may vary [technical, capacity, financial]
- Different ways to finance:

A : Funds go to a **regional project developer** to purchase solar PV equipment, who acts as a wholesaler or direct retailer and on-sells at an agreed reduced price.

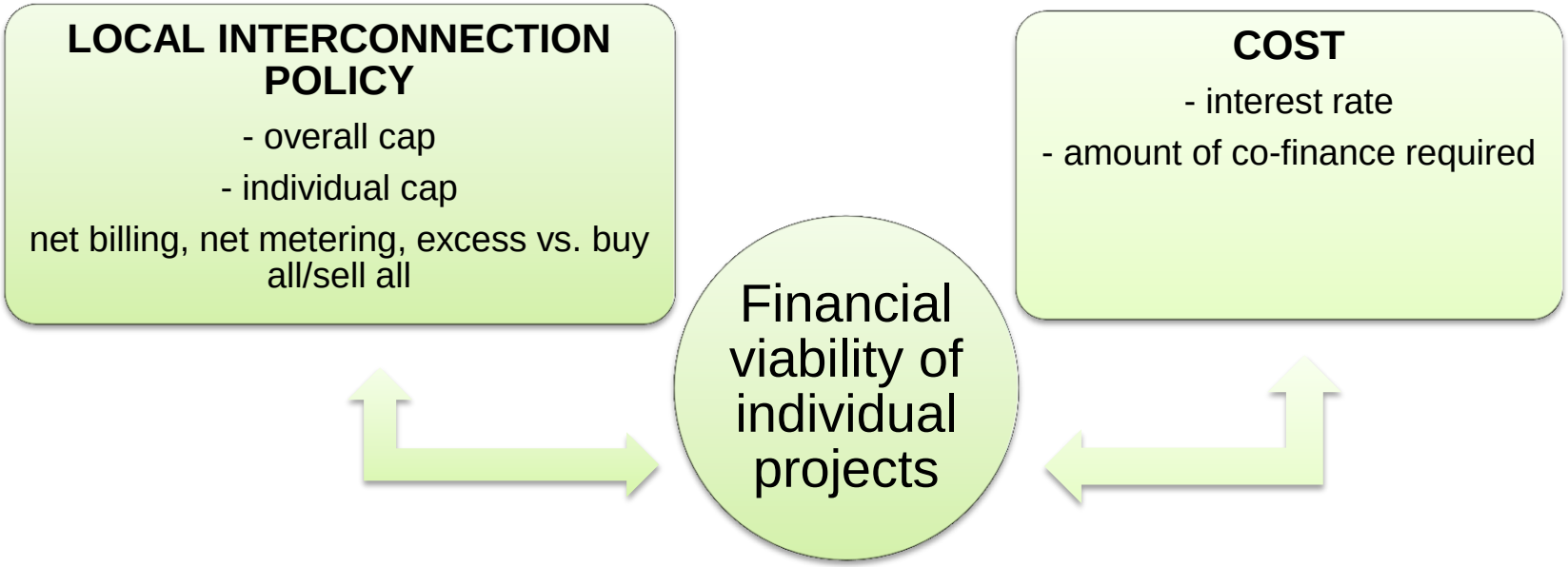
B: Funds go to **regional financial institution**, which administers a soft loan facility – accessible through appropriate national financial institution by project developers and/or building owners.

C: Funds go to **national financial institutions**

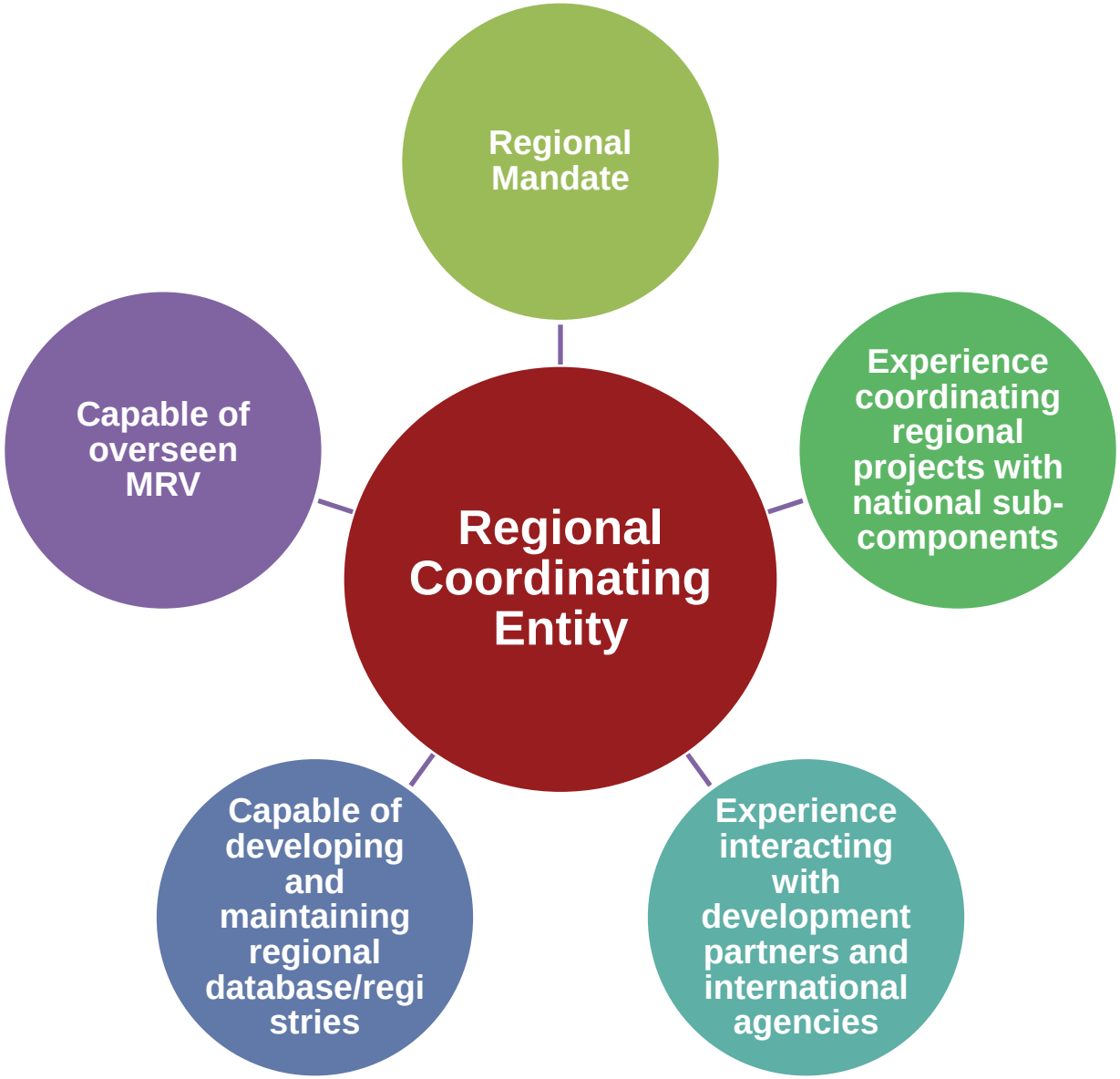
- Incentive schemes can be tailored to each country, depending on specific context and needs.

Incentives for participation

1. Equitable, transparent and predictable interconnection policy
2. Flow of funds between implementation entity, utility company and owner of rooftop solar PV system
3. Consider International support through a regional financial institution which administers a soft loan facility



Desirable Features of Regional Coordinating Entity



Regional NAMA submission?

The initial Regional NAMA (or RAMA) submission should consider:

- Overall objectives
- Geographical jurisdiction
- Estimated overall mitigation potential
- Description of regional sustainable development potential
- Types of assistance potentially requested from National Implementing Entities
- Link to regional policy
- Description of how emission reductions will be measured, reported and verified

Next steps

1. Identify country champions
   - ➢ At least one submitting entity
   - ➢ Others willing to opt in
2. Discuss/explore/define business models
3. Engage key actors
4. Regional Coordinating Entity
5. MRV Framework
6. Adapt NAMA template to enable regionalization

Opportunities and barriers for advancing such proposal? Can this work in your country?

Key actors in the region?

What kind of business model can work?

Can a similar framework be used in another region, sector?

Related Initiatives?