



Energy Sector
Policy & Strategy
2015



CARIBBEAN DEVELOPMENT BANK
ENERGY SECTOR POLICY AND STRATEGY

MARCH 2015

CURRENCY EQUIVALENT

Dollars (\$) throughout refer to USD unless otherwise stated.

ABBREVIATIONS

| | |
|---------|---|
| BMCs | Borrowing Member Countries |
| BNTF | Basic Needs and Trust Fund |
| BOE | Barrel of oil equivalent |
| CARICOM | Caribbean Community |
| CCSP | CARICOM Strategic Plan |
| CDB | Caribbean Development Bank |
| CE | Clean Energy |
| C-SERMS | Caribbean Sustainable Energy Roadmap and Strategy |
| CTCS | Caribbean Technological Consultancy Services |
| DG | Distributed Generation |
| EE | Energy Efficiency |
| ESCO | Energy Services Company |
| ESP | Energy Sector Policy |
| ESPS | Energy Sector Policy and Strategy |
| ESS | Energy Sector Strategy |
| GDP | Gross Domestic Product |
| GE | Geothermal Energy |
| GWh | Gigawatt-hour |
| kWh | kilowatt-hour |
| LOC | Letter(s) of credit |
| MSME | Micro, Small and Medium Enterprise |
| MW | megawatt |
| UN | United Nations |
| OCR | Ordinary Capital Resources |
| OECS | Organization of Eastern Caribbean States |
| R&D | Research and Development |
| RE | Renewable Energy |
| RSP | Regional Strategic Plan |
| SE | Sustainable Energy |
| SE4ALL | Sustainable Energy for All |
| SFP | Smart Facilities and Programmes |
| SIDS | Small Island Developing States |
| T&D | Transmission and Distribution |
| TDEP | Targeted Dialogue on Energy Policy |
| UOF | Use of funds |
| USD | United States dollar |

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1. INTRODUCTION

Macro-Economic Context and Climate Impact

1.01 Economic growth, among the Borrowing Member Countries (BMCs) of the Caribbean Development Bank (CDB), has stagnated over the last two decades. The weak economic growth patterns which are reflected in widening fiscal imbalances, high debt ratios, and declining levels of foreign exchange reserves, and persistent pockets of poverty, have also been exacerbated by the financial crisis and the Great Recession. Competitiveness of BMCs must be addressed if prospects for medium-term debt sustainability and growth are to improve.

1.02 Further, the economic prospects of BMCs are challenged by climate change. All BMCs are small-island, developing and low-lying coastal states which are already being impacted by climate variability and sea level rise, with estimates of the negative impact on gross domestic product (GDP) ranging from 5% to as high as 30%. A positive change in the growth trajectory would require that BMCs undertake major reforms across sectors, including transformation of their energy sectors.

Energy Sector: Challenges and Opportunities

1.03 Although the energy situation is not uniform across BMCs, due to market size, structure of the power sector, type of energy resource potential, and net energy position^{1/}, some common challenges emerge. The first and most significant is in the area of energy security. This is largely due to over-reliance^{2/} on, imported high-cost fuel (oil), unaffordability and price instability. The second common challenge is the lack of long-term sustainability of the main fuel sources^{3/}, i.e. fossil based fuels^{4/}. Thirdly, energy sector governance needs to be improved, in order to facilitate and attract the required timely investments for a diversified and affordable energy matrix, based on indigenous resources. In addition, in a few BMCs, energy poverty or lack of access to clean and modern forms of energy, is a challenge.

1.04 The international consensus around the sustainable development paradigm as the prevailing development model, has triggered a transition in the energy sector globally, with emphasis on sustainable energy (SE) resources, and climate resilience. As a result, at the global level, there is now a growing trend for the adoption and use of more efficient, clean and renewable energy technologies, as well as a shift towards distributed models of power generation.

1.05 This has stimulated increased supply of these clean energy (CE), renewable energy (RE) and energy efficiency (EE) technologies to the point where significant reductions in prices have been observed over the last five years, resulting in further expansion in their use. These developments are particularly relevant to BMCs in light of their energy sector challenges. All BMCs have vast RE resources, with less than 1% of the existing potential harnessed. By safely harnessing these RE resources, BMCs can achieve a cleaner, more diversified, and affordable energy matrix.

1.06 Further, by increasing the exploitation of their RE potential, in combination with increased EE, BMCs can derive a range of direct and indirect benefits^{5/}, beyond the energy security, macro-economic and environmental benefits obtained from increased supply diversification and reduced dependency on

^{1/} All BMCs except Trinidad and Tobago are net energy importers, however some produce oil such as Suriname, Belize and Barbados, with the latter producing both oil and natural gas.

^{2/} Over 90% of net energy importing (NEI) BMCs' commercial energy is imported in the form of oil and derivatives.

^{3/} Which is also a key source of lack of sustainability for the energy sector.

^{4/} Oil-based or natural gas.

^{5/} The International Energy Agency identified 15 key benefits of EE: "Spreading the Net: The Multiple Benefits of Energy Efficiency" - Insight Series IEA 2012.

imported oil. These include, *inter alia*, supporting energy access for all, energy services business expansion and development of a green energy industry, with increased employment especially in micro, small and medium enterprises (MSME), and economic empowerment of vulnerable groups. These objectives are directly in keeping with CDB's poverty reduction mandate. Also, investments in RE and EE provide BMCs with options for reducing the relatively large share of public sector expenditure used to pay for energy. This also has positive implications for the levels of associated borrowing and utilisation of foreign exchange. Lower energy costs, which may be achieved through increased use of RE and EE, can also stimulate the manufacturing sector, agricultural production and processing and other commercial activities outside of the energy sector and can improve competitiveness.

1.07 BMCs have recognised their energy challenges and also the potential short and long-term benefits of focussing on CE, RE and EE. With donor assistance, some countries have drafted national energy policies and have developed targets for RE and EE. At the regional level, through the Caribbean Community (CARICOM), the BMCs as a group, have also established targets for the contribution of RE^{6/} to total electricity generation within the context of the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) framework of the Regional Energy Policy. However, a lot remains to be done in terms of awareness building, capacity strengthening, establishing enabling frameworks, and providing appropriate financing, to support energy sector transformation. As the regional development bank, CDB is committed to supporting the achievement of national and regional targets with appropriate financing and technical support, and through cooperation with development partners.

1.08 For many BMCs their macro-economic context militates against large additional borrowing for energy infrastructure investment. Currently, the two options available to them are concessionary funding or private sector investment. While such concessionary funding may provide some support, it is expected that the private sector will play a larger role. However, establishing appropriate enabling policy, regulatory, legislative and institutional arrangements are prerequisites for significantly increased private investment in the energy sector, and particularly for increased RE penetration. For most BMCs, this would necessitate legislative changes to remove the monopoly status over generation held by the incumbent integrated electric utility, and to establish an independent and competent regulator. Also, in all BMCs, it will be necessary to strengthen human and institutional capacities across the sector to efficiently and effectively plan, administer, and facilitate investment decisions, as well as to build awareness.

1.09 Even in the absence of critical policy and regulatory reforms, there are opportunities for CDB to support investments that address the high cost of energy such as timely investment in modern and more efficient conventional generation, and the upgrade of transmission and distribution (T&D) assets as well as demand-side EE. A review of the situation in BMCs shows that the opportunity is significant. It is estimated that more than 50% of the power sector infrastructure could be candidates for replacement within the next five to ten years, to maintain system integrity.

1.10 In general, all the energy sector challenges and opportunities identified in BMCs, represent prospects for CDB support, in line with its focus on sustained economic growth and poverty reduction. However, the current limitations on borrowing headroom for many of CDB's BMCs and CDB's own capacity constraints, demand that the Bank deploys innovative approaches as it seeks to provide the needed support. Areas identified for support include, energy infrastructure investments, sector and market reforms, RE and EE interventions on supply and demand sides, capacity strengthening, energy services business development in MSMEs, and energy services for vulnerable groups, including rural and hinterland populations. It is also necessary for the Bank to be responsive to efforts by BMCs to increase climate resilience of their energy systems.

^{6/} In 2012 the contribution of RE to power generation was approximately 8%. The targets for RE: 20% by 2017, 28% by 2022 and 47% by 2027.

2. THE ENERGY SECTOR POLICY (ESP)

Goals and Objectives of the Energy Sector Policy

2.01 Consistent with CDB's mandate of supporting inclusive and sustainable economic growth and poverty reduction in BMCs, and cognisant of the critical role of the energy sector as a vehicle for achieving business and economic competitiveness, the goal and objectives for the BMC energy sector are as follows:

Goal: The transformation of the energy sector to significantly increase energy security and sustainability, enabling economic growth.

Objectives:

- (a) To assist BMCs with the timely provision of adequate, affordable, reliable, sustainable, and clean energy services, to all segments of the society;
- (b) To establish the energy sector as a dynamic economic sub-sector; advancing the development of a "green" economy, and supporting climate resilience; and
- (c) To be a key regional energy sector development financier, to serve as a catalyst for attracting concessionary resources to the Region, and as an intermediary for financial and technical assistance resources for BMCs.

Scope of ESP

2.02 The Goals and Objectives, Key Guiding Principles, Priorities and Policy Actions constitute the CDB ESP. The ESP covers all the Bank's interventions in electricity, liquid fuels, solid fuels (biomass), gaseous fuels (including biogas and natural gas) sub-sectors, including investment requirements for supply and demand side infrastructure (e.g. buildings, transport, water systems,) covering energy efficiency, fuel substitution issues, as well as energy sector governance and management systems. However, the power sector will form the main focus for strategic interventions, given that it holds the greatest potential for achieving the goal, since electricity is the most versatile energy carrier^{7/} underpinning a wide range of energy services necessary for modern life and business operations.

Key Guiding Principles

2.03 The following principles will guide all energy sector interventions, within the context of the Bank's Charter and overall strategic framework. Based on the scope of its resources and capacity, and taking into account its competitive advantage, the Bank will exercise the principle of selectivity where deemed necessary.

^{7/} Royal Institute of Technology

2.04 The Guiding Principles of the ESP are:

(a) Principle 1: Emphasising Energy Security and Access

Ensuring increased energy security is a critical consideration in CDB's energy sector interventions as it constitutes the dominant energy sector challenge across virtually all BMCs. Further, within CDB's Strategic Plan, energy security has been identified as a cross-cutting theme, i.e. it is considered by all sectors. Emphasising energy access is a critical dimension of inclusive and sustainable development, and is a significant challenge in four^{8/} BMCs, particularly in Haiti, the most populous BMC.

(b) Principle 2: Prioritising RE and EE

Developing RE and increasing EE are the twin dimensions of establishing a sustainable energy (SE) supply. SE development is about ensuring that the energy needs of today are met without compromising the energy needs of future generations. Essential for the long-term survival of BMCs, its prioritisation is a key principle underpinning CDB's energy sector interventions. Promoting SE in the context of BMCs, will address numerous macro-economic and development issues over the short to medium term.

(c) Principle 3: Promoting a Holistic Approach to Energy Sector Transformation

The ESP addresses the prevailing short-term, piecemeal and disjointed approaches to energy sector development. CDB supports integrative and long-range planning to maximise economic efficiency of the sector. Such a holistic approach would include, *inter alia*, development of appropriate policy, legal and regulatory reforms, while considering national and regional energy sector objectives.

(d) Principle 4: Promoting Regional Cooperation and Integration, as well as Cooperation Among Partners

(i) All BMCs are either full or associate members of CARICOM, which is advancing regional economic integration among its Members. They therefore subscribe to the CARICOM Strategic Plan (CCSP) which identifies energy as a key driver for unleashing economic growth. CDB, as the regional development bank, has an important role, both in supporting the implementation of CCSP, and the various elements of the process of integration, including in energy. Support to the Organisation of Eastern Caribbean States Commission will continue the work started under the Sustainable Energy Technical Assistance (SETA) Project.

(ii) Further, there are regional policies and strategic frameworks within CARICOM and the OECS, which have an energy focus. These include, the CARICOM Regional Energy Policy and the C-SERMS Framework managed by the CARICOM Secretariat; the CARICOM Climate Change Implementation Plan, managed by the Caribbean Community Climate Change Centre, and the energy strategy of the OECS. Critical energy sector objectives and targets are included in these mandates and their realisation would require financing and technical assistance support from CDB in collaboration with other development partners. At

^{8/} Belize, Guyana, Haiti and Suriname

the international level there is opportunity for the Bank to support implementation of the UN Sustainable Energy for All (SE4ALL) Initiative.

- (e) Principle 5: Ensuring Compatibility of Energy Interventions with Gender Equality, and Social and Environmental Performance Standards
- (i) Promoting gender equality is a key dimension of the Bank's Strategic Framework. Recognising that energy projects are not gender-neutral, CDB will emphasise gender dimensions in all relevant energy sector interventions. Global experience confirms that interventions that explicitly address the gender and energy nexus demonstrate better sustainability and human development outcomes. On the demand side, men and women use energy differently, which impacts demand patterns, strategies and opportunities for intervention. As such, each intervention will be subject to a gender analysis and monitored within its results framework.
 - (ii) All energy sector interventions will reflect the principle of compatibility with good social, environmental and climate actions, in keeping with the Bank's overall Strategic Framework. The ESP, while focussed on the energy sector, is supported and aligned with existing and related CDB policies, specifically the Climate Resilience Strategy, Environmental and Social Review Procedures, and the Disaster Management Strategy and Operational Guidelines, which together form an umbrella for environmental and climate actions across the Bank.

Priority Areas for ESP

2.05 The selected areas of focus are informed by knowledge of CDB's competitive advantage, and a brief review of interventions by other partners in the area of SE. It was concluded that there remains large scope for CDB support in various areas of EE and RE. Although there are many initiatives, the scale and impact are relatively small compared to the needs.

2.06 Further, CDB's operations cover many of the key economic and social sectors, providing ample opportunity and entry points for targeted EE and RE interventions. Also the Bank has special mechanisms, in the form of the Caribbean Technology Consultancy Services (CTCS) Network, and the Basic Needs Trust Fund (BNTF) Programme which are vehicles for the targeted interventions. These programmes respectively, allow the Bank to have access to capacity within a network of professionals to respond quickly to selected needs, and provides a platform for seamlessly addressing energy poverty in remote rural areas while playing an RE key role.

2.07 Against this background, four areas have been identified as the areas of focus for the energy sector for the planning period, 2015-19 and are shown in Table 1.

TABLE 1: AREAS OF FOCUS FOR THE ENERGY SECTOR – 2015-19

1. Promoting EE for more affordable and stable energy costs, and for establishment of a green economy

- Supply-side: EE in generation, and T&D, including loss reduction.
- Demand-side: EE in buildings, transport, manufacturing and processing, agriculture, water, and services sub-sectors.
- Energy business development and fostering green industry.

2. Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy

- Power sector: New generation capacity or fuel substitution; utility scale and distributed generation solutions
 - Priority given to solar energy, wind power, geothermal energy, and hydropower (Selective support for bio-energy options/infrastructure)
- Non-electrical sub-sectors: thermal energy services and transport
 - Water heating, cooling, drying (Selective support for bio-fuels for transport)
- Off-grid solutions for reducing energy poverty by increasing energy access in remote areas

3. Promoting energy infrastructure to provide cleaner and more reliable power supply

- Conventional electricity generation which reflects^{9/} a significant improvement in EE, and/or a hybrid approach incorporating RE options, or a significantly cleaner fuel substitution.
- Natural gas (as clean fossil fuel) infrastructure.
- Smart electricity grids.

4. Promoting Sector Reform, Good Governance and Capacity Strengthening

- Policy, legal, regulatory and institutional reforms, and also for governance, and planning.
- Capacity strengthening and awareness building.

^{9/} One, or a combination of the following features: significantly improved EE, incorporation of RE, or substitution with cleaner fuels.

CDB Energy Policy Actions^{10/}

2.08 In keeping with earlier articulated principles and priorities, CDB Energy Policy Actions specified in this Section, represent the list of key areas and activities, for which the Bank will consider providing technical assistance and financing support.

1. Promoting EE and RE Across All Sectors for Energy Supply and Demand Requirements; and Promoting a Green Economy and Energy Poverty Reduction

(a) Energy Efficiency^{11/}

CDB prioritises:

- (i) Improvement in EE in the power sector **both** on the supply-side and the demand-side including:
 - (aa) EE in generation, and T&D, including loss reduction.
 - (bb) EE in buildings, manufacturing and processing, agriculture, water, and services sub-sectors.^{12/}
- (ii) Fuel efficiency improvement in the transportation sector through the implementation of appropriate policies and regulation (including the adoption of minimum fuel standards).

(b) Renewable Energy

CDB supports:

- (i) RE in the power sector on both the supply-side and the demand-side for RE technologies considered to be at a mature^{13/} stage of development. Priority will be given to solar energy (solar thermal, solar electric technologies), wind power, hydropower, and geothermal energy, while selectively supporting bio-energy options.
- (ii) RE in non-electrical sub-sectors: thermal energy services including water heating, cooling, and drying; and in transport, selective support for bio-fuels.
- (iii) Appropriate policies and regulatory mechanisms (such as feed-in-tariffs, and net-billing) for the development of RE in the SIDS context.
- (iv) Resource assessments, and resource-proving strategies for the priority RE options at (i).

^{10/} All actions such as supporting, promoting, emphasising, should be construed as the Bank providing technical assistance and financing.

^{11/} Energy efficiency includes conservation which focuses mainly on changing behaviour.

^{12/} Including such measures as the adoption of minimum power plant efficiency performance criteria, building codes and standards; and appliance standards, labelling, and education, awareness and capacity building programmes; EE assessments and energy audits; retrofits of lighting, air-conditioning, motor drives, and direct heating systems

^{13/} Mature technology refers to those with established markets in several countries; i.e. commercially available.

- (v) Energy poverty reduction: viable programmes to increase energy access to SE, e.g. RE for power generation and productive uses, and the introduction of cleaner cooking fuels. CDB focuses on remote communities that are not connected to the electricity grid. In this context, the BNTF Programme is a useful vehicle.

(c) **Energy Business Development Support towards a Green Economy**

CDB supports:

- (i) Development of the EE and RE service industry and wider green industry. The CTCS Network, can provide support to, as well as employ, these services for energy audit and business proposal preparation to enhance bankability of projects.

2. Promoting Energy Infrastructure to Provide Cleaner and More Reliable Power Supply

CDB supports:

- (i) Least-cost, and integrated resource planning^{14/} approaches which incorporate adequate consideration of low-carbon investments;
- (ii) Upgrade of T&D systems to address losses; load growth; and support for distributed generation; including network management control systems, and smart grids to provide optimal use of assets;
- (iii) Conventional power plants reflecting significant improvement in energy efficiency, or hybridization with RE options; and
- (iv) Cross-border interconnection of electricity grids where economic, which will necessitate effective regional cooperation on energy, including a shared regulatory framework.

3. Promoting Sector Reform, Good Governance, Capacity Strengthening, and Awareness building

CDB promotes:

- (i) Energy sector reforms, capacity building, and improved governance in the power and liquid fuel sub-sectors to increase investment and sector efficiency^{15/}.
- (ii) Robust national energy sector policies and long-range action plans which are coherent with national and regional development policies and plans.

^{14/} Integrated resource planning is a least-cost planning process that: (i) treats energy supply expansion options and demand-side management options the same, and (ii) incorporates and internalises environmental costs and benefits more fully than in conventional least-cost analyses.

^{15/} Energy resources, human resources and financial resources

- (iii) Corporatisation of electric utilities, and promotes transparency in procurement and responsible corporate and financial management.
- (iv) Independent regulatory frameworks, including sub-regional approaches, for ensuring the long-term stability and viability of the sector. In this context, CDB supports:
 - (aa) performance-based regulation and the adoption of tariff structures that promote efficient use of energy, and are cost reflective, while making adequate provisions for the establishment of a life-line tariff;^{16/}
 - (bb) subsidies, only where transparent, targeted, and time-bound;
 - (cc) restructuring BMC liquid-fuel markets to be competitive, adopting market pricing mechanisms; and
 - (dd) sub-regional solutions.
- (v) Capacity strengthening, for greater efficiency and effectiveness, targeting institutions in the public and financial sectors.
- (vi) Awareness building to ensure opportunities for EE and RE are considered across all sectors.
- (vii) Knowledge management and dissemination of best practices among BMCs.

4. **General**

CDB may support:

- (i) Fuel substitution in the transportation sector using biofuels-blends and compressed natural gas as substitutes for gasoline and diesel, and other options such as hybrids and electric vehicles;
- (ii) Large hydroelectric power plants, only with other development partners;
- (iii) Waste-to-energy interventions;
- (iv) Down-stream natural gas power sector infrastructure projects, including retrofitting of existing diesel generating plants; and
- (v) Investments for electric mobility infrastructure and systems.

^{16/} Lifeline tariffs are targeted subsidies based on the consumption level of households, and are seen as fair and necessary to provide basic levels of service to the poor.

3. THE ENERGY SECTOR STRATEGY (ESS)

Overarching Focus of ESS

3.01 The focus of the Energy Sector Strategy (ESS) is to implement practical, near-term energy sector interventions in the context of the identified goal, objectives and priorities of the ESP. Given the identified opportunities for increased engagement by CDB, and the limited borrowing capacity of most BMCs, the approach to be adopted will have two dimensions. These are, increased and structured engagement on energy with BMCs and Partners; and the creation and deployment of a suite of appropriate and innovative instruments, emphasising EE and RE.

3.02 Increased Engagement around energy with BMCs. The energy challenges which are described at paragraph 1.03, are opportunities for increased engagement by CDB, ultimately to become the institution of choice for sector support. While many BMCs have developed national energy policies and in some cases, strategies, there remains the need for the establishment of clear roadmaps for implementation, along with the identification of appropriate instruments to support such implementation. The Targeted Dialogue on Energy Policy (TDEP) is the main tool through which increased engagement with BMCs will be achieved. TDEP will reposition CDB as a key energy sector development partner in its BMCs.

3.03 TDEP is conceived as a series of structured but flexible consultations with BMC governments and other actors for reviewing energy sector developments. TDEP will identify country strategies around energy, specifically seeking to identify early projects and setting out feasible and practical approaches to over-coming key obstacles in targeted areas of the energy sector. The results of the country TDEP will inform, complement and generally support the Bank's country strategy with a pipeline of energy projects.

3.04 Suite of Instruments. CDB has always provided support to the energy sector, primarily to the power sector and mainly in the form of loans and technical assistance grants. Through the use of Ordinary Capital Resources (OCR), and Special Funds Resources, CDB will continue to provide loans at market and concessional rates, as well as to provide technical assistance. On its own, and in cooperation with other multi-laterals and Partners, the Bank will also provide lines of credit, guarantees and other facilities, to address various needs in BMCs. The Bank will mobilise resources as an intermediary for other multi-lateral development banks or from global-level facilities to achieve appropriate and competitively-priced product offerings.

3.05 Addressing special barriers and opportunities requires the application of innovative approaches and CDB will utilise existing instruments in new and creative ways to address specific challenges. Limited scope for additional borrowing is a key obstacle for BMC governments seeking to transform the energy sector. In this regard, a key dimension of the ESS is the positioning of CDB's EE and RE interventions as measures to reduce public sector expenditure, and improve fiscal balances and public sector efficiency. This will be pursued through initiatives such as shared savings, in the context of an energy performance contracting approach including off-balance sheet financing. Under the heading of Smart Facilities and Programmes (SFP) a range of innovative approaches will be designed and pursued based on the specific needs identified through the TDEP process, including consideration given to multi-country procurement to achieve lower costs.

Strategies

3.06 The roll-out of the ESS will necessitate strategic actions on three fronts, viz.: in BMCs, in the Bank operations, and among CDB and partners regionally, and internationally.

1: Increased, Systematic Engagement on Energy through TDEP

3.07 Given the urgency of the energy situation and the need for an increased presence by CDB in BMCs in the area of energy, the interventions will be approached in two phases:

- (a) Phase I: Introductory visits and engagements to introduce products already developed as part of CDB's new thrust, and to identify early harvest areas of support (pipeline of investment projects) for infrastructure projects, reforms (policy, legal, regulatory, institutional) and capacity building, through stand-alone instruments, facilities and programmes; and
- (b) Phase II: This is the full roll-out of TDEP through structured Energy Sector Review Programme Visits: All BMCs will be targeted to conduct energy sector assessments and analyses towards identifying a detailed roadmap of actions for support by CDB energy sector tools, with emphasis on sector reform and improved governance.

2: Use of Existing Instruments to Stimulate Investment and Support Resilience in the Power Sector

3.08 Technical assistance (TA) support has always been used by CDB for project development and implementation, or as stand-alone interventions, including for studies such as unsolicited regional sector studies to identify potential priorities for investment support. CDB involvement in early stage TA facilitates the incorporation of SE considerations in infrastructure investments e.g. energy efficient street lighting for public road projects. Public private partnerships and independent power producers are existing mechanisms that may be supported, where appropriate, for attracting private sector investment in energy infrastructure projects.

3.09 Given the critical importance of the electric utility operation to BMC economies, and lower risk associated with utility lending, the Bank will continue to lend OCR to utilities (public and private) on the same terms offered to the public sector.

3: Design and Development of Smart Facilities and Programmes to Overcome Selected Barriers and Expand Energy Business Opportunities

3.10 The Bank will develop comprehensive solutions in the form of SFPs around EE and RE, to address specific identified needs and take advantage of various opportunities. These SFPs are responsive mechanisms which will incorporate flexible designs, a range of financing instruments, and appropriate operating procedures. Based on a review of the current situation in BMCs, some indicative SFPs over the planning period have been identified and are described in Appendix 1.

4: Strengthening of Internal Capacity and Awareness to Support Energy Sector Projects

3.11 The complement of staff will be increased in the Bank's operations to support energy sector development, especially for SE, while building internal awareness and strengthening capacity through:

- (a) mainstreaming (including training and sensitisation), the integration of EE and RE considerations into relevant projects across the Bank's operations;
- (b) expanding the CTCS Network function to provide focused support around energy services to MSMEs; and

5: Mobilising Resources and Enhancing Cooperation with Partners for EE and RE

3.12 Collaboration will continue with regional and international development partners as part of on-going efforts and with new initiatives. CDB will:

- (a) Expand cooperation with Partners, and play a greater role in coordinating energy initiatives;
- (b) provide co-financing with partners where deemed feasible;
- (c) sponsor and participate more actively in regional energy sector dialogues, particularly for conferences deemed to enhance objectives under the ESPS; and
- (d) mobilise resources for energy sector development.

Results Framework

3.13 A framework that includes a set of simple and implementable indicators for monitoring the progress of ESPS implementation is shown at Appendix 2. The Framework identifies broad outcomes to be achieved and the proposed contribution of CDB. However, baseline and target data included will be refined by the end of the first year of operationalization of the ESPS.

INDICATIVE SFPs**Sub-regional EE-RE Programme Eastern Caribbean**

1. Over the planning period, a multi-year, multi-partner EE and RE Programme¹⁷, is targeted to provide investment loans, grant financing, and guarantees, as well as to support the establishment of an enabling environment for investment in energy infrastructure, and capacity development. This will be pursued as an early harvest facility to address key barriers in the OECS sub-region.

Geothermal Energy (GE) Facility for Eastern Caribbean

2. Geothermal energy development has been identified as a priority for many BMCs in the OECS, however, there is need for critical support in the form of an appropriate risk mitigation mechanism. CDB in collaboration with Partners is seeking to lead the establishment of a Caribbean Geothermal Energy Facility through which grant and other concessionary loan resources will be mobilised to provide technical assistance, grant support and investment loans to catalyse GE development. The Facility would be available to support GE development in CDB BMCs with GE potential

Regional RE and EE Programme for Public Sector

3. Develop a public sector EE improvement promotion programme over a two-year period to utilise a combination of instruments and approaches. Some possible approaches include: (i) energy performance contracting using a shared-savings approach within an energy services company (ESCO) model, which provides turn-key implementation of selected EE measures and RE options; and (ii) public green procurement. In the first instance the focus will be on those BMCs which are not participants in the sub-regional RE/EE Programmes (Eastern Caribbean) which is being pursued with Partners.

Regional Efficient Street Lighting Programme

4. In 2013, BMCs' total electricity consumption for street lighting was approximately 200 GWh. It is considered that a modest programme targeting at least a 20% savings from this end-use, using a shared-savings approach, is feasible.

Regional ESCO Development Line of Credit

5. Private sector-based or utility-based ESCOs utilising energy performance contracting approaches have been proven globally as a mechanism for providing turn-key EE solutions in a manner which overcomes many barriers such as technical, market, financing and performance risks (especially in the context of institutional buildings). CDB will build on existing efforts to establish a framework for the ESCO industry, and further seek to provide the requisite financing through appropriately designed Lines of Credit to support implementation. The Bank will provide technical assistance to support the establishment of an industry and use its experience from the implementation of early EE and RE interventions to build out a regional approach for engaging the private sector including utilities.

^{17/} Called the Sustainable Energy For the Eastern Caribbean (SEEC) Programme

RESULTS FRAMEWORK FOR CDB'S ENERGY POLICY AND STRATEGY IMPLEMENTATION

| Expected Outcomes | Outcome Indicator | Output | Output Indicator | Activities | Assumptions |
|---|--|---|---|---|---|
| <p>Promoting EE for more affordable and stable energy costs, and for establishment of a green economy</p> <ul style="list-style-type: none"> Improved EE in all sectors and in supply of energy More affordable and stable energy costs in BMCs. | <ul style="list-style-type: none"> Electricity cost (\$/kWh)/GDP per capita Energy Intensity (BOE/USD mn GDP). Sector (agriculture, water, manufacturing) energy intensity (BOE/USD Output) Fuel Import Bill as % of Total imports; or GDP | <ul style="list-style-type: none"> Investments in RE and EE. Energy Savings. Resource mobilisation for EE. | <ul style="list-style-type: none"> GWh and USD per year savings. Target 20 GWh by 2019 Finance leveraged for investment (USD mn). No of MSMEs benefitting from EE interventions | <ul style="list-style-type: none"> Establish LOCs to support Pvt Sector EE/RE projects. Develop SFPs in response to niche opportunities Establish EE & RE Programme for Public Sector (finance & TA). Establish and Operate GE Facility. Develop and implement street lighting programme (finance & TA). | <ul style="list-style-type: none"> Gov'ts remain committed to pursuing RE and EE. Pipeline of projects will be identified in 1st phase TDEP Oil prices remain at a level which makes investments viable |
| <p>Promoting RE for more sustainable, affordable, and accessible energy, and for a green energy economy</p> <ul style="list-style-type: none"> Increased diversification of energy matrix using RE Options More affordable and stable energy costs along with increased reliability of system in BMCs. Reduction of Energy Poverty in remote communities. Increased contribution of green energy industry to economic output. | <ul style="list-style-type: none"> Electricity cost (\$/kWh)/GDP per capita Energy Intensity (BOE/USD mn GDP). Sector (agriculture, water, manufacturing) energy intensity (BOE/USD Output) Fuel Import Bill as % of Total imports; or GDP % of households with access to electricity & clean fuels.* Energy cost as % of household expenditure. % contribution of green industry to GDP. | <p>Resource mobilisation for RE.</p> <ul style="list-style-type: none"> Capacity of RE systems installed in rural areas Volume of energy service business | <ul style="list-style-type: none"> RE capacity Installed. Target 8.5 MW Target: RE contribute 20% by 2019 (base year 2011 @ 8%) Investment RE (\$/Year). No. of MSME benefitting from RE interventions % of persons/ communities reached with RE/EE interventions* No. of energy services start-ups* No. of persons employed in energy sector* | <ul style="list-style-type: none"> Mainstream EE/RE into BNTF activities; Develop Energy Access projects. UOF for regional studies of energy poverty for precise interventions. Cooperate with other partners for interventions in Haiti. Develop LOCs to support energy services MSMEs. Expand CTCS MSME EE/RE interventions. Establish public sector EE targets programme and benchmarks. | <ul style="list-style-type: none"> BMCs will establish enabling frameworks; including grid-feed-in mechanisms and interconnection standards; Unbundling of generation where relevant. |
| <p>Promoting energy infrastructure to provide cleaner and more reliable power supply</p> <p>Cleaner more reliable energy system in BMCs.</p> | <ul style="list-style-type: none"> % of energy supply from imported oil. Cost of energy as a % of total business expenditure. | <ul style="list-style-type: none"> Investment in clean energy technology. Clean energy use for power generation and transport | <ul style="list-style-type: none"> Clean Energy (\$/Year). Clean energy for power generation and transport Target 5.5 MW by 2019 | <ul style="list-style-type: none"> Finance projects for replacement and upgrades of Generation, Transmission & Distribution. Target 130 km of T&D lines installed/upgraded by 2019 | <ul style="list-style-type: none"> Oil prices remain at a level which makes investments viable. |
| <p>Promoting Sector Reform, Good Governance and Capacity Building</p> <p>1. Enabling environment, characterised by Improved policy, legislative and Regulatory Framework.</p> <p>2. Strengthened institutional capacity and framework for energy sector in all BMCs.</p> | <ul style="list-style-type: none"> No of BMCs issuing RFP for energy supply No of established independent regulatory frameworks for (a)improved performance in power sector i.e. technical, financial (b) competitive fuel markets No of EE/RE projects approved by FIs in BMCs Volume of private investment | <ul style="list-style-type: none"> Revised regulatory frameworks Trained staff in relevant energy agencies; and DFI and FIs | <ul style="list-style-type: none"> No. of primary and secondary legislations for the sector Drafted regulations and standards/guidelines No. of BMCs establishing grid – feed-in mechanisms No. of knowledge products No. of agency staff trained* | <ul style="list-style-type: none"> Conduct TDEP in all BMCs. Provide TA grant support for BMCs for capacity & awareness Work with Region on CSERMS. UOF to support roadmaps developments, sector diagnosis to overcome barriers based on outcome of TDEP. Cooperate with Partners in staging regional level capacity building programmes. | <ul style="list-style-type: none"> Governments will respond positively to drive for independent regulatory frameworks |

*Disaggregated by sex