

11th EDF Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme

Final Evaluation Report



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Report Title	Evaluation Report - Final Evaluation of the 11th EDF Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme
Version	Version 1
Date	February 2022
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LIST OF ACRONYMS

BBD/Bds\$	Barbados Dollar
BL&P /BLPC	Barbados Light & Power Company Ltd
BNEP	Barbados National Energy Policy
BREA	Barbados Renewable Energy Association
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum
CRIP	Caribbean Regional Indicative Programme
CSO	Civil Society Organisation
DET	(former) Division of Energy and Telecommunications, now renamed and housed under MESBE
DEVCO	Directorate-General Cooperation and Development
EDF	European Development Fund
EE	Energy Efficiency
ELPA	Electric Light and Power Act
ESF	Energy Smart Fund
EUD	European Union Delegation
EU	European Union
EVs	Electric Vehicles
FA	(EU) EDF Financing Agreement
FTC	Fair Trading Commission
GEED	Government Electrical Engineering Department
GEF	Global Environmental Facility
GIS	Geographic Information System
GoB	Government of Barbados
GWh	Gigawatt hours
IADB	Inter-American Development Bank
IFIs	International Financial Institutions
IPPs	Independent Power Producers
IRENA	International Renewable Energy Agency
IT	Information Technology
KWp	Kilowatts Peak
MESBE	Ministry of Energy, Small Business and Entrepreneurship
MW	Mega Watts
NAO	National Authorising Officer

NCC	National Conservation Commission
NIP	National Indicative Programme
OECS	Organisation of Eastern Caribbean States
PSSEP	Public Sector Smart Energy Programme
PFM	Public Financial Management
RE	Renewable Energy
REEEP	Barbados Renewable Energy & Energy Efficiency Project
TA	Technical Assistance
TCPD	Town and Country Planning Department
ToR	Terms of Reference
SMEs	Small and medium-sized enterprises
VAT	Value-added tax

1. EXECUTIVE SUMMARY

1.1. ABOUT THE EVALUATION AND THE EU REEEP PROGRAMME

This document sets out the final evaluation report in respect of the final evaluation of the 11th European Development Fund (EDF) Barbados Renewable Energy and Energy Efficiency Budget Support programme (hereinafter mostly referred to as REEEP).

The 11th EDF Barbados Renewable Energy and Energy Efficiency Budget Support programme was designed in 2016, against a background context of political stability for the country, with good governance standards and strong institutions. The Ministry of Energy, Small Business and Entrepreneurship was originally set up in 1978 as an 'Energy Division' under the Ministry of Trade, based on TA recommendations commissioned by the UK's Overseas Development Administration (ODA). Since then, the Ministry has evolved into an organisation with a widened remit covering responsibility for oil and gas, renewable energy, and energy conservation (having amalgamated with the Energy Conservation Unit). The Ministry also provides geological and earth science services to other Government departments, as well as to the private sector¹. The Ministry of Energy, Small Business and Entrepreneurship is today comprised of an Administrative Unit, Legal & Regulatory Unit, Natural Resources Department, Renewable Energy & Energy Conservation Unit, Research & Planning Unit, Project Execution Unit and Project Monitoring Unit.

The REEEP budget support programme was designed to support Barbados in advancing in its attempt towards energy self-sufficiency from local renewable resources, with the Immediate Outcome being that the private sector becomes engaged in power generation through renewable energies, and consumers make increasingly use of energy efficiency measures. With a budget of EUR 3 million, the 36-month support programme targeted the following key results: i) Renewable Energy Roadmap and Implemented Actions according to milestone defined by March 2019; ii) Revision of the Electric Light and Power Act (ELPA) by December 2019 to provide a favourable electricity license regime for IPPs greater than 1 Mega Watts (MW); and iii) 30 MW of Renewable Energy installed by March 2019.

1.2. EVALUATION CONCLUSIONS

- a. **Relevance:** REEEP has been highly relevant to national energy policy goals, with the Government committed to achieving a target of 30% of its energy needs from renewable energy at the time of formulation of the EU Budget Support Programme, with this target then being increased to a target of 100% of national energy needs from renewable energy by 2030 under the 2019-2030 BNEP. In terms of needs, EU Budget Support has also supported the Government, and in particular Ministry of Energy, Small Business and Entrepreneurship (MESBE), navigate complex technical issues and access relevant external technical expertise on an as-needed basis with the flexibility entailed under the Budget Support aid modality. REEP has also been relevant to the needs of the Ministry and

¹ MESBE also is responsible for monitoring petroleum price movements; liaising with the CARICOM Secretariat and OLADE on regional energy issues; preparing Cabinet Papers, briefs, speeches, position papers and comments on energy, geological and earth science-related matters; so that the functioning of an efficient, reliable sector may be ensured. It is also responsible for monitoring the Barbados National Oil Company Limited, the Barbados National Terminal Company Ltd. and the National Petroleum Corporation.

energy sector, in terms of the scale of support made available by the EU and the relative flexibility that came with the budget support modality.

- b. **Coherence:** REEEP has also been highly coherence with Government and MESBE need for more funding to support the Barbados National Energy Policy (BNEP) implementation drive, as well as other programmes launched by the EU and other donors, such as the *Public Sector Smart Energy Conservation Programme*, the Energy Smart Fund (ESF), and the Smart Fund II.
- c. **Effectiveness:** The project targets have been largely met. Firstly, regarding the target result of Renewable Energy Roadmap and Implemented Actions according to milestone defined by March 2019, the project has achieved the target. Regarding the second result, revision of the ELPA by December 2019 – the ELPA was revised and updated during 2019, thereby providing Barbados with a favourable electricity license regime for IPPs greater than 1 MW. Regarding the target of 30 MW of Renewable Energy to be installed by March 2019, 31 MW had been installed by this target date, while the current figure is now in excess of 50 MW. Deviations were minor in nature, including postponement of some communications activities due to the onset of the COVID-19 pandemic, and these were completed at a later date after the project end. Beyond the specific targets, EU Budget Support has been important in allowing the MESBE navigate an ambitious and rapidly increasing scale and complexity of work programme under the BNEP, and this has been appreciated by Government of Barbados, and in particular MESBE counterparts.
- d. **Efficiency:** The programme has for the most part been efficient in terms of implementation. There were some challenges initially regarding the detail and quality of REEEP progress reporting against targets, but this was addressed for the most part through dialogue between the Ministry and EU the Delegation, and support from the latter. The efficiency of implementation has to some extent been constrained by staffing pressures at the MESBE, where increases in staffing have not kept pace with the growth in the scale and complexity of the Ministry's work in implementing the BNEP. While external TA (Technical Assistance) was contracted to carry out assessment work across the energy sector, it is not clear that staffing and resourcing at the Ministry is where it needs to be at this point in time.
- e. **Sustainability:** In terms of wider sustained impact, REEEP has supported Barbados in making progress to achieving its target of 100% of electricity generation being generated from renewable sources by 2030, and thus has made an important contribution to medium-term and long-term environmental sustainability, through its support to the national effort in increasing renewable energy in the national electricity generation.

There are however important areas and needs that should be addressed as a priority, and that to some extent if not addressed may constitute risks to the sustained impact of the achievements of MESBE and the Government. Firstly, even if there has been an appreciable increase in human resources at MESBE, this increase in staff levels has not kept pace with the increase in the Ministry's work programme and responsibilities. Secondly, there is a pressing need to advance as rapidly as possible with a strategy and plan for the upgrading of the national grid, following due exploration and feasibility on different options.

Sustained impact might further be strengthened through increased effort to raise public awareness around the BNEP, beyond the actions taken to-date, including focussing on the wider benefits of the strategy beyond the sustainable energy benefits and related fossil fuel reduction, such as the positive impact on the country’s balance of payments and reduced vulnerability to external shocks in the price of petroleum and/or disruption of supply during periods of heavy demand and/or extreme weather events. The EU-supported Smart Fund II is a good example of how an intervention supporting increased sustainable energy and energy efficiency performance making an explicit link to improved energy security and reduction of fossil fuel imports, as well as including direct quantifiable targets on fossil fuel import reduction.

- f. **EU Added Value:** REEEP has delivered some EU added value, in terms of the scale and flexibility of the funding provided under the Budget Support modality to support implementation of the BNEP. This can also be seen in the other support provided by the EU, including for example the Public Sector Smart Energy Programme (PSSEP), and the Smart Fund II, and in particular the combination of grant funding and loan funding. There may be scope to increase this added value further, through looking at the medium-term actions under the BNEP implementation plan and seeing for example if greater use of EU blending could be realised. There is limited added value dimension with EU Member State interventions, given the limited development role most EU Member States play in Barbados. **However, continued progress with BNEP implementation, and with initiatives such as the Smart Fund II, will likely improve prospects for investment and trade, where for example investment protection and promotion agreement with Germany has been constrained by the relative weakness of the private sector.**

- g. **Cross-cutting issues:** Gender has not been a significant focus in REEEP’s implementation, but it should be noted that this is because there is no significant gender dimension to the programme. More generally, as mentioned earlier, there is scope to place more emphasis on the cross-cutting nature and potential of sustainable energy, and BNEP’s goals in this regard, by placing greater emphasis on other policy linkages and benefits of BNEP’s 2030 targets for sustainable energy generation.

1.3. EVALUATION RECOMMENDATIONS

Table 1 – Overview of Evaluation Recommendations

No.	Recommendation	Addressed to:	Timing
R1	Develop a Working Discussion Paper and Roadmap setting out the short and medium-term plan up to 2030, and the related energy sector needs, as a basis discussion with IFIs	GoB (MESBE)	April – June 2022
R2	Rapid Review of MESBE Institutional and Staffing Needs to Enable MESBE to play an optimal leadership and co-ordination roll in driving implementation of the BNEP and linkages with other policy areas and sectors	GoB (MESBE)	April – June 2022

No.	Recommendation	Addressed to:	Timing
R3	Identify and Address Ministry and Energy Sector Information Technology (IT) Support Risks and Needs	GoB (MESBE)	April – June 2022
R4	Strengthen energy-sector dialogue and forward planning	GoB (MESBE), EU	April – June 2022
R5	Set up a structured dialogue on energy policy between GoB and EU and other key Development Partners	GoB (MESBE, all ministries)	April – June 2022
R6	Greater emphasis on other policy linkages and benefits of BNEP’s 2030 targets for sustainable energy generation	GoB (MESBE), EU	April – June 2022

2. EVALUATION CONTEXT, OBJECTIVES AND SCOPE

2.1. BARBADOS ENERGY SECTOR CONTEXT

The 11th EDF Barbados Renewable Energy and Energy Efficiency Budget Support programme was designed in 2016, against a background context of political stability for the country, with good governance standards and strong institutions. The Ministry of Energy, Small Business and Entrepreneurship was originally set up in 1978 as an ‘Energy Division’ under the Ministry of Trade, based on TA recommendations commissioned by the UK’s Overseas Development Administration (ODA). Since then, the Ministry has evolved into an organisation with a widened remit covering responsibility for oil and gas, renewable energy, and energy conservation (having amalgamated with the Energy Conservation Unit). The Ministry also provides geological and earth science services to other Government departments, as well as to the private sector². The Ministry of Energy, Small Business and Entrepreneurship is today comprised of an Administrative Unit, Legal & Regulatory Unit, Natural Resources Department, Renewable Energy & Energy Conservation Unit, Research & Planning Unit, Project Execution Unit and Project Monitoring Unit.

As set out in the Inception Report, it was increasingly recognised that a sound regulatory framework was necessary to establish a viable renewable and energy efficiency sector. The regulatory framework of the energy sector was organized around three regulatory acts: i) the Electric Light and Power Act, ii) the Fair Trading Commission (FTC) Act, and iii) the Utilities Regulation Act (Fair Trade Commission Barbados, 2012), and according to it, the Barbados Light & Power Company Limited (BL&P), a vertically integrated utility company, was the sole producer of electricity for the national grid, holding the mandate for

² MESBE also is responsible for monitoring petroleum price movements; liaising with the CARICOM Secretariat and OLADE on regional energy issues; preparing Cabinet Papers, briefs, speeches, position papers and comments on energy, geological and earth science-related matters; so that the functioning of an efficient, reliable sector may be ensured. It is also responsible for monitoring the Barbados National Oil Company Limited, the Barbados National Terminal Company Ltd. and the National Petroleum Corporation.

generation, transmission and distribution of electricity. Implementation was given effect by the passing of the Electric Light and Power Bill by Parliament in December 2013, enabling the creation of a licensing regime for entities wishing to sell electricity to the grid from renewable energy sources including Independent Power Producers.

2.2. THE 11TH EDF BARBADOS RENEWABLE ENERGY AND ENERGY EFFICIENCY BUDGET SUPPORT PROGRAMME

The Barbados Renewable Energy and Energy Efficiency Budget support programme was informed by the development of a national sustainable energy policy, which set out ambitious targets for the sector.

In 2017, the Barbados National Energy Policy 2017 – 2037 (BNEP) was released with the vision “Energy security and affordability through diversity and collaboration: Establishing and maintaining a sustainable energy sector for Barbados”. The BNEP provided clear direction to the Government of Barbados in the short, medium, and long term for the development of renewable and non-renewable energy as well as energy production, energy consumption and energy efficiency. The policy envisions a 75% reduction in heavy fossil fuel imports and a 75% increase in renewable energy by 2037, using natural gas as a transition fuel.

Using a 20-year planning timeframe (2017-2037), key targets under the BNEP 2016-2017³ included:

- 56% of all electricity consumption to be generated from renewable sources by 2032, which updated an earlier target of 29% in the Draft Energy Policy 2013. (Note: This was subsequently further updated in the BNEP 2019-2030, which committed the country to achieving 100% fossil fuel reduction and 100% Renewable Energy penetration by 2030).
- 22% savings by 2029 compared to a ‘business as usual’ scenario.
- 29% savings in transportation and other non-electric energy uses by 2029.
- Increase the sustainability and efficiency of fossil fuel exploration, production, transportation, storage, and use across all sectors.
- Increase citizens’ awareness and skills around sustainable energy matters, and to ensure that they have the knowledge and ability to implement economically viable sustainable energy measures.

As mentioned above, during the implementation of the Budget Support programme, the policy was updated and targets were increased, with the government now committed under the updated BNEP 2019-2030 to achieving 100% fossil fuel reduction and 100% Renewable Energy penetration by 2030.

The Barbados Renewable Energy and Energy Efficiency Budget support programme was tasked with providing support to the strategies under the respective Caribbean – EU partnerships, and specifically to support Barbados in advancing in its attempt towards energy self-sufficiency from local renewable resources, with the Immediate Outcome being that the private sector becomes engaged in power generation through renewable energies, and consumers make increasingly use of energy efficiency measures. With a budget of EUR 3 million, the 36-month support programme targeted the following key results: i) Renewable Energy Roadmap and Implemented Actions according to milestone defined by

³ The BNEP built upon previous efforts of a range of projects and activities to put in place a comprehensive national energy policy in Barbados and was developed using a collaborative approach which including several rounds of interviews and consultations throughout Barbados’ energy sector during 2016 and 2017.

March 2019; ii) ELPA by December 2019 to provide a favourable electricity license regime for IPPs greater than 1 MW; and iii) 30 MW of Renewable Energy installed by March 2019.

2.3. EVALUATION OBJECTIVES AND APPROACH

As per the ToR, the evaluation is intended to provide the relevant EU services and interested stakeholders with i) an overall independent assessment of the past performance of the 11th EDF Barbados Renewable Energy and Energy Efficiency Budget Support Programme (including paying particular attention to its results measured against its expected objectives; and the reasons underpinning such results); and ii) key lessons learned, conclusions and related recommendations in order to improve current and future Budget Support programmes⁴.

Regarding the evaluation approach and work programme, the evaluation included an inception and desk phase, a field phase where stakeholder consultation was carried out remotely, in line with Covid-19 guidance. The final phase has been the analysis and synthesis phase, including the development of this Final Evaluation Report. Regarding users, the main users of this evaluation are the EU Delegation to Barbados, DEVCO G1, C6, The Ministry of Energy, Small business and Entrepreneurship, The Ministry of Finance, Economic Affairs, and Investment.

⁴ Evaluation Terms of Reference (ToR), Section 2.1, page 7.

3. EVALUATION FINDINGS

3.1. EVALUATION FINDINGS - RELEVANCE

Regarding the **relevance of REEEP to the national policy context**, the evaluation desk research and stakeholder consultation has shown a high level of relevance to Barbados' national energy policy priorities and objectives. This can particularly be seen in its relevance to BNEP. The BNEP initially used a planning horizon of 20 years (2017-2037) and assessed current activities and projections in energy use for Barbados to develop targets in percentage mix in terms of energy use in Gigawatt hours (GWh), while the updated BNEP uses a planning horizon of 2019 – 2030. The targets are consistent with the vision and objectives for energy within the Barbados economy and are expected to be reviewed and modified, if necessary, along the planning horizon. The overall objective of REEEP, to provide support to Barbados in advancing its attempt towards energy self-sufficiency from local renewable resources, is thus highly aligned with national energy policy goals.

The Government of Barbados, through the MESBE, has sought to contain foreign exchange expenditure related to the fuel import bill. Hence, the strategy for attaining an energy production and consumption sector that is sustainable is to reach the maximum possible efficiency that is feasible, with such a focus on energy efficiency making possible improvement in the performance in both renewable energy and fossil fuels. In this context, the BNEP will contribute to the protection and sustainable use of natural resources and energy efficiency.

Regarding the relevance of REEEP to the main target group needs, the desk phase research shows REEEP to be relevant to the needs and priorities of the Government of Barbados, the energy sector, and the people of Barbados. For the government, and the wider energy sector, REEEP has been relevant to the needs to modify the regulatory framework governing energy generation and in enabling independent power producers to provide energy to the national grid. For the Ministry of Energy, Small Business and Entrepreneurship, the funding has been important in terms of strengthening its capacity to pursue implementation of the BNEP, and the significant increase in the scope and complexity of its work programme.

Regarding benefits for government, and for the wider society, another benefit, but not directly addressed in the reporting, is the potential for such increased sustainable energy generation and consumption can also lead not only to a reduced fuel import bill, but also reduced exposure to global fluctuations in oil prices, reduced financial outlay on storage and import costs, and the potential to re-allocation of such savings in fuel import costs to other areas of national budgetary priority, including for example building contingency for future costs of damage from extreme weather events and other disasters.

However, awareness of such benefits is implied, in terms of the priority attached to reducing reliance on imported fossil fuels – for example, the 2017 report makes reference to the Prime Minister's inaugural speech in February 2008, where the Prime Minister stated that "the single biggest challenge of our generation is the drain on foreign exchange created by the high cost of oil".

Regarding **the extent to which gender, environment and climate change were taken account of and/or mainstreamed in the REEEP formulation documents**, the desk phase research shows that the policy broadly speaks to climate change financing, carbon pricing and trading, the shift to climate change neutrality, the flow of information, and the implementation of nationally appropriate mitigation actions.

There was scope to increase the gender focus, although it should be noted that other follow-up EU initiatives, such as Smart Fund II have greater scope to make a gender-related impact, with its significant focus on large-scale interventions to support energy efficiency, private sector take up etc.

3.2. EVALUATION FINDINGS - COHERENCE

Overall, REEEP is highly coherent with other interventions in the energy sector in Barbados, and in the country in general. This can be seen through the prism of a range of initiatives that show the coherence of REEEP within the sector and beyond, such the Income Tax Act, the Value Added Tax (VAT) Act and Customs Orders and were directed towards households, businesses, and entrepreneurs. These initiatives have included measures such as income tax deductions for installing RE (renewable energy) systems, corporate tax waivers, 0% VAT payments and reduced import duties on RE technologies⁵.

One example is the *Public Sector Smart Energy Conservation Programme*, launched in 2014 at a cost of BBD 50 million (EUR 22,882,489.94 in current prices) – co-funded with the Inter-American Development Bank (IADB) and the EU. This programme has been financing renewable energy and energy efficiency retrofits in government buildings; introduced efficient public street lighting; supported pilot projects for innovative renewable energy technologies such as electric vehicles; explored ocean energy technologies; provided for capacity building, institutional strengthening, and public awareness in Barbados. REEEP is coherent with this programme through both programmes efforts to promote renewable energy uptake and improved energy efficiency.

Another example is the ESF, a BBD 20 million initiative funded by the IADB and directed towards the commercial sector and households. This financial instrument included both loans and technical assistance to spur the adoption of renewable energy and energy efficiency technologies, and it is thus consistent with the same REEEP objectives of promoting increased use of RE and EE in the energy mix. This coherence has been further in evidence, with the launch of the Smart Fund II, which builds on the work done under this initiative and marks a new scale of effort in targeting sectors of the economy (e.g., Small, and medium-sized enterprises (SMEs)) to achieve the BNEP's goals.

REEEP has also been coherent with a Global Environmental Facility (GEF) project grant under its 4th round of financing, which has allowed the Government to procure and distribute compact fluorescent lamps and power monitors as well as installing photovoltaic systems on the roofs of three government-owned facilities and twenty-eight homeowners. Examples of coherence with other government initiatives include the government's installation of nineteen solar photovoltaic systems at ten (10) primary schools and nine (9) National Conservation Commission (NCC) facilities, using its own budgetary allocations, and the *Caribbean Hotel Energy Efficiency Action Programme* which has facilitated energy audits of a number of hotels with a view to increasing their efficiency through reducing their cost of energy which is a major input in their operations.

3.3. EVALUATION FINDINGS - EFFECTIVENESS

As a quick recap, regarding REEEP's objectives and target results, the overall objective is to support Barbados in advancing in its attempt towards energy self-sufficiency from local renewable resources, and

⁵ 2.2 Report on the Progress within the Energy Sector.

the immediate objective is that the private sector gets engaged in power generation through renewable energies, and consumers make increasingly use of energy efficiency measures.

Regarding REEEP's target results, the main results to be achieved were the following:

1. Renewable Energy Roadmap and Implemented Actions according to milestone defined by March 2019.
2. Revision of the ELPA by December 2019 to provide a Favourable Electricity Licence Regime for Independent Power Producers (IPPs) greater than 1 MW.
3. 30 MW of Renewable Energy installed by March 2019.

Result 1

By Q4/2019: Renewable Energy Roadmap established and implemented according to milestones defined.

The Barbados Government's reporting for the first reporting period (2017) reported that Barbados Government secured assistance from the International Renewable Energy Agency (IRENA) to prepare a Roadmap for Renewable Energy. This Road Map was prepared and benefited from discussion from the stakeholders.

Result 2⁶

Electricity Licence Regime for Small IPPs and IPPs with Renewable Energy Generation Systems larger than 1 MW⁷.

Prior to 2010 the incumbent utility which is a vertically integrated monopoly provided all services related to the supply of electricity in Barbados. No renewable energy was used in the grid except for a four (4) month period of the year where the sugar factories were given special permission to place their excess electricity generated from bagasse into the grid. No IPPs were connected to the grid.

The introduction of the Electric Light and Power Act changed this environment, with the ELPA establishing a licensing regime and providing the opportunity for parties other than the incumbent utility to become involved in the service of generating and supplying electricity to the public grid. The ELPA's specific rationale was to *"revise the law relating to the supply and use of electricity, to promote the generation of electricity from sources of renewable energy, to enhance the security and reliability of supply of electricity to provide for related matters."*

The ELPA also accorded power to regulate the sector between the DET⁸ and the FTC. Under the DET's policy-setting mandate, it was given responsibility for the issuance of licenses and the monitoring and evaluation of the sector while the FTC was charged with the responsibility to establish the tariff rates for energy was to be sold.

⁶ Budget Support Eligibility Assessment – Disbursement of the 2020 (3rd Payment).

⁷ 2.2 Report on the Progress within the Energy Sector.

⁸ The DET (then the Division of Energy and Telecommunications) has since been renamed and is housed under the Energy Division of the Ministry of Energy, Small Business and Entrepreneurship.

Excluding the Utility, the DET then developed a License Application Form for electricity suppliers (small and Large IPPS) up to 20 MW. Since 2015 the DET processed over 100 applications for licenses collectively equating to over 5MW.

In an effort to maintain grid integrity capacity Limits were established, which were guided by a Grid Penetration Study prepared by General Electric on behalf of the Utility. A limit of 60 MW of variable renewable energy was established and this was allocated as follows: i) 10 MW non licence RE suppliers (under 5KW for Domestic and under 25 KW for non-domestic (commercial); ii) 20 MW for utility scale variable RE (IPPs); iii) 10 MW for government RE systems; iv) 20 MW for the utility; and v) 15 MW distributed RE.

During 2015 license fees were also put in place, with a view to generating revenue for government. However, it was observed that the licence fees established were having adverse impacts on the sector, such that they were further re-examined, and this resulted in the annual fees category being discontinued. The implementation of these fees coincided with the steep fall of oil prices. Given that the price paid for electricity generated from renewable sources was tied to the Fuel Clause Adjustment mechanism, it meant that the revenue earned by investors fluctuated with the movement in oil prices. The fees in addition to the low oil prices became an inhibitor for investment and created a debilitating effect in the sector. This unsustainable situation led to the delinking of the RE prices from oil prices through the evolution of a fixed rate feed in tariff for energy produced and supplied from solar and wind of \$0.415 and \$0.316 respectively.

In an effort to effectively monitor the performance of this emerging RE sector the DET is building capacity both from a human resources and technological perspective. This capacity building includes partners such as Government Electrical Engineering Department (GEED), the FTC the Town and Country Planning Department (TCPD) and the DET.

Effort to develop the competency to independently model the electric grid has commenced. Training in regulation of utilities has been facilitated and more is planned in the future. An integrated management system is also being implemented that will include the ability for online submission of Licensing Application Forms and the identification of all RE systems on the island through a Geographic Information System (GIS) Mapping process.

Indeed, noting that the current franchise of the incumbent utility is due to expire in 2028, the DET has also commenced the process of developing the Application Form and Terms and Conditions of a utility's license.

Favourable electricity licence regime for small IPPs and IPPs with Renewable Energy generation systems larger than 1 MW was introduced thereafter. During August 2019 section 3 (1) of the ELPA was amended to reflect the issuance of separate licences for generation, transmission and distribution, dispatch, storage, and sales. This amendment makes it possible for IPPs with investments above 1 MW to operate in the market space and compete with the utility, hereto was not possible.

Result 3

30 MW of Renewable Energy installed by public and private agencies by 2019⁹.

⁹ 2.2 Report on the Progress within the Energy Sector.

In 2010 the FTC, along with the national electricity utility BL&P established the “Renewable Energy Rider”, marking an important milestone in the Government’s quest to actively pursue renewable energy as an integral part of its energy mix. This led to a target of 2 MW of renewable energy systems was set for connection to the grid between 2010 and 2013. Initially there was a low uptake, but this increased near the end of the period. The rider was for renewable energy systems under 5 Kilowatts Peak (KWp) for Domestic Systems and under 25 KWp for commercial systems. The size of commercial PV systems was then extended to a maximum of 150 KWp. The introduction of the Electric Light and Power Act regime in 2015 then provided for Kapp applications for systems up to 20 MW. The current amount of renewable energy on the grid is 25 MW, which includes over 1500 hundred installations including a 10 MW solar PV system installed by the utility.

Applications being considered for government and the private sector as well as expressions of interest suggest, and reporting have shown that the target of 30 MW has been achieved, with the current figure been in excess of 50 MW. These included i) 2 MW being considered as part of investments by government owned natural gas and oil import/producing companies (i.e., National Petroleum Corporation and the Barbados National Oil Company Limited); ii) i) 2 MW being considered by the Barbados Water Authority; and iii) up to 15 MW from private sector companies. Through the ELPA, the Government of Barbados had facilitated 37 MW (36,770 KW) of Installed Capacity of renewable energy to the grid by the end of September 2019. This installed capacity has produced 48,849,213 kWh of electricity from renewable energy, which has saved the country 81,377 barrels of oil and an estimated Bds\$ 9,404,536 in foreign exchange.

3.4. EVALUATION FINDINGS - EFFICIENCY

As befitting a Budget Support intervention, REEEP’s design is based on the disbursement of its EUR 2.8 Million funding into the National Budget, against attainment of specific performance targets, over the programme’s 3-year duration.

Table 2 – Over REEEP Budget and Indicative Budget¹⁰

Budget	EU Contribution
Budget support Sector Reform Contract	2.800.000 EUR
First fixed tranche of 40% in Year 1	1.120.000 EUR
Second fixed tranche of 30% in Year 3	840.000 EUR
A variable fixed tranche up to 30% in year 3 associated to three (3) sector performance indicators (10% each), which show the progress of the country in the implementation of the reform agenda.	840.000 EUR
Communication and visibility	100.000 EUR
Evaluation	100.000 EUR
Total	3.000.000 EUR

¹⁰ Signed Financing Agreement between the European Commission and the Government of Barbados (May 2019).

The design is considered to have contributed to consolidating the sector and also to activating policy dialogue among partners involved.¹¹

The Budget support has included:

- Permanent dialogue on the sector, including relevant Civil Society Organisations (CSOs) and other non-state actors;
- Monitoring of sector policy implementation;
- Permanent dialogue on Public Financial Management (PFM), budget transparency and control;
- Cross-sectorial dialogue;
- Analysis and monitoring of reforms on the above mentioned areas

The specific conditions for disbursement of the tranches are¹²:

- **First Tranche:** After year 1, a first fixed tranche of 40% of the total amount to be provided on the basis of an invoice and submission of the annual progress report showing the fulfilment of the general conditions.
- **Second Tranche:** After year 3, a second fixed tranche of 30% of the total amount, on the basis of an invoice and submission of the annual progress report showing fulfilment of the general conditions.
- **Variable tranche** at the end of year 3 will be provided on the basis of the fulfilment of the three Performance Assessment Indicators:
 1. Renewable Energy Roadmap and Implemented Actions according to milestone defined by March 2019.
 2. Revision of the ELPA by December 2019 to provide a Favourable Electricity Licence Regime for IPPs greater than 1 MW.
 3. 30 MW of Renewable Energy installed by March 2019.

As stipulated in the financing agreement¹³, the disbursement of the chosen performance targets will apply for the duration of the programme.

The **first tranche** was disbursed after the positive assessment of the general conditions for disbursement¹⁴. Hence the European Union Delegation (EUD) considered that Barbados met all the conditions for the disbursement of the first fixed tranche¹⁵.

The **second tranche and first variable**¹⁶ was disbursed following EU's assessment that the Government of Barbados had met all conditions and the targets for two out of the three variable tranche indicators (Indicators no. 1 and 3). For the remaining indicator (indicator no. 2), the Delegation considered that a

¹¹ Signed Financing Agreement between the European Commission and the Government of Barbados (May 2019) – P 2 – Summary

¹² Signed Financing Agreement between the European Commission and the Government of Barbados (May 2019) – P4 Section 2.1.2

¹³ Addendum No. 1 - Signed Financing Agreement 12/11/2019 Annex II – Article 4 – Section *Report (P8)*

¹⁴ Assessment for the release of the first fixed tranche – Note to Director 2017 Section B and C

¹⁵ Specifically, this comprised: i) Condition 1 Progress in the Sector Policy and Strategy: As outlined in the annual progress report for the Sector Reform Contract, satisfactory progress in the implementation of the energy sector reform agenda and continued credibility and relevance must be met in order to be considered as achieved this general condition 1; ii) Condition 2 Macroeconomic Stability: To consider condition 2 as met, satisfactory progress in implementation (and maintenance) of a credible stability-oriented macroeconomic policy is to be described; iii) Condition 3 Progress in PFM Reforms: Satisfactory progress in the implementation of the PFM Action Plan is to be considered in order to consider Condition 3 as met; and iv) Condition 4 Budget Transparency: Satisfactory progress with regard to the public availability of timely, comprehensive and sound budgetary information.

¹⁶ Disbursement notes of the second fixed tranche and first variable (2nd payment) – April 2019.

technical error occurred during the formulation of the Budget Support Documents, with an ill-defined baseline (target already met before the signature of the Financing Agreement (FA), which led the Delegation to consider the indicator as null. Following discussions with the Government of Barbados, there is an agreement on the invalidity of the indicator, as well as on a way forward: entering into negotiations in order to define a new indicator – in line with the objectives and expected results of the Financing Agreement, adding a second variable tranche of EUR 0.28 million, and allowing 6 to 9 months for the Government to reach the target of the new indicator. In the light of the above the Financing Agreement was amended accordingly.

Therefore the Delegation recommended a total disbursement of EUR 1,400,000 (EUR 840,000 related to the second and last fixed tranche and EUR 560,000 related to the first variable tranche).

Indicator 1. *Renewable Energy Roadmap Established and Implemented according to milestone defined by March 2019;*

From the baseline: as at March 2017, there is no established Renewable Energy Road Map

To the Target: There is an established Renewable Energy Road Map. (Approved in Cabinet by March 2019)

Actual achievement: Implementation Plan for the BNEP approved in Cabinet in March 2019

Indicator 3. *30 MW of Renewable Energy Installed by March 2019;*

From the baseline: as at March 2017, there is limited installed Renewable Energy Capacity (10 MW)

Target: 30 MW of Renewable Energy Installed by March 2019 .

Actual achievement: 31 MW of Renewable Energy Installed by March 2019

Since then, this figure has continued to increase significantly, with currently more than 50 MW of renewable energy installed.

The **second variable**¹⁷ was disbursed after the conclusion of the Delegation that the Government of Barbados has met all the general conditions, and the target for the second variable tranche (indicator 2). Therefore the Delegation recommended a total disbursement of EUR 280,000 related to the second variable tranche.

Indicator 2. Revision of the ELPA by December 2019 to provide a Favourable Electricity Licence Regime for IPPs greater than 1MW

From the baseline: As at May 2019, the ELPA has not been revised to provide a favourable Electricity Licence Regime for IPPs greater than 1 MW

To the target: ELPA revised to provide a favourable Electricity Licence Regime for IPPs greater than 1 MW.

¹⁷ Disbursement Note of the second variable (3rd payment) – April 2019.

Actual achievement: ELPA revised in parliament in August 2019.

Regarding efficiency in terms of implementation, the implementation plan will be looked at, in terms of overall management and co-ordination arrangements, as well as functioning of the Working Groups. Initial reporting issues, in terms of detail and sector-wide assessment, were addressed. The EU's own internal budget support eligibility assessments are detailed and well-written.

A contributing factor here is that development of the monitoring and ministry-wide work planning is under development, and this will likely contribute appreciate to such reporting in the future.

However, staffing constraints, at least compared to the significantly expanding work programme of the Ministry, have meant some implementation has presented more challenges that otherwise might be the case. As mentioned elsewhere, while this review does not in any way include an institutional review of MESBE, the stakeholder consultation does suggest some areas need strengthening, including resources and staffing for forward planning, monitoring, IT processes and stakeholder dialogue. The role of forward planning is a particularly important one in terms of anticipating well in advance the impact of specific BNEP actions and their implications on Ministry workload – an example is the workload generated in dealing with license application processes, in terms of the demand on staff time, and in terms of developing more streamlined work processes (supported by IT), including co-ordination with other actors in the planning process.

3.5. EVALUATION FINDINGS - SUSTAINABILITY

Regarding **sustainability prospects at policy and regulatory level**, the progress realised by the Ministry against REEEP targets means a very strong basis has been put in place for policy and regulatory level sustainability. The legal and regulatory framework has been revised to remove the previous monopolistic situation with regard to power generation, and allow IPPs to provide power to the grid, and the FTC is in place as the regulatory body, while there are clear conditions to would-be interested parties regarding the price at which energy can be sold to the national grid. Moreover, the government shows strong commitment to its ambitious energy transition goals in the BNEP.

At the institutional level, sustainability prospects are relatively strong, although more action is required. The Ministry of Energy, Small Business and Entrepreneurship, as the key institutional driver of BNEP implementation, has evolved significantly over the lifetime of REEEP. Its staff complement has increased, it has continued to develop its competencies in renewable energy and energy efficiency areas, and its dedicated staff body is managing a bigger and more complex work programme. It is also taking action to strengthen its planning and monitoring functions across the Ministry's activities.

However, the evaluation findings do raise the question as to whether more support and resources are required if MESBE is to fully play its co-ordination and leadership role between now and 2030. This is raised as a question, as it is important to emphasise that this final evaluation of REEEP is a budget support evaluation of REEEP and *not* an institutional assessment of MESPE.

It is also important to emphasise the need for strengthened institutional resourcing and support for MESBE should not be seen as a criticism or negative state of affairs, as the situation is a result of the progress in implementation of the BNEP (and within this this the targets and indicators inked to EU Budget

Support, and in this respect the relative progress to-date is creating new challenges. At the same time, it is important that MESBE is given the best chance for achieving BNEP's goals.

Given the significant increase in the scope and complexity of MESBE's work programme that can be expected over the coming years, institutional resourcing, and capacity (and capacity-building) will need not just to match current needs but anticipate future short-term and medium-term needs. When asked about the adequacy of current staffing levels, most stakeholders interviewed at MESBE consider them inadequate (one staff member considered current staffing levels to be only at 40% of what was needed). An example of institutional and staff constraints is regarding the Ministry's IT function, where existing staff are dealing with this in the absence of dedicated IT staff.

The evaluation findings raise the question of whether MESBPE has enough staff and resources with regard to strategy setting, scenario planning, and working through the complex assessments (for example grid planning and load management and scenario planning with regard to different scenarios of electricity demand from the transport sector as the country progresses with a transition to electric vehicles (EVs), and the numerous factors that make scenario planning complicated¹⁸.

Even more striking is of course REEEP's **impact and prospects for environmental sustainability, where the progress in growing the share of renewable energy in the energy mix allows for a cleaner and more sustainable energy sector**, and the environmental sustainability prospects are further enhanced by the increased ambition of GoB under the 2019-2030 BNEP in targeting a 100% renewable energy contribution by 2030.

This also links to the prospects for **financial sustainability**, where there are a number of positives. Firstly, the significant increase in the role of renewable energy's contribution to the national energy mix offers the potential – all other things being equal – for the government to decrease its reliance on, and import of, fossil fuels. The importing of fuel (Refined Petroleum) constitutes Barbados largest import, and \$323M in 2019, with the next largest import category - Passenger and Cargo Ships (\$61.2M) representing less than one-fifth of the fuel import bill and followed by imports of cars (\$52.8M), shipping containers (\$35.1M), and packaged medicaments (\$26.3M)¹⁹.

Thus, EU REEEP budget support to the BNEP has helped contribute reducing the country's import bill for fossil fuel imports, as well as contribute to increasing the country's energy security and climate resilience. The building down of fossil fuel imports will in turn have a **systemic positive impact on the country's balance of payments by building down a significant component of the country's import bill**, and this is important also in the context of the country's high levels of debt.

At the same time, investment resources are dedicated to building domestic capacity and infrastructure for sustainable energy generation, with the attendant economic stimulus, employment creation and skills development this represents. In this regard, it is also important to monitor these economic impacts carefully, and their contribution to sustainable economic development, and to communicate same in government communication and messaging on the costs and benefits of the BNEP.

¹⁸ Examples of just some of the factors that will complicate planning and require multiple scenarios are the relatively high price of EVs compared to alternatives, the price elasticity of would-be consumers, the evolution in EV prices, the price and price volatility of petroleum (imports) during the coming years, and Barbados's status as a market taker/lack of influence in the global EV market.

¹⁹ OECD 2019 Trade Statistics.

Stakeholder Consultation, Participation and Dialogue

There have been clear efforts at stakeholder consultation and participation in a number of the activities implemented under the implementation of the BNEP, and within the context of sector-level dialogue proposed under EU Budget Support. This has included for example strong stakeholder consultation/participation in the Electric Market Study during 2018-2019.

Regarding energy sector stakeholder dialogue, some actions have been initiated. Overall, 5 Working Groups were established, although the frequency of meetings is not always quite clear. The *Committee on Technical Issues* Working Group is operational and meets regularly, looking at all issues related to the technical aspects of the national grid and with regular updates from BL&P. The Working Group is chaired by the Barbados Renewable Energy Association. Furthermore, periodic calls have been hosted by the Minister with energy stakeholders.

However, MESBE's capacities to pursue dialogue are also likely constrained by staffing levels, and more can be done to broaden and deepen the sector dialogue, in particular with regard to forward planning. anticipating the impact of new actions on workloads, identifying risks and risk mitigation options, and in maximising the potential for economic development benefits for the wider economy as a result of the BNEP goals (and in particular, but not only, for private sector and SME development, and skills development). This will be important in ensuring in-depth discussion on various forward scenarios, and in navigating the complex planning, scenario development etc that will be required, as well as building a wider ownership base for the decisions taken and strengthening stakeholder buy-in, as well as strengthening the resilience of BNEP in the face of criticism when problems and challenges appear, as most nature they will.

3.6. EVALUATION FINDINGS - EU ADDED VALUE

EU Added value is defined as the extent to which the EU's Budget Support Programme has been complementary to/coordinated with interventions of EU Member States and other partners in the country of operation. EU Added value has not been an explicit focus of the progress reporting and is not referenced in progress reports. The interviews with stakeholders will raise the issue of EU Added Value, after considering relevant EU Member State initiatives, and whether complementarity potential existed.

EU Added Value can also be seen in its relatively large-scale support of, and increased exposure, to the energy sector, which has allowed it to gain an understanding of the sector, which is particularly important in what is now a relatively fast-evolving landscape given the goals of the BNEP. This has afforded the EU an opportunity to see opportunities and challenges first-hand and allow this understanding to inform the design of more recent initiatives, in particular the Smart Fund II.

The Smart Fund II provides another important demonstration of EU Added Value, in its leveraging of the EU's potential to leverage large-scale blended finance interventions. The programme will provide capacity building and studies for the development of renewable photovoltaic solar energy projects and energy efficiency measures in public buildings and in SMEs. The programme is structured into three components: (i) pre-investment studies and implementation of renewable energy and energy efficiency in SMEs, (ii) pre-investment studies and implementation of renewable energy and energy efficiency projects using performance-based contracts through private energy service providers to the public sector and (iii) Capacity building and institutional support for the management of renewable energy and energy efficiency projects and performance based contracts. It thus builds on the REEEP and helps Barbados advance

farther in developing RE and EE projects and interventions, and RE and EE capacities, in the private sector, which will be important in helping to optimise the private sector gains from the energy transition foreseen under the BNEP.

3.7. EVALUATION FINDINGS - CROSS-CUTTING ISSUES

Environmental sustainability is referenced on numerous occasions, but this is to be expected given that the reduction of the role of imported fuel oil and diesel in the energy mix is at the heart of the energy sector strategy. For example, the 2017 Progress report references the Government's concern with environmental sustainability from the country's reliance on imported fuel oil and diesel, citing the changes associated with climate change and the impact on the tourism industry - vital economic resource for the country.

Regarding **gender equality considerations**, there is no reference to gender in the Progress Reporting on Progress in the Energy Sector, and the gender dimension will be raised during the interviews with government and other stakeholders.

3.8. LESSONS LEARNED

A number of lessons learned can be identified from REEEP's implementation:

- **The value of ambitious targets:** The progress made to-date emphasises to some extent the old wisdom of setting a very ambitious target, in that even if one fails to hit the target completely, one will achieve nonetheless a very positive outcome.
- **Budget support indicators:** As part of the reflection process, it is worth reflecting if an indicator (or indicators) related to the institutional strengthening of MESBE (e.g., linked to staffing levels, institutional processes, and competencies) would have added value to the implementation of EU Budget Support.
- Notwithstanding the progress made in many respects over the past few years, and the impressive staff commitment observed in MESBE, it is not completely clear if current institutional resources, staffing levels and (selected) work processes give MESBE its best shot at achieving the ambitious 2030 targets, with regard to leading and navigating the complex programme of planning, scenario assessment and large-scale and complex implementation that the BNEP goals represent (and involving not just energy sector and policy, but policy and support in other key sectors of the economy).

4. EVALUATION CONCLUSIONS AND RECOMMENDATIONS

This section sets out the evaluation conclusions and recommendations.

4.1. EVALUATION CONCLUSIONS

This section sets out the evaluation conclusions:

- a. **Relevance:** REEEP has been highly relevant to national energy policy goals, with the Government committed to achieving a target of 30% of its energy needs from renewable energy at the time of formulation of the EU Budget Support Programme, with this target then being increased to a target of 100% of national energy needs from renewable energy by 2030 under the 2019-2030 BNEP. In terms of needs, EU Budget Support has also supported the Government, and in particular MESBE, navigate complex technical issues and access relevant external technical expertise on an as-needed basis with the flexibility entailed under the Budget Support aid modality. REEP has also been relevant to the needs of the Ministry and energy sector, in terms of the scale of support made available by the EU and the relative flexibility that came with the budget support modality.
- b. **Coherence:** REEEP has also been highly coherence with Government and MESBE need for more funding to support the BNEP implementation drive, as well as other programmes launched by the EU and other donors, such as the *Public Sector Smart Energy Conservation Programme*, the ESF, and the Smart Fund II.
- h. **Effectiveness:** The project targets have been largely met. Firstly, regarding the target result of Renewable Energy Roadmap and Implemented Actions according to milestone defined by March 2019, the project has achieved the target. Regarding the second result, revision of the ELPA by December 2019 – the ELPA was revised and updated during 2019, thereby providing Barbados with a favourable electricity license regime for IPPs greater than 1 MW. Regarding the target of 30 MW of Renewable Energy to be installed by March 2019, 31 MW had been installed by this target date, while the current figure is now in excess of 50. Deviations have been relatively minor in nature, including postponement of some communications activities due to the onset of the COVID-19 pandemic, and these were completed at a later date after the project end. Beyond the specific targets, EU Budget Support has been important in allowing the MESBE navigate an ambitious and rapidly increasing scale and complexity of work programme under the BNEP, and this has been appreciated by Government of Barbados, and in particular MESBE counterparts.
- c. **Efficiency:** The programme has for the most part been efficient in terms of implementation. There were some challenges initially regarding the detail and quality of REEEP progress reporting against targets, but this was addressed for the most part through dialogue between the Ministry and EU the Delegation, and support from the latter. The efficiency of implementation has to some extent been constrained by staffing pressures at the MESBE, where increases in staffing have not kept pace with the growth in the scale and complexity of the Ministry's work in implementing the BNEP. While external TA was contracted to carry out assessment work has been carried out across the energy

sector, it is not clear that staffing and resourcing at the Ministry is where it needs to be at this point in time.

- d. **Sustainability:** In terms of wider sustained impact, REEEP has supported Barbados in making progress to achieving its target of 100% of electricity generation to be generated from renewable sources by 2030, and thus has made an important contribution to medium-term and long-term environmental sustainability, through its support to the national effort in increasing renewable energy in the national electricity generation.

There are however important areas and needs that require being addressed as a priority, and that to some extent if not addressed may constitute risks to the sustained impact of the achievements of MESBE and the Government. Firstly, even if there has been an appreciable increase in human resources at MESBE, this increase in staff levels has not kept pace with the increase in the Ministry's work programme and responsibilities. Secondly, there is a pressing need to advance as rapidly as possible with a strategy and plan for the upgrading of the national grid, following due exploration and feasibility on different options.

Sustained impact might further be strengthened through increased effort to raise public awareness around the BNEP, beyond the actions taken to-date, including focussing on the wider benefits of the strategy beyond the sustainable energy benefits and related fossil fuel reduction, such as the positive impact on the country's balance of payments and reduced vulnerability to external shocks in the price of petroleum and/or disruption of supply during periods of heavy demand and/or extreme weather events. The EU-supported Smart Fund II is a good example of how an intervention supporting increased sustainable energy and energy efficiency performance making an explicit link to improved energy security and reduction of fossil fuel imports, as well as including direct quantifiable targets on fossil fuel import reduction.

- e. **EU Added Value:** REEEP has delivered some EU added value, in terms of the scale and flexibility of the funding provided under the Budget Support modality to support implementation of the BNEP. This can also be seen in the other support provided by the EU, including for example the Public Sector Smart Energy Programme (PSSEP), and the Smart Fund II, and in particular the combination of grant funding and loan funding. There may be scope to increase this added value further, through looking at the medium-term actions under the BNEP implementation plan and seeing for example if greater use of EU blending could be realised. There is limited added value dimension with EU Member State interventions, given the limited development role most EU Member States play in Barbados. **However, continued progress with BNEP implementation, and with initiatives such as the Smart Fund II, will likely improve prospects for investment and trade, where for example investment protection and promotion agreement with Germany has been constrained by the relative weakness of the private sector.**
- f. **Cross-cutting issues:** Gender has not been a significant focus in REEEP's implementation, but it should be noted that this is because there is no significant gender dimension to the programme. More generally, as mentioned earlier, there is scope to place more emphasis on the cross-cutting nature and potential of sustainable energy, and BNEP's goals in this regard, by placing greater emphasis on other policy linkages and benefits of BNEP's 2030 targets for sustainable energy generation.

4.2. EVALUATION RECOMMENDATIONS

This section sets out the evaluation conclusions:

Table 3 – Overview of Evaluation Recommendations

No.	Recommendation	Addressed to:	Timing
R1	Develop a Working Discussion Paper and Roadmap setting out the short and medium-term plan up to 2030, and the related energy sector needs, as a basis discussion with IFIs	GoB (MESBE)	April – June 2022
R2	Rapid Review of MESBE Institutional and Staffing Needs to Enable MESBE to play an optimal leadership and co-ordination roll in driving implementation of the BNEP and linkages with other policy areas and sectors	GoB (MESBE)	April – June 2022
R3	Identify and Address Ministry and Energy Sector Information Technology (IT) Support Risks and Needs	GoB (MESBE)	April – June 2022
R4	Strengthen energy-sector dialogue and forward planning	GoB (MESBE), EU	April – June 2022
R5	Set up a structured dialogue on energy policy between GoB and EU and other key Development Partners	GoB (MESBE, all ministries)	April – June 2022
R6	Greater emphasis on other policy linkages and benefits of BNEP's 2030 targets for sustainable energy generation	GoB (MESBE), EU	April – June 2022

R1	
Recommendation Summary: Develop a Working Discussion Paper and Roadmap setting out the short and medium-term plan up to 2030, and the related energy sector needs	
Detailed Recommendation: It is recommended that MESBE develop a Working Discussion Paper setting out the short and medium-term plan up to 2030, and the related energy sector needs, which could be used as a basis for strategic discussion and for engaging with development partners/International Financial Institutions (IFIs).	

R1	
<p>This could include:</p> <ul style="list-style-type: none"> • A summary of the existing implementation plan and relating resourcing, but also with a plan working backwards from 2030, and showing key milestones and decision points, thereby facilitating detailed planning for preparatory work necessary for key decision points etc. • As an example, working backwards from 2030, identifying at what point decisions would need to be made regarding wind energy (onshore and offshore) as part of the energy mix, the targets for wind power, and what this would mean in terms of milestones and timing to have the policy and regulatory framework and the planning and permits and approval work processes operational. • Such a Working Discussion Paper would also help ‘frame’ other important areas within this wider discussion framework, such as needs and priorities around the upgrading of the national grid. • Where deemed appropriate, include estimated budgets and resource requirements for the proposed action items required to address any implementation and policy gaps should be included in these documents. 	
Recommendation Addressed to:	Government of Barbados (MESBE), EU Delegation
Implementation Timeframe:	April 2022 – June 2022

R2	
<p>Recommendation Summary: Rapid Review of MESBE Institutional and Staffing Needs to Enable MESBE to play an optimal leadership and co-ordination roll in driving implementation of the BNEP and linkages with other policy areas and sectors</p>	
<p>Detailed Recommendation: It is recommended that the Government (MESBE) sets out as priority an interview review of its current staff levels, but also current and future wider competence and expertise needs between now and 2030. As mentioned in this report, the Ministry has had to evolve significantly over the past decade, and while staff levels have increased, they do not seem to have kept pace with the significant increase in the Ministry’s work programme. in this regard a forward-looking institutional and staff needs assessment, building on the consultancy work done, would help, and as a basis to engage with development partners if they could support the Ministry in this work. <u>The purpose would be to then use this as a basis to engage with Government and Development Partners to see how the Ministry can be better supported and resourced over the coming critical eight years, and in particular the coming three years.</u></p> <p>Issues to be addressed in this rapid assessment could include:</p> <ul style="list-style-type: none"> • Reviewing staffing levels and needs in key areas, such as strategy setting, forward planning, IT processes, monitoring (for IT processes see also recommendation below) and managing the grid assessment and upgrading needs process • Identifying, in a forward planning, what new capacities/skills will be needed during the coming 8 years 	

R2	
<ul style="list-style-type: none"> Identifying what expertise is needed in-house, what could be secured with specific project-based hired, and what would be needed in terms of external TA/consultancy. Identifying what would be the optimum modalities for MESBE to quick access external expertise, with a minimum loss of time and administrative work (e.g., procurement process work). Considering if external TA could also help as on on-call or in-house mentoring and support role. Considering benchmarking and knowledge exchange with other energy ministries that have, or are in the process of, making a significant energy transition, but are farther down this road. Ensuring rigorous forward planning that sets out the detailed decision points and when they need to happen, and the preparatory work and timeframe Taking due account of processes and work areas that will likely improve the overall prospects for success, including a strengthened (and structured) dialogue and forward planning process, and resources to facilitate greater forward planning to optimise linkages with other policy areas, in particular private sector development and SME development and sustainable energy skills development. 	
Recommendation Addressed to:	Government of Barbados (MESBE), EU Delegation
Implementation Timeframe:	April 2022 – May 2022

R3	
Recommendation Summary: Identify and Address Ministry and Energy Sector IT Support Risks and Needs	
<p>Detailed Recommendation: It is recommended that the Government take action to carry out a comprehensive review of IT risks and needs in the energy sector, in particular at MESBE. As already noted, the increasing importance of Barbados’s ambitions sustainable energy targets, and the increasing pace of progress, has meant a significant increase in the scale of MESBE’s work programme, as well as a widening of the range of activities and responsibilities. At present, the Ministry for Energy, Small Business and Entrepreneurship is managing its IT needs and requirements with the constraints of its already over-stretched human and other resources. It is also an area where sensitive discussions and decisions are made on licensing, tariffs, tender outcomes, applications etc. In an age of increasing cybersecurity threats, MESBE (and related energy sector actors) need to ensure that their IT resources are commensurate with their work demands under a rapidly expanding work programme, and with adequate cyber security protection.</p> <p>This could include:</p> <ul style="list-style-type: none"> Identifying possible IT and cybersecurity threats, and likelihood (scale of risk), and mitigation and preparedness actions and investment required Identifying IT needs and support (functions and capabilities, equipment, skills, etc.) by actor – for example some of the areas that came in in discussions with MESBE included defining network 	

R3	
<p>and server requirements and configuration, staff skills upgrade in specialist software applications (e.g., LEAP)</p> <ul style="list-style-type: none"> • Discussion and dialogue on IT review findings and recommended actions with the Ministry of Industry, Innovation, Science and Technology, to obtain its feedback and eventual endorsement/support, given the latter’s overarching responsibility for Government’s ITC capacity and development²⁰, as well as ensuring consistency with the Government’s overall framework and policies. Indeed, dialogue with the Ministry of Industry, Innovation, Science and Technology should start at the stage of scoping out any IT review, to ensure consistency with the government-wide framework and policy). • Defining IT staff roles, needs, and capabilities • Developing action plans and related financing. 	
Recommendation Addressed to:	Government of Barbados (MESBE)
Implementation Timeframe:	April 2022 – June 2022

R4	
Recommendation Summary: Strengthen energy-sector dialogue and forward planning	
<p>Detailed Recommendation: MESBE has made appreciable efforts to engage with energy sector actors, and probably would have done more if staff resources allowed so. There is scope for a strengthened and more structured dialogue going forward, which will become more important as the BNEP’s energy transition’s linkages and involvement of other sectors and actors becomes significantly more pronounced during the coming years.</p> <ul style="list-style-type: none"> • A detailed forward planning and e.g., dialogue mechanism • A dedicated team to support the dialogue and external communication with sector stakeholders • Tools, such as a clear pipeline dashboard on license applications and approval status, to also allow for detailed planning in other sector, such as forecasting SME needs and skills needs as license approvals turn to completed installations, • A likely mix of a structured, restricted sector meeting on a regular (e.g., quarterly?) basis, along with a more public event every year or so (possibly linked with other public events under initiatives such as Smart Fund II) 	
Recommendation Addressed to:	Government of Barbados (MESBE, and all relevant Ministries)
Implementation Timeframe:	April 2022 – June 2022

²⁰ Including as this relates to cybersecurity, interoperability etc.

R5	
Recommendation Summary: Set up a structured dialogue on energy policy between GoB and EU and other key Development Partners	
<p>Detailed Recommendation: It is recommended that a more in-depth structured dialogue on energy policy between GoB and EU, and other donors active in supporting the energy sector such as IADB. It is understood that there is currently some level of ongoing dialogue with IADB, although this may be more ad-hoc than structured but could also serve as a basis on which to broaden and further structure such dialogue.</p> <p>This would particularly be valuable where part of EU support is being provided under the Budget Support regime.</p> <p>The advantages of such a dialogue could include:</p> <ul style="list-style-type: none"> • Allow for a more structured exchange on progress under EU areas of exchange • Further enrich and strengthen dialogue by bringing in the differing perspectives of different IFIs • Allow key development partners to stay abreast of how MESBE is progressing on energy policy goals on the widest sense, as well as the linkages and issues arising with other policy areas (e.g., green economy, private sector development and entrepreneurship, tourism development, etc.) • Following from the above, allow the EU (and other IFISs) to see and/consider emerging development needs of Barbados in the wider energy area and consider if these fit with its own priorities and areas of added value, including EU (and other IFIs' current and future EU cooperation, such as the EU's cooperation transitioning to the new Neighbourhood Development and International Cooperation Instrument (NDICI). <p>Such a dialogue could also be widened to include other key IFI actors in the wider sustainable energy area.</p>	
Recommendation Addressed to:	Government of Barbados (MESBE), EU Delegation, other Development Partners
Implementation Timeframe:	April 2022 – June 2022 (and rolling thereafter)

R6	
Recommendation Summary: Greater emphasis on other policy linkages and benefits of BNEP's 2030 targets for sustainable energy generation	
<p>Detailed Recommendation: Place greater emphasis on other policy linkages and benefits of the BNEP's 2030 targets for sustainable energy generation. This could for example include greater emphasis on the following, amongst others:</p> <ul style="list-style-type: none"> • Benefits of the sustainable energy transition in terms of new and/or increased local private sector development opportunities and innovation. This could include starting with detailed 	

R6	
<p>strategy setting as to the targeted objectives in terms of skills development, employment creation, SME development, new company creation, etc. and build out the linkages between this for example and the pipeline planning for license applications under the BNEP.</p> <ul style="list-style-type: none"> • Improved security of (energy) supply and strengthened resilience to external shocks, such as fluctuations in the global petroleum market • Potential for improving Barbados’s balance of payments through steady building down of reliance on imported petroleum, and the potential for public financial management benefits, such as funding for strengthening climate and disaster resilience 	
Recommendation Addressed to:	Government of Barbados (MESBE, and all relevant Ministries)
Implementation Timeframe:	April 2022 – June 2022

5. ANNEXES

5.1. ANNEXURE I: EVALUATION STAKEHOLDER CONSULTATION – LIST OF INTERVIEWEES

Stakeholder Interview List

No.	Name and Surname	Role/Position	Organisation
1	[REDACTED]	Deputy Permanent Secretary, Small Business	Ministry of Small Business and Entrepreneurship
2	[REDACTED]	Chief Energy Conservation Officer	Ministry of Energy, Small Business and Entrepreneurship
3	[REDACTED]	Monitoring & Evaluation Specialist, Project Execution Unit	Ministry of Energy, Small Business and Entrepreneurship
4	[REDACTED]	Project Manager, Project Execution Unit	Ministry of Energy, Small Business and Entrepreneurship
5	[REDACTED]	Chief Project Analyst, Research & Planning	Ministry of Energy, Small Business and Entrepreneurship
6	[REDACTED]	Senior Economist, Economist Research & Planning	Ministry of Energy, Small Business and Entrepreneurship
7	[REDACTED]	Senior Technical Officer	Ministry of Energy, Small Business and Entrepreneurship
8	[REDACTED]	Manager, Public Investment Unit (PIU), and Deputy National Authorising Officer (NAO)	Ministry of Finance, Economic Affairs, and Investment
9	[REDACTED]	Project Analyst, Public Investment Unit (PIU)	Ministry of Finance, Economic Affairs, and Investment
10	[REDACTED]	Programme Manager, Energy	Delegation of the European Union to Barbados, the Eastern Caribbean States, the Organisation of Eastern Caribbean States (OECS) and Caribbean

No.	Name and Surname	Role/Position	Organisation
			Community (CARICOM)/ Caribbean Forum (CARIFORUM)
11	██████████	Programme Officer, Economic Affairs	Delegation of the European Union to Barbados, the Eastern Caribbean States, the OECS and CARICOM/ CARIFORUM
12	██████████████████	Chief Executive Officer	Barbados Light and Power Company Ltd. (BL&P)
13	██████████	Head of Customer Services and Legal Counsel	Barbados Light and Power Company Ltd. (BL&P)
14	██████████████████	President	Barbados Renewable Energy Association (BREA), CEO SolarGenesis
15	██████████████████	Project Director, Policy Co- ordination, and Monitoring Team	Ministry of Energy, Small Business and Entrepreneurship

5.2. ANNEXURE 2: EVALUATION BIBLIOGRAPHY

No.	Document Name
1	Barbados Renewable Energy and Energy Efficiency Sector Support Programme – 1 st Status Report (October 2017)
2	Barbados Renewable Energy and Energy Efficiency Sector Support Programme – 2 nd Status Report (March 2019)
3	Barbados Renewable Energy and Energy Efficiency Sector Support Programme – 3 rd Status Report (December 2019)
4	EU Renewable Energy and Energy Efficiency Project D-39761 Logframe with encoded data
5	Budget Support Eligibility Assessment – Disbursement of the 2019 second fixed tranche and first variable tranche (2 nd payment, April 3 rd , 2019)
6	Budget Support Eligibility Assessment – Disbursement of the 2020 second variable tranche (3 rd Payment, April 29 th , 2020)
7	EU Renewable Energy and Energy Efficiency Project C – 39761 Logframe with data encoded
8	Addendum No. 1 to Financing Agreement No. FED/2016/039-761 "Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme" (November 12 th , 2019)
9	Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme - Signed Financing Agreement (May 2019)
10	Assessment for the release of the first fixed tranche (1,120,000) under the 11 th EDF Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme (2017)
11	11 th EDF National Indicative Programme (2014 – 2020) - Barbados NIP 2014-2020
12	Barbados National Energy Policy (2019 – 2030) – BNEP
13	Caribbean Regional indicative Programme (2014 – 2020) – CRIP
14	Electric Light and Power Act (2013 – 2021) – ELPA

15	Implementation Plan for Barbados National Energy Policy (2018 – 2030)
16	Barbados PEFA Report March 2014 Final Master (3_27) “Public Expenditure and Financial Accountability (PEFA) Performance Assessment (November 2013)”
17	Note on Barbados Economic Package – March 2020 “Economic Package Presented by the Prime Minister of Barbados to Counter the Economic and Social Impact of Covid-19 Pandemic”
18	Note on Barbados Fiscal Year 2021 to 2022 Budget Estimates Analysis (06 April 2021(2))
19	Note to the Director-3 rd Payment “Budget Support Eligibility Assessment-Disbursement of the 2020 second variable tranche-11 th EDF Barbados Renewable Energy and Energy Efficiency Sector Budget Support Programme- CRIS No: FED/2016/039-761”
20	PFM and Transparency Assessment – Barbados -April 2020

5.3. ANNEXURE 3: EVALUATION TERMS OF REFERENCE

(Attached as a separate attachment)