Annex I to the Delegation Agreement
CRIS No. [FED/2017/387-448]

Description of the Action

Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC)

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List of Abbreviations

ACP	African, Caribbean and Pacific Group of States
ADA	Austrian Development Agency
AECID	Spanish Agency for International Development Cooperation
BMZ	German Federal Ministry of Economic Co-operation and Development
BREA	Barbados Renewable Energy Association
BTU	British thermal unit
CARCEP	Caribbean Clean Energy Program [U.S.]
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum
CARILEC	Caribbean Electric Utility Services Corporation
CBO	Community-based Organization
CCCCC / 5Cs	Caribbean Community Climate Change Centre
CCREEE	Caribbean Centre for Renewable Energy and Energy Efficiency
CCS	Caribbean Community Secretariat
CCWG	Caribbean Consultative Working Group
CDF	Caribbean Development Fund
CEFF-CCA	Clean Energy Finance Facility for the Caribbean and Central America [U.S.]
CEP	CARICOM Energy Policy
CESI	Caribbean Energy Security Initiative
CIF	Caribbean Investment Facility [EU]
COTED	Council for Trade and Economic Development [CARICOM]
CPDC	Caribbean Policy Development Centre
CREDP	Caribbean Renewable Energy Development

	Programme
CRIP	Caribbean Regional Indicative Programme
CROSQ	Caribbean Regional Organisation for Standards and Quality
C-SERMS	Caribbean Sustainable Energy Roadmap and Strategy
CXC	Caribbean Examinations Council
DFID	Department for International Development [UK]
DR	Dominican Republic
ECERA	Eastern Caribbean Electricity Regulatory Agency
ECDPG	Eastern Caribbean Development Partners Group
EDF	European Development Fund
EE	Energy Efficiency
ESCO	Energy Service Company
EPA	Economic Partnership Agreement
EU	European Union
EUEI-PDF	EU Energy Initiative Partnership Dialogue Facility
EUR	Euros
FIT	Feed-in Tariff
GDP	Gross Domestic Product
GEA	Guyana Energy Agency
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
IDB	Inter-American Development Bank
INDOCAL	Dominican Republic Standards Organisation
IPP	Independent Power Producer
IUS	Integrated Utility Services

J-CCCP	Japan Caribbean Climate Change Project
JICA	Japan International Cooperation Agency
LDCs	Least Developed Countries
MW	megawatt
NGO	Non-Governmental Organization
NSA	Non-State Actor
OOCUR	Organisation of Caribbean Utility Regulators
OCTs	Overseas Countries and Territories
OECD	Organisation for Economic Cooperation and Development
OECS	Organisation of Eastern Caribbean States
OLADE	Organizacion Latino Americana de Energia
ORs	Outermost Regions
OTEC	Ocean Thermal Energy Conversion
PV	Photovoltaics
RE	Renewable Energy
REETA	Renewable Energy and Energy Efficiency Technical Assistance [GiZ]
RES	Renewable Energy Systems
RBM	Results-based Monitoring
ROM	Results-oriented Monitoring

SEEC	Sustainable Energy for the Eastern Caribbean Project
SE4All	Sustainable Energy for All
SEF	Sustainable Energy Facility for the Eastern Caribbean
SICREEE	SICA Centre for Renewable Energy and Energy Efficiency
SIDS	Small Island Developing States
SWAC	Seawater Air-Conditioning
SWH	Solar Water Heaters
TAPSEC	Technical Assistance Programme for Sustainable Energy in the Caribbean
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
USD	United States Dollar
UWI	University of the West Indies

1 INTRODUCTION

The 15 Member States[1] of the Caribbean Forum of the Economic Partnership Agreement with the European Union (CARIFORUM) are mostly Small Island Developing States (SIDS). The countries, collectively, exhibit unique characteristics, including varying topographies, limited or absent natural resources, relatively small populations and fragmented energy markets with limited diversification in their supply. Consequently, CARIFORUM Member States share many common energy challenges, inter alia:

1. With the exception of Trinidad and Tobago, high dependence on imported fossil fuels to meet their energy demand.

2. High vulnerability to the effects of climate change.

3. Increasing electricity consumption and a widening demand-supply gap, especially in many urban areas.

4. Limited access to modern, reliable and affordable energy services in some countries, such as the rural areas in the Dominican Republic and Haiti, and hinterland regions of Guyana, Suriname and Belize.

5. Despite the abundance of options for solar, wind, hydro and geothermal power, low penetration of renewable energy into their energy systems.

6. High unexploited energy efficiency potential, with low energy efficiency in power generation, transmission, distribution, and end-use.

7. Power market structures that are under-regulated and lacking diversity on account of single vertically integrated utilities, with monopoly control over generation, transmission and distribution of electricity in a majority of the countries.

8. Market failures for clean energy (renewable energy and energy efficiency) technologies within the region, owing to distortions within the markets that have not supported the enabling of an environment that is capable of supporting country level strategies on sustainable energy.

9. Lack of a quality infrastructure (codes, standards and regulations) for small renewable energy technologies (such as solar PV and SWH) and energy consuming devices (such as appliances and industrial equipment) in many countries.

10. Relatively high electricity prices that represent a burden for the economy on the whole, as well as eroding the competitiveness of the productive sectors and limiting the availability of disposable income for the domestic and public sectors in the region.

[1] Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

Based on the aforementioned, it becomes apparent that increasing sustainable energy production, delivery and use, through renewable energy applications and energy efficiency measures, can provide powerful opportunities for CARIFORUM Member States to reduce their fuel consumption and thus improve energy security, lessen dependence on imported fuels, reduce electricity prices, promote clean economic growth, and improve the quality of life for citizens. Critically too, it allows the region to take action toward the mitigation of greenhouse gas emissions and can provide a basis for improving the resilience of key sectors to the effects of climate change.

The proposed programme "Technical Assistance Programme for Sustainable Energy in the Caribbean (TAPSEC)" will support the strategies under the respective Caribbean-EU partnerships. It is directly related to Focal Area 2 of the Caribbean Regional Indicative Programme (CRIP), which focuses on Climate Change, Disaster Management, Environment, and Sustainable Energy, and addresses the sustainable development of the countries. The overall objective of the TAPSEC is to support the implementation of the CARICOM Energy Policy (CEP) and the Caribbean Sustainable Energy Road Strategy (C-SERMS), as well as "National Energy", the sustainable energy strategy for the Dominican Republic.

The main results to be delivered are: (i) implementation of regulatory frameworks that enable renewable energy development and energy efficiency deployment; (ii) improvement of the region's energy information framework; (iii) establishment of financing mechanisms for renewable energy and energy efficiency projects, ensuring, in particular, their accessibility for local and regional project developers; and (iv) strengthened technical capacity among the key regional and national players within the sustainable energy sector in CARIFORUM.

There is cognizance that these results are to be delivered within the context of a region that has diversity in land, sociopolitical and economic conditions, as well as variation in culture and population. With respect to the energy sector, some countries have developed the institutional capacity for longer-term planning and have begun to include substantial amounts of alternative [including renewable] energy sources into their energy mix. A common thread, however, is that there is under-utilization of the energy endowments across CARIFORUM, as well as often "sub-optimal management of energy demand". Consequently, some energy solutions can benefit from intra-regional cooperation within CARIFORUM, and particular focus will be placed on the realization of synergies between CARICOM states and the Dominican Republic.

In general, the proposal answers to clear needs to improve coordination and to further improve the pace towards sustainable energy implementation, especially to achieve the targets agreed within C-SERMS and the National Pact of the Dominican Republic. The design is based on the assigning of technical experts to key regional and national institutions, including postings in the newly established Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) and the Ministry of Energy and Mines in the Dominican Republic. The experts will work on several thematic axes, such as policy and regulatory matters, energy efficiency, innovative financing mechanisms for renewable energy and energy efficiency projects, as well as capacity building, to include vocational training, tertiary education and life-long learning. These are expected to be among the areas prioritised within the three components – Policy, Information & Capacity, and Finance – of the TAPSEC. The

programme will enhance the ability of instutitions to continually update and implement regional and national energy policies and strategies.

For the support of actual project-related investments, there are mechanisms, such as the EU Caribbean Investment Facility (CIF) and the multi-donor funded ElectriFI Programme, in place. It is anticipated that an *indirect outcome* of the TAPSEC will be increased access to these investment facilities by CARIFORUM countries.

The implementation modality proposed is a Delegation Agreement with GIZ for managing the implementation of the Programme, but working *directly* with regional and national implementing bodies such as the CCREEE, the CARICOM Secretariat, and the Ministry of Energy and Mines in the Dominican Republic.

2 CONTEXT

2.1 Regional Sector context

It has been previously stated that the Caribbean region comprises countries that present a "high degree of heterogeneity", in terms of size, development status, history and sociopolitics and culture. They face, however, some common but fundamental challenges for which joint, coordinated efforts can deliver maximum impact.

Most of the countries are classified as middle to high income non-OECD countries by the World Bank and other key development partners, with relatively high debt levels which limit the ability of the countries to access concessionary loans for promoting clean energy investments. Haiti is the only country within CARIFORUM which is classified as among the Least Developed Countries (LDCs). Like other SIDS, the countries share a number of challenges and disadvantages in their sustainable development quest: inter alia, vulnerable economies; dependence upon limited land-based natural resources and on the vagaries of international trade; lack of economies of scale; high energy, transportation and communication costs; susceptibility to natural disasters; vulnerability to the adverse effects of global climate change; inordinate pressures on coastal and marine ecosystems; and a limited availability of the means to implement comprehensive sustainable development goals.
In particular, the exposure and vulnerability of CARIFORUM countries to exogenous shocks, such as natural disasters and man made global crises beyond their control, are contributors to their limited economic growth. The erosion of trade preferences for the region's traditional commodities and the financial crisis have contributed to a serious economic slowdown in recent years. In addition, several CARIFORUM States continue to be negatively affected by high indebtedness, which further exacerbates their economic vulnerability.

Concerning the energy sector, the region faces several critical challenges. There is, in most cases, an absence of local fossil fuel reserves, such as oil, natural gas and coal, as well as limited infrastructure for delivering energy. Also, the power generation systems are, for a majority of the countries, too small to accommodate some technologies "in a cost effective way". There is typically an absence of energy delivery by rail, pipeline or regional grid interconnections, which limits the degree of flexibility in island energy systems, and the majority of countries within

CARIFORUM rely primarily on seaborne petroleum imports, which are becoming more expensive and insecure in pricing and supply. Despite the availability of tremendous domestic renewable energy resources, the region remains disproportionately dependent on imported fossil fuels, which exposes it to volatile oil prices, limits economic development, and degrades the local natural environment.

The ongoing dependence on imported fossil fuels also prevents the countries from leading global action to mitigate the long-term consequences of climate change, which pose a particularly acute threat to these small-island states and low-lying coastal nations. Climate change is really "the dark side of fossil fuel" and the world, especially SIDS, are facing a great challenge to significantly *decouple fossil fuels from their energy economies*.

The Intergovernmental Panel on Climate Change (IPCC)'s Fifth Assessment Report (AR5) states unequivocally that Caribbean SIDS are the countries that are most vulnerable to the projected impacts of climate change. The economies of CARIFORUM countries are extremely dependent on environmental services and most are already being negatively affected by changes in climate and rising sea levels. In particular, there is the inherent threat of *significant damage to coastal infrastructure* and *large population displacements*, which could potentially disrupt the existing architecture of their energy systems, if average global temperatures increase by 1.5 degrees Celsius or more.

The targeted countries of this Action are the Member States of CARIFORUM.

2.1.1 Public Policy Assessment and EU Policy Framework

Public Policy Assessment

Despite the strong potential for energy efficiency and renewable energy observed in all CARIFORUM Member States, the development of sustainable energy systems will not occur organically. The successful expansion of sustainable energy depends largely on, among other things, the presence of a long-term vision, the effectiveness of existing policy and regulatory structures, and the surrounding governance and administrative framework.

Existing renewable energy assessments demonstrate significant potential for development and deployment of renewable power within the CARIFORUM region, including biomass, geothermal, hydropower, ocean energy, solar, and wind generation. To facilitate increased technology deployment, more detailed assessments should be completed for Member States and resources demonstrating the greatest potential, and the investment required for bringing them online, identified.

Critically, the exploitation of potential markets for sustainable energy deployment within CARIFORUM countries require robust and dynamic enabling frameworks of regulatory policy and legislation. Though progress has been made, the countries are at different stages of development in this regard and there are gaps that remain to be addressed. Regional and national governing bodies have been, in instances, proactive in implementing these frameworks to encourage the investment needed to allow

energy efficiency improvements and renewable energy projects. But factors such as the limited technical capacity in public institutions with energy mandates in som countries, and insufficient public capital for incentivising investments, have been inhibiting.

The private sector, which is being targeted by the majority of development partners (development banks, multilateral agencies and bilateral donors) active within the region, sees political and regulatory risk as the major factor preventing the mobilisation of the capital required. There are also heightened market risks due to, inter alia, the lack of economies of scale, limited experience with renewables, and the macroeconomic circumstances of the countries.

The challenges are matched by tremendous opportunities, however. Political leadership can provide longer-term vision and is essential for building a new energy future. The strategic orientation and harmonised CARICOM targets, which are being defined within the C-SERMS, provide the basis for increasing coordination and alignment toward the development of the sector within the CARICOM Members of CARIFORUM and can provide some level of orientation to the Dominican Republic as well. In particular, the decision of the Thirty-Sixth Regular Meeting of the Conference of CARICOM Heads of Government, in July 2015, to establish the CCREEE as the *implementation hub* for sustainable energy activities and projects within the CARICOM region and the decision of the Sixtieth Special Meeting of the COTED (Energy), in January 2016, establishing the C-SERMS Platform as a *mechanism for integrated resource planning* within CARICOM were key milestones.

Though the CARICOM strategy provides for a fairly coherent long-term vision, policy mechanisms and effective governance frameworks at national levels are still not mature (in some CARICOM Member States) and a variety of technical financial, institutional, and capacity barriers continue to impede the shift to sustainable energy production, consumption, and trade. In addition to adopting a CARICOM-wide Energy Policy, a majority of CARICOM countries now have national energy policies and strategies that are in various stages of development or implementation. Many have taken the lead in setting targets, creating responsible agencies, and developing domestic legislative and other mechanisms to support an increase in renewable energy and energy efficiency.

The sustainable energy landscape within CARICOM, despite the aforementioned, continues to be constrained by policy and data gaps in some countries, and lacks the resources (financial and human) that are necessary for implementing the robust administrative and governance arrangements that are necessary for effective implementation and coordination of efforts. Many overarching plans for energy sector reform have set ambitious targets for the use of renewable energy, but they lack concrete mechanisms to achieve their goals. The situation is even worse on the energy efficiency side: less than half of CARICOM Member States have included targets for efficiency improvements in their national strategies. These targets are achieved at lower upfront costs than targets for renewable energy supply and should perhaps be prioritised.

The Dominican Republic (DR) is one of the largest and most diverse economies in the Caribbean region, and its energy consumption is growing rapidly. Like other CARIFORUM states, the country relies heavily on fossil fuel imports for nearly all of

its primary energy supply; in 2014, renewables account for around 8.7% of modern energy services. There are many barriers to achieving a sustainable energy transition, the most significant of which can be addressed through a targeted policy reform. In particular, the Dominican Republic is currently establishing a modern, sustainable electricity sector that integrates a greater share of renewable resources and national goals[2] have been identified. The creation of a new Ministry of Energy and Mines provides a good basis to streamline the implementation of a holistic strategy that simultaneously addresses the renewable energy options and the energy efficiency opportunities for the country. This may require the promulgation of a modern energy policy that provides the new Ministry with the requisite tools for guiding the delivery and use of energy within the electricity and transport sectors.

Despite the asbsence of a "political mechanism" connecting the Dominican Republic to CARICOM[3], there is an expectation that this Action can provide an element of *functional cooperation* that redound to the benefit all CARIFORUM Member States.

EU Policy Framework

The European Union (EU), as a whole, has strong historic ties with the Caribbean and some individual EU Member States still maintain close links with the region, notably through the French Outermost Regions (ORs) of Martinique and Guadeloupe, and the particular relationship between the UK and the Netherlands with the islands which have maintained the status of Overseas Countries and Territories (OCTs). Wider Caribbean cooperation between CARIFORUM countries and ORs and OCTs, as well as between CARIFORUM countries and neighbouring Latin American countries offers substantial development opportunities.

EU relations with the African, Caribbean and Pacific Group of States (ACP) are based on the legal framework of the Partnership Agreement with the African, Caribbean and Pacific States (the so called Cotonou Agreement) .

On October 15, 2008 an Economic Partnership Agreement (EPA) was signed between EU and Caribbean countries which makes specific reference to cooperation on eco-innovation and renewable energy/energy efficiency. In November 2012, the EU Council endorsed the Joint Caribbean-EU Partnership Strategy, with the aim of intensifying cooperation, namely: regional integration, reconstruction of Haiti, climate change and natural disasters, crime and security, and joint action in multilateral fora.
The 11th EDF Caribbean Regional Indicative Programme (CRIP), adopted in June 2015, is the main strategic programming document in support of the implementation of the Caribbean-EU Partnership Strategy. The total indicative allocation of the CRIP for the period 2014-2020 is EUR 346 million, and the focal areas are:

1. Regional Economic Cooperation and Integration, with an indicative allocation of EUR 102 million;

[2] Law 57-07 [May 2007] on Renewable Sources of Energy Incentives sets specific targets for the power sector to increase its share of renewables in the power generation mix to 25% by 2025. IRENA. Remap 2030. Renewable Energy Prospects: Dominican Republic [**July 2016**]
[3] CARICOM countries are signatories to the Revised Treaty of Chaguaramas [**2002**], establishing the CARICOM Single Market and Economy (CSME).

2. Climate Change, Environment, Disaster Management and Sustainable Energy, with an indicative allocation of EUR 61.5 million;

3. Crime and Security, with an indicative allocation of EUR 44 million.

The EU Foreign Affairs Council conclusions on an EU common position for the Third International Conference on Small Island Developing States (SIDS) (Apia, Samoa, 1-4 September 2014), adopted in Brussels on 19 May 2014, noted that the "EU supports regional efforts and welcomes the creation of networks of regional renewable energy and energy efficiency centres, including those in the Pacific, Caribbean and Africa regions".

2.1.2 Stakeholder analysis

The stakeholders, identified at this stage, can be divided in four major groups:

1. Institutions with mandates for enabling the policy, planning and investment framework: CARICOM Secretariat / Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE) / Caribbean Development Bank (CDB) / Caribbean Development Fund (CDF)/ Organisation of Eastern Caribbean States (OECS) Commission / Ministry of Energy and Mines (Dominican Republic).

   Focus: Coordinating the policies and legal framework, facilitating the investment and finance landscape, steering strategy, sensitising citizens, and raising profile for sustainable energy development.

2. Academic Institutions and Research Agencies: University of the West Indies (UWI) / Other universities and research institutions within CARIFORUM / Tertiary level vocational institutions within CARIFORUM.
   Focus: Research and analysis, specialised higher education and vocational training.

3. Non-governmental organisations, especially energy-relevant NGOs and CBOs that have regional focus: The Caribbean Consultative Working Group (CCWG), led by the Caribbean Policy Development Centre (CPDC), as a coalition of NGOs aiming at sensitising the general public and policy makers on key policy issues of interest to the Caribbean people / The Barbados Renewable Energy Association (BREA), an NGO that is focused on renewable energy with aspirations to develop a regional alliance of similar organisations / PANOS Caribbean, a communication NGO that is focused on building climate-related awareness among Caribbean citizens / other civil society actors, such as professional associations and bodies.

   Focus: Public sensitisation, advocacy, and awareness building.

4. Utilities and the private sector, with particular focus on the following groups: Electricity utilities / Independent power producers / Service providers for distributed renewable power, storage and energy efficiency applications / Sectors, such as hotel and tourism, which are potential beneficiaries of energy efficiency financing mechanisms / Associations of

utilities (CARILEC) / Other private sector and beneficiary organisations (e.g. chambers of commerce).
Focus: Testing, market validation and knowledge exchange for innovative green investment opportunities within the sector.

The final beneficiaries are CARIFORUM countries, particularly their citizens and the communities and economic sectors that require reliable, affordable, and clean energy services to support their economic and human development.

2.1.3 Priority areas for support/problem analysis

All Caribbean Countries, except for Trinidad and Tobago, are net importers of oil and oil products. Most of them rely on liquid fossil fuels for electricity production (fuel oil and diesel) and transportation (gasoline and diesel). This exposes the region to the volatility of global oil prices, limits economic development, and degrades the natural environment. According to the Oil Price Vulnerability Index the Caribbean has 3 of the top 10 countries worldwide which are most vulnerable to oil price fluctuations.

The electricity tariffs in the Caribbean are among the highest in the world and are having a direct impact on the competitiveness of businesses and on household expenditure. In addition, high oil import bills contribute to increasing the countries' foreign exchange deficits, indebtedness and limited economic growth. According to the World Bank, increase in oil prices has a greater impact on the Caribbean than on other oil-importing regions. Estimates by the IMF, in fact, suggest that a 10% increase in oil prices, over five years, typically reduces competitiveness by 2.8% in tourism intensive and 3.8% in commodity producing economies respectively, within the Caribbean.

Recognising the importance of energy to the sustainable growth and development requirements for the respective countries and the potential benefits of a coordinated "collective approach" to their common energy and its related challenges, Member States adopted a CARICOM Energy Policy in 2013. With the adoption of the CARICOM Energy Policy, the Caribbean Community, which constitutes fourteen of the fifteen CARIFORUM Members, demonstrated "strong political commitment" towards a new low carbon development path which harnesses indigenous renewable energy resources and maximises energy efficiency, and which simultaneously minimises environmental impacts and boosts human and economic development.

According to the 2013 Worldwatch Institute's report, financed under the C-SERMS initiative, renewable energy could contribute at least 48% to the power generation needs of the region (against the current 9.7%). This is based mainly on the exploitation of the available renewable potential in the fields of geothermal, solar, wind, hydro, sustainable biomass, waste to energy, and (the increasingly emerging) ocean energy options. A Needs Assessment for the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), undertaken in 2014, revealed that though a significant number of Caribbean islands have made considerable progress in the creation of enabling national environments for the promotion of renewable energy (RE) and energy efficiency (EE), areas related to the implementation of policy commitments are still in the initial stages; consequently, the progress on policies have *neither* resulted in real investments *nor* created a vibrant market and industrial sector. There is the impression that the local private sector and industries within

most Caribbean countries do not take sufficient advantage of the growing global sustainable energy opportunities. In particular, the assessment identified major regional thematic opportunity gaps in the areas of capacity development, knowledge and data management, awareness raising as well as investment and business promotion in the sustainable energy sector.

The issue of energy and climate change has been increasingly present in the agenda of EU Caribbean relations. The Joint Caribbean-EU Partnership Strategy makes explicit reference to the cooperation in the field of renewable energy, energy efficiency and climate action.

The actions under the TAPSEC support the strategies under the respective Caribbean-EU partnerships and is directly relevant to Focal Area 2 of 11th EDF Caribbean Regional Indicative Programme 2014-2020, which focuses on Climate Change, Disaster Management, Environment, and Sustainable Energy. The action is related to the general objective 2.3 Promote energy efficiency, develop and use renewable energy. More particularly it is related to specific objectives 2.3.1 Clean energy security and RES investment framework enhanced, and 2.3.2 Policy, legislative and regulatory framework for energy sector management and transition towards RE improved.

Consistent with the CRIP, the action recognises the vulnerability of the Caribbean region to external shocks and the benefits of a multilateral approach to cooperation and integration. By supporting the implementation of the CARICOM Regional Energy Policy and C-SERMS, within CARICOM countries, as well as the National Renewable Energy Policy of the Dominican Republic, it will be possible to increase and improve access to modern, affordable and sustainable energy services across CARIFORUM states, which could trigger widespread benefits to all citizens (including the poor in rural areas).

3 LOGIC OF THE ACTION

3.1 Objectives and Results

The overall objective (impact) of this action is:

- The access of all CARIFORUM citizens to modern, clean and reliable energy supplies at affordable and stable prices is ensured through improved energy efficiency and a significantly increased share of local and regional renewable energy sources.

The specific objective (outcome) of the Programme is:

- The CARICOM Energy Policy (CEP) and the Caribbean Sustainable Energy Road Strategy (C-SERMS), as well as the National Renewable Energy Policy and Strategy of the Dominican Republic, are effectively implemented, by making use of regional synergies.

In order to achieve these objectives, the Programme will produce results under three component headings. These are: policy; information and capacity; and finance. For

the purpose of TAPSEC, the capacity component is merged with the information component and the following is relevant:

1. **Policy:** The implementation of regulatory frameworks that enable renewable energy development and energy efficiency at the national level of the Member States is supported, as best as possible, through a collective, regional approach;

2. **Information and Capacity:** The Region's energy information network is improved. Also, the individual, collective and institutional capacity for delivering technical solutions among key players in the renewable energy and energy efficiency field (e.g. project owners and developers, financiers, engineers and technicians, policymakers, and planners) is strengthened; and

3. **Finance:** Innovative financing mechanisms for renewable energy projects and businesses are identified and their accessibility for local and regional RE/EE project developers is supported.

3.2 Indicative fields of activities

The main activities, by Result/Component, are the following:

1. Policy: The implementation of regulatory frameworks that enable renewable energy development and energy efficiency at the national level of the Member States is supported, as best as possible, through a collective, regional approach:

a. Support the establishment of a regional implementation and monitoring framework for the implementation of the C-SERMS, based on (and including lessons learnt from) other regions.

b. Support the strengthening of regulatory reforms, which have the potential to increase the flexibility of the energy systems to absorb increased levels of renewable power generation, in particular from Independent Power Producers (IPPs), as well as energy efficiency. The Programme will also examine potential opportunities for utilising the Eastern Caribbean Regulatory Authority (ECERA) as a supporting institution for improving best practice and competence within the regulatory environment for electricity. This could potentially extend existing and new ECERA services to other (non-OECS) CARIFORUM countries.

c. Facilitate the transition from the traditional utility approach in the region towards an integrated utility services (IUS) approach. This will be done by providing support for the establishment and implementation of new energy services models in member countries, focussing especially on the improvement of business opportunities for electric utilities and energy service providers from the private sector within the "emerging energy paradigm" in which consumers seek to increase their choice in how they source and use energy.

d. Support improvements in the institutional effectiveness of the primary institutions responsible for energy matters in the region – this will include CARICOM Secretariat, CCREEE, etc. This will extend also to national

government departments and agencies responsible for energy, as well as functional non-state actors, such as chambers of commerce and civil society groups. In particular, the creation of a sustainable and effective project management capability within the newly established CCREEE is important.

e. Support the strengthening of the regional quality infrastructure for renewable energy and energy efficiency technologies and products. This could include the harmonisation of minimum energy performance standards and labels for electrical appliances and public and private buildings; and green building codes in the public, commercial and private sector; and the dissemination, management and enforcement of the universal application of the related technical standards and regulations within the region. Some work related to this is already being supported by CROSQ, INDOCAL and other regional entities, including the CARICOM Secretariat.

f. Strengthening the certification process for RE and EE skills to include the provision of support to the Caribbean Examinations Council (CXC), as well as similar institutions in non-CXC territories within CARIFORUM. In particular, options for mainstreaming the Caribbean Vocational Qualification (CVQ) Certificate as a regional certification programme for RE and EE, along with the identification and designation of equivalency arrangements in the DR and other non-CVQ Members of CARIFORUM, will be prioritized.

g. Support the introduction and harmonisation of the legislative framework and conducive business environment for promoting sustainable energy use within the transport sector, including the provision of models for advanced vehicle technologies and alternate fuel use for targeted public and private productive sectors.

h. Support the implementation and national level adaptation of the Regional Energy Efficiency Strategy within CARICOM member states, with extension of the lessons and applicable elements to the DR.

i. Facilitate and communicate energy system modelling for various national and regional scenarios as a policy decision support tool for member states in promoting planning and implementation towards attainment of their energy targets. This could be outsourced to specialised public and private institutions, including universities, within the region.

2. Information and Capacity-building: The region's energy information network is improved and the technical capacity among key players (e.g. project owners and developers, financiers, engineers and technicians, policymakers, and planners) within the renewable energy and energy efficiency sector is strengthened:

a. Strengthen CCREEE to become a regional energy knowledge management hub for CARICOM, with the following sub-activities:

    i. Collection, compilation, and dissemination of RE and EE data and statistics at national and CARICOM level, in cooperation with, and through a strengthening of, existing information systems. As much as possible, and when meaningful, these data and statistics will be

disaggregated and potential lessons learned from other regions will be utilized; the CCREEE explore opportunities to establish CARIFORUM-wide harmonization on data and statistics collection methodology and management, as well as establish information sharing protocols with the DR.

ii. Support studies and other knowledge generation activities within the region, to include RE and EE feasibility assessments and technology evaluation.

iii. Contribute to the upgrading and international linkages of existing technology centres in the CARICOM region, to serve as centres of excellence (Hubs) in relevant and appropriate thematic areas. This could include knowledge centres on interesting technologies and solutions, including electric vehicle-to-grid integration, smart grid systems, biogas from organic waste, geothermal and marine energy technologies, and would make use of available information and technical solutions that are based on international best practices.

iv. Support the C-SERMS Platform in its operations regarding the planning and evaluation of the C-SERMS implementation, to include activities and tasks related to the periodic Monitoring and Reporting of regional and national status as it regards attainment of the respective RE and EE objectives and targets, at regional and national levels. The expectation is that the CCREEE will share the experiences and lessons gleaned from the CARICOM-region with the DR and seek to promote the adoption of the sucessful practices at national level.

b. Contribute to the building of public awareness on renewable energy and, in particular, energy efficiency, to include the initiation and facilitation of awareness campaigns and activities.

c. Support regular regional and international exchange on specific solutions with respect to innovative technologies, financing models and regulatory mechanisms.

d. Increase the exposure of tertiary level personnel and students within the region in the fields of RE and EE through such programmes as internships and other knowledge exchange arrangements.

e. Support and strengthen training for RE and EE practitioners in the CARIFORUM region, including utilisation of available vocational training opportunities.

f. Support and strengthen the integration of existing energy personnel, especially utility operators and managers, within the sustainable energy sector through skills upgrade training, communities of practice, etc.

g. Support regular CARIFORUM regional and international exchange on specific solutions, focussing particularly on issues related to the application of innovative technologies, financing models and regulatory mechanisms to the RE and EE sector within CARIFORUM.

h. Develop (or strengthen where necessary) a collective regional capacity, on demand, to provide specific support to CARIFORUM regional and national institutions with RE and EE mandates.

i. Support, as far as possible, the re-tooling of existing practitioners to enable their increased participation in the regional transition towards sustainable energy systems.

3. Finance: Innovative financing mechanisms for renewable energy projects and businesses are identified and their accessibility for local and regional RE and EE project developers is supported:

a. Develop a regional strategy and mechanisms to promote financing of small and medium-scale renewable energy enterprises, utilising the available and emerging modalities that are provided by CCREEE and C-SERMS Platform; Caribbean Development Fund (CDF); Caribbean Development Bank (CDB); and other actors in the CARIFORUM region such as national development and commercial banks, alternate financing sources including credit unions, diaspora, and other fitting and appropriate options (including those within the Dominican Republic).

b. Promote innovative financing models for RE and EE projects among key implementation stakeholders within the CARIFORUM region;

c. Build the capability of regional and national institutions, in particular the CCREEE, and promote their ability to provide independent short-term expertise, on demand, for technical studies for all kinds of RE/EE technologies, including solar, wind, biomass/biogas, geothermal, marine energy and other region-appropriate options. This could extend to, inter alia: i) sustainable mobility initiatives based on advanced vehicle technology and renewable energy sources; ii) grid integration and mini-grids; iii) advanced energy efficiency solutions (e.g. smart buildings and control systems); and iv) interconnection solutions between different islands.

d. Facilitate transaction cost reductions for potentially transformative RE and EE projects, through the use of concept proofs, technology transfer, business to business exchanges, etc.

4 DESIGN OF THE ACTION / METHODOLOGICAL APPROACH

4.1 Methods of implementation and rationale

The Action will be implemented through both, budget implemenation tasks and directly implemented activities.

4.2 Main Stakeholders, Target Beneficiaries

The main stakeholders were previously identified in **2.1.2**, and include: (1) Regional (and National) Institutions with mandates for enabling the policy, planning and investment framework for sustainable energy; (2) Academic Institutions and

Research Agencies, capable of supporting the research and analysis, specialised higher education and vocational training needs for sustainable energy within CARIFORUM; (3) Non-governmental organisations, especially energy-relevant NGOs and CBOs that have regional focus and can provide support towards public sensitisation, advocacy, and awareness building on sustainable energy matters; and (4) Utilities and the private sector, with particular focus on electric utilities, IPPs, project developers, energy service providers, and other potential market players who can participate in the *testing* and *validation* of innovative green investment opportunities, as well as facilitate the exchange of ideas and knowledge within the sector.

The expectation is that the TAPSEC will engage a judicious mix of global, regional and national state and non-state actors whose "collective strengths" can provide maximum impact to the actions undertaken under the Programme.

The specific beneficiaries are the respective institutions whose capacity to fulfil their respective mandates on energy will be strengthened. The final beneficiaries are CARIFORUM countries, particularly their citizens and the communities and economic sectors that require reliable, affordable, and clean energy services to support their economic and human development.

4.3 Risks and Assumptions

Risks	Risk level (H/M/L)	Mitigating Measures
Many CARIFORUM countries are characterised by high indebtedness and vulnerability to external shocks. Macroeconomic data, public finance management analysis and debt sustainability of the beneficiary countries "must be taken into account" when selecting projects.	**M**	Project application forms will contain information about debt sustainability provided by finance institutions. Finance institutions also have internal policies in terms of sovereign lending. The project assessment process involves EU Delegations and other competent services on the issue of debt sustainability and investment programmes.
Information coordination on renewable energy and energy efficiency is still weak; the issue is complex and would require joint efforts at national and regional levels.	**M**	Improve the region's energy information network by strengthening and expanding existing information systems. Seek complementarity with other supporting initiatives and strategic support to identified stakeholders.
The development of favourable sector policies by the target countries has only started, but this is a prerequisite when deciding about a support to an operation that intends to	**L**	Delegations are involved at a very early stage in project identification, and in the sector policy dialogue which supports the countries in developing consistent sector policies.

trigger a systematic impact.		
Lack of financing conducive environment to implement renewable energy and energy efficient projects	**L**	Identify innovative financing mechanisms for renewable energy projects, including regional loan structures and technical assistance to banks. Existing window to access blending mechanisms could favour this development. The proposal also includes support measures for the development of bankable feasibility studies.
Low capacity in the Region to address the renewable energy and energy efficiency sector	**L**	Support technical capacity among players in the renewable energy sector, including project developers, financiers, engineers and technicians, policymakers, and planners. Complementarity with other donor-supported projects and national initiatives provide for a reasonable improvement of capacities.
Region's growing vulnerability to natural hazards such as hurricanes, floods and droughts and their implication on investment levels.	**M**	Support policies, research and projects that focus on climate resilient solutions, and contribute to climate change adaptation and mitigation.

Assumptions

A stable political and financial climate at regional level in general, and at country level in particular, is prevailing, promoting sustainable energy and secure investments.

CARIFORUM countries concentrate their efforts and allocate relevant resources to accelerate the adoption of sustainable energy policies, and actively push their implementation.

An improved coordination environment is provided through the C-SERMS Platform, as a communication, information sharing and knowledge exchange tool that offers a **formal** basis for a process of *integrated planning* among key actors – including development partners and institutions – operating within the region, to minimise duplication and optimise the impact of sustainable energy and related interventions across CARICOM countries.

4.4 Complementarity, Synergy and other relevant Actions

This action will benefit from synergies with a number of complementary actions, including:

- The **Renewable Energy and Energy Efficiency Technical Assistance (REETA+) Project** which is commissioned by the German Government and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and targets renewable energy (RE) and energy efficiency (EE) interventions in CARICOM and the Dominican Republic (2012 - December 2018) [4], which also provides a suitable mechanism to include the Dominican Republic. The REETA+ Programme has just expanded its intervention in the direction of energy finance by seconding an additional expert into the CDB.

- The **Technical Cooperation on the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS)**, which is implemented through a partnership among the Inter-American Development Bank (IDB), Japan International Cooperation Agency (JICA) and GIZ, will support CARICOM states. The Cooperation will focus on: (i) provision of high resolution details on the renewable energy resources, energy efficiency opportunities, power grid infrastructure and energy service requirements within Member States; and (ii) identification of the investment requirements for supporting Member States in the implementation and management of the sustainable energy available opportunities.

- The **Sustainable Energy for the Eastern Caribbean (SEEC) Project** is implemented by the CDB with support the EU Caribbean Investment Facility (CIF) and the UK's Department for International Development (DFID), and provides targeted support to the OECS[5] sub region.

- USAID's USD 14 million **Caribbean Clean Energy Program (CARCEP)**, which is intended to assist the countries of the Caribbean – with particular emphasis on Jamaica and the Eastern Caribbean.

- **Clean Energy Finance Facility for the Caribbean and Central America (CEFF-CCA)**, was announced in Jamaica during April 2015 and launched in Washington D.C. in May 2016 with a financing envelope of USD 10 million. The goal of the two-year program is to catalyse much-needed public and private sector investment in clean energy projects by providing grant support for early-stage project development.

- **Sustainable Energy Facility (SEF) for the Eastern Caribbean**, which is a USD 71.5 million loan and grant package approved by the Inter-American Development Bank (IDB) and the Caribbean Development Bank (CDB), with support from JICA.

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4 Currently, financing for the REETA+ has been committed by the German Ministry BMZ until December 2018. However, in particular if a delegated cooperation agreement with the EU is still ongoing at that time, a further prolongation of the BMZ engagement at least until 2020 is very likely.

5 OECS refers to the Organisation of Eastern Caribbean States; Member States are Antigua and Barbuda, Dominica, Grenada, Montserrat, St Kitts and Nevis, St. Lucia and St Vincent and the Grenadines.

- Japan and UNDP's USD 15 million **Caribbean Climate Change Project** to boost access to sustainable energy and help reduce fossil fuel imports and dependence. To drive efforts to keep global warming below 2 degrees Celsius and to limit the temperature increase even further to 1.5 degrees Celsius above pre-industrial levels.

- A German Climate-Energy Project, **"Promoción de una industria de la energía baja en carbono para llevar a cabo los objetivos de las políticas del cambio climático"**, in the Dominican Republic, which is foreseen to start early-2017.

- The **UNIDO Global Network of Regional Sustainable Energy Centres**, which – with financial support from partners such as the Austrian Development Agency (ADA), Spanish Agency for International Development Cooperation (AECID) and others – has supported the establishment of the Caribbean Centre for Renewable Energy and Energy Efficiency (CCREEE), as well as the SICA Centre for Renewable Energy and Energy Efficiency (SICREEE); CARICOM Member States are Members of the CCREEE and the Dominican Republic is a Member of the SICREEE.

- The **Caribbean Energy Security Initiative (CESI)**, which is a portfolio of activities, providing different options for assisting in the transformation of the electricity sector within the Caribbean, is funded by the United States of America. This portfolio includes the previously mentioned CARCEP and CEFF-CCA.

- The **EU Technical Assistance Facility for SE4All** (Neighbourhood, Asia, Latin America, Caribbean and Pacific) can provide on-demand services to the regional and EU partner countries, in particular with respect to the mobilisation of European/international short-term expertise. While the TAF focuses more on country specific actions aiming to improve their policy and regulatory framework conditions so as to provide attractive and enabling conditions for increased public and private investment in energy access, energy supplies, renewable energy as well as energy efficiency, TAPSEC is aiming more at capacity building of regional institutions on key thematic axes (regulatory framework, tertiary education, energy efficiency, and innovative renewable energy projects). In the respective operations, TAPSEC will rely to a great extent on regional expertise, whereas the EU-TAF will make international short-term expertise available for the respective assignments in the region.

With a view to the relatively large number of actors in the sector in the region, close donor coordination will be of high importance to create the required synergy and complementarity. The expectation is that improved coordination within the majority of CARIFORUM States can result from the C-SERMS Platform, recently implemented by the CARICOM Secretariat, to enhance the utilisation of resources (human and financial) and to reduce the amount of duplicated efforts of actors, including development partners, operating within CARICOM. The design and implementation of an appropriate modality for improving coordination between CARICOM and the

DR will be critical to the success of the Action and will be an early area of focus hereunder.
Further, harmonisation with the largest related Programme, REETA+, can be optimised through the Delegation Agreement for the implementation of the TAPSEC with GIZ. The coordination with the other donor funded initiatives in the sector will be assured through the planning and information sharing meetings of the C-SERMS Platform, where the EU and GIZ are both members of the Technical Advisory Group. This Group should, inter alia "recommend proposed areas for prioritisation within the C-SERMS to the CARICOM Energy Programme, as well as provide insights on how the areas identified can be strategically supported". For enhancing the harmonisation with the other actors, the C-SERMS Platform may also use a mechanism like the Eastern Caribbean Development Partners Group (ECDPG) which provides a forum for information sharing among development partners in the region, in particular with respect to post disaster support, but also for climate change adaptation and mitigation, and to make strategic decisions regarding program development and coordination.

4.5 Cross-cutting issues

The proposed action will also have a number of effects of cross-cutting nature:

i. The environmental impact of the support to sustainable energy in the Caribbean will be positive as it will promote reduction of greenhouse gas (GHG) emissions and the efficient use of natural resources, through increased energy efficiency and the use of renewable energy sources. With this, the programme will contribute to the reduction of GHGs that are responsible for Climate Change. More critically, the programme will provide opportunities for energy sector transformation to support climate adaptation and resilience measures. On the macro scale, the volume of GDP and foreign exchange resources that are being spent by CARIFORUM to pay for energy imports can increasingly be directed to alleviating poverty and adaptation to climate change and sea level rise. On the micro scale, energy efficiency and renewable energy technologies can improve the safety, health, and disaster resilience of CARIFORUM by providing appropriate energy solutions to support disaster response and recovery, as well as the targeted integration of sustainable energy into the post disaster rebuilding process.

ii. The gender effects of the Programme are expected to be neutral to positive. The envisaged activities will be documented through the generation of data disaggregated by gender; the capacity development will promote the participation of women, and facilitating the access to financing will consider this dimension. The promotion of a transition from traditional cooking energy such as firewood and charcoal in some rural areas in rural CARIFORUM communities, especially in Haiti, towards renewable sources of cooking energy (e.g. biogas, solar) can contribute to the reduction in the burden and negative health impact on women.

iii. The Programme recognises the importance of Good Governance in the sector, and adopts its strong overarching source management and governance functions, from strategy, planning, policy-making and engagement with sector shareholders, to renewable energy resource development, allocation and management. The commitment to transparency is paramount.

The Programme will pay keen attention and develop mechanisms to deliberately target end-use sectors that are large energy consumers, and key economic drivers. Though all end use sectors will benefit from actions and activities that affect CARIFORUM as a whole, there is the need to address key areas that are specific to each sector. The sectors that are expected to be included are:

- Transport
- Agriculture
- Industry and Commerce
- Tourism and Hospitality
- Information and Communication Technologies

The impacts with respect to environment and climate change, social and gender aspects, as well as human rights, are detailed in the related annexes.

4.6 Sustainability of the Action

The close alignment and integration of programme of actions within the context of the management and work programmes of CARIFORUM Directorate and the Participating States is intended to maximise the sustainability of the action in terms of:

1. Institutional arrangements
2. Human resources
3. Monitoring and reporting

The sustainability of the actions arising from the programme is expected to be more likely as a consequence of a specific focus on the institutional capacity building of the key institutions as well as the recruitment of regional project staff, who may be encouraged to pursue careers in the energy sector within the region.

Ultimately, the environmental, social and economic benefits of more efficient and more renewable energy-based energy systems and the associated market opportunities in the region are expected to guarantee the sustainability of the programme activities.

5 IMPLEMENTATION AND MANAGEMENT

The implementation of this action, is based on the conclusion of a financing agreement with the partner country, referred to in Article 17 of Annex IV to the ACP-EU Partnership Agreement.

A Financing Agreement was signed with CARIFORUM on 28 October 2016.

5.1 Implementing Partners

The task of the overall project implementation will be delegated by the European Commission in a Multi-Donor action, to the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) GmbH – commissioned by the German Government for the implementation of the action. The implementing partners are CCREEE, CARICOM Secretariat and the Ministry of Energy and Mines (DR).

Implementation modalities
Indirect management with a Member State agency: The programme "The Promotion of Sustainable Energy in the Caribbean" (the Action) will be implemented by GIZ, which will work directly with the CCREEE, CARICOM Secretariat and the Ministry of Energy and Mines (DR), in accordance with Article 58(1)(c) of Regulation (EU, Euratom) No 966/2012, applicable by virtue of Article 17 of Regulation (EU) No 323/2015. The action will run in parallel and in synergy with other Programmes of the German Government, implemented by GIZ, within the region.
In general, the entrusted entity will carry out the following budget implementation tasks:

i. Undertake all procurement and contracting tasks in accordance with the applicable policies and procedures of the "Organisation", i.e. GIZ;

ii. Follow-up of government-administrative tasks, policy directives, technical guidelines, and overall monitoring of project advancement;

iii. Fulfil all tasks of project administration and financial management as stipulated in this Description of the Action;

iv. Support the Steering Committee by acting as non-voting member and secretary, and by providing timely reports on progress and achievements.

Of particular note is the intent of the GIZ, as an implementing entity of the German Government, to work closely with UNIDO, ADA, Spain and other partners on the strengthening of the institutional capacities of CCREEE. This will guarantee complementarity and synergy of these initiatives and will allow rationalisation of coordination structures with an optimal involvement of all the stakeholders.

Scope of geographical eligibility for procurement and grants
The geographical eligibility in terms of place of establishment for participating in procurement and grant award procedures and in terms of origin of supplies purchased shall follow the rules and procedures of the Organisation.

5.2 Programme Governance (Steering Structure)

The overall supervision and strategic guidance of the project will be performed by a Steering Committee. This Committee will be chaired by the CARIFORUM Directorate, with the representative from the EU Delegation in Barbados acting as co-chair.

Additionally, the Steering Committee will comprise representatives from the: CARICOM Secretariat; CCREEE; CCCCC; CDB; Three [3] CARIFORUM Member States (one of which shall be the DR, another from the OECS, and one other); Three [3] relevant non-state actors (selected from CARILEC, UWI or similar organizations/institutions with regional representation); and the GIZ.

Representatives from other CARIFORUM Member States, other regional institutions, as well as representatives from donor governments and other donor-supported programmes within the region, can be invited to participate as observers in Meetings of the Steering Committee.

The **CARIFORUM Directorate** will chair the Steering Committee. It will provide continuous strategic decision-making, guidance and supervision to the TAPSEC, in particular providing information to the Programme, as and when required, and clarification on such regulatory and administrative matters as tax exemption requirements, etc., that are necessary for its effective implementation. The Directorate will, furthermore, undertake to, inter alia: (i) Continuously monitor the programme implementation; (ii) Review the implementation progress reports; (iii) Organise in-house training for project implementers, focussing, in particular, on the regional institutions engaged in the implementation; and (iv) Facilitate the implementation of visibility actions for the Programme.

The **European Union Delegation in Barbados** will share strategic decision-making and supporting the supervision functions for the Programme with the CARIFORUM Directorate, in in its role as co-chair for the Steering Committee. In particular, the Delegation shall have responsibility for, inter alia: (i) Conducting Results Oriented Monitoring (ROM) and external evaluations, via independent consultants; (ii) Facilitating external expenditure verifications; (iii) Supporting the CARIFORUM Directorate in monitoring the Programme implementation; (iv) Supporting the CARIFORUM Directorate in providing operational and financial capacity building to project implementers; and (v) Processing fund transfer requests related to Programme implementation, in a timely manner. Finally, it will also expected that the Delegation will support and participate in visibility related events and advocate for the Programme to the European Union Headquarters in Brussels.

The **CARICOM Secretariat** will support the Steering Committee, and providing continuous technical monitoring to ensure the Programme actions are implemented in line with the Financing Agreement, the Delegation Agreement with GIZ, as well as regional and national policies and strategies of CARICOM and its member Governments. The Secretariat will furthermore, inter alia: (i) Participate in the monitoring and evaluation of the Programme; (ii) Provide *strategic advice* to the Programme, to include identification of regional and national needs and priorities; (iii) Clarify the state of regional (and national) policies, laws and regulations and identify areas that are necessary for the promotion of sustainable energy, focussing especially on the integration with national and sectoral development plans; and (iv) Contribute to the sustainability of the Programme objectives and results by playing the role of key stakeholder in the Programme, thereby advocating for the Programme among national, regional and global stakeholders. The Secretariat will also contribute to rendering the Programme visible through high level engagement in the various regional agenda at events.

CCCCC will provide technical support to the Steering Committee and ensure that climate-related matters, including financing from global climate facilities, are suitably identified and integrated into the strategic planning and implementation for the Programme.

CDB will also provide technical support to the Committee, focussing (in particular) on matters related to the TAPSEC objectives and targets on finance. The expectation is that the joint presence of the CCCCC and CDB in the Steering Committee will help to further *orientate* aspects of the TAPSEC actions to promote energy financing through the Green Climate Fund.

CARIFORUM Member States will be represented on the Steering Committee through three country representatives from the Dominican Republic, the OECS, and non-OECS country. The country representatives will, inter alia: (i) Serve as the primary "sounding board" for the priority initiatives projects and actions under the Programme; and (ii) Provide national opinion on the implementation progress.

Non-State Actors will be represented in the Steering Committee through three [3] representatives, drawn from civil society organization, *if possible*, through participation of regional NGO with an energy focus, as well as UWI (in its role as the regional institution for research and capacity building sector) and CARILEC (the regional association of electric utilities). These NSAs will provide independent contributions to the deliberations of the Steering Committee.

GIZ, as implementing agency of the German Government, will participate as a non-voting member in the Steering Committee. They will support the Steering Committee by acting as Secretary to the Committee, and thereby provide timely reports on progress and achievements. The **CCREEE** will support GIZ in this function.

For programme implementation, GIZ will maintain responsibility for administrative tasks related to the management of the Programme and overall monitoring of project advancement. The agency will undertake all procurement and contracting tasks, as well as all tasks of project administration and financial management in accordance with the applicable policies and procedures stipulated in the Delegation Agreement.

In this role, the GIZ is required to provide significant focus on the institutional strengthening of CCREEE, thereby assisting this new institution in the development of project management capability that meets EU standards.

It will be particularly important to maintain a close relationship with the Dominican Republic, the only non-CARICOM member state of CARIFORUM, where the sector responsibility has been taken up by the Ministry of Energy and Mines, as a means of ensuring that all CARIFORUM countries benefit from this regional programme.

5.3 Programme Management

The programme management will be provided by GIZ, in the form of a Team Leader with technical and administrative project staff.

The following experts are proposed to be employed: **one (1)** technical expert for component area 1 on Energy Policy and **one (1)** for component area 3 as a Financial Sector Advisor, and **two (2)** for component area 2 as CD Advisor and Information- and Knowledge Management Experts. The Team Leader will also have technical responsibility for Component 1 and will be posted to CARIFORUM, with physical presence in the CARICOM Secretariat in Georgetown, Guyana. **One (1)** programme administrative staff will be contracted in the office in Guyana. The technical experts will be posted in CARICOM Guyana, the CCREEE and CDB. The CARICOM Secretariat, the CCREEE and the CDB will be considered as project offices.

One (1) additional technical Energy expert (RE/EE) will be employed to directly support implementation within the Dominican Republic another expert on Energy

and CD is planned to support part-time in the Ministry of Energy and Mines (DR) This is necessary to ensure that the synergies between CARICOM states and the Dominican Republic are optimized within the Programme implementation. The project office will be either in the MEM or in the DR Regional GIZ office. **One (1)** Project Finance and Reporting expert will also be based in DR, in the GIZ Regional office.

These GIZ staff will support technical staff within the *direct beneficiary institutions* – such as the CARICOM Secretariat, CCREEE, the Ministry of Energy and Mines (DR) – and with short-term technical experts. Standard GIZ management and administrative systems will ensure professional and efficient implementation of the activities under the programme.

The organisational infrastructure and personnel arrangements will be rationalized within the context of the personnel stationed within or alongside regional CARIFORUM institutions in Guyana and Barbados, as well as the offices of institutions with energy mandates within the Dominican Republic.

The staffing concept is based on a "mix" of international seconded long-term experts and regional and national long-term experts employed by GIZ; long-term regional and national staff, employed by CCREEE and the Ministry of Energy and Mines (DR) respectively, through grant agreements; and selected short term experts contracted by GIZ or grant agreements with beneficiary institutions.

The EU TAF has also been identified as a means through which short-term subject experts may be brought on to support some activities that are anticipated to arise during the implementation.

The staffing in the programme will be complemented by procurement of equipment, project vehicles and services under GIZ procurement rules or grant agreements with beneficiary institutions, as the case may require.

5.4 Monitoring and Evaluation, Reporting, Audit

Performance monitoring and reporting will be done on the basis of the result-based Logical Framework and the Performance Monitoring Framework. These documents describe the frequency and responsibility for data collection and the means of verification in the monitoring protocol, which are to be analysed and adjusted according to the needs for a revision of the indicators. The target values in the Logical Framework will be finalized after a planning workshop with all key-stakeholder, held during the first 6 month of the project duration.

Performance will also be monitored in accordance with principles and targets set by the Paris Declaration which covers the five pillars: Ownership, Alignment, Harmonisation, Mutual Accountability, and Managing for Results.

The day-to-day technical and financial monitoring of the implementation of action will be a continuous process and part of the implementing partner's responsibilities. To this aim, the implementing agency shall establish a permanent internal, technical and financial monitoring system for the action and elaborate regular bi-annual progress reports, and a final report. Every report shall provide an accurate account of

implementation of the action, difficulties encountered, changes introduced, as well as the degree of achievement of its results (outputs and direct outcomes) as measured by the corresponding indicators of the LogFrame matrix. The report shall be laid out in such a way as to allow monitoring of the means envisaged and employed, and of the budget details for the action. The final report, narrative and financial, will cover the entire period of the action implementation.

The Commission may undertake additional project monitoring visits through both, its own staff, and through independent consultants recruited directly by the Commission for independent monitoring reviews (or recruited by the responsible agent contracted by the Commission for implementing such reviews).

Having regard to the nature of the action, mid-term and final evaluations will be carried out for this action or its components via independent consultants contracted by the Commission.

A mid-term evaluation will be carried out for learning purposes, in particular with respect to efficiency of the human resources allocated to the different organisations, assessment on gaps and eventual necessity of reallocating resources. A final evaluation will be carried out for accountability and learning purposes at various levels (including for policy revision), taking into account in particular the fact that the project involves different levels (Regional and National) of coordination and several technical solutions.

The Commission shall inform the implementing partner at least 20 days in advance of the dates foreseen for the evaluation missions. The implementing partner shall collaborate efficiently and effectively with the evaluation experts, and inter alia provide them with all necessary information and documentation, as well as access to the project premises and activities.

The evaluation reports shall be shared with the implementing partners and other key stakeholders. The implementing partners and the Commission shall analyse the conclusions and recommendations of the evaluations and, where appropriate, in agreement with the partner country, jointly decide on the follow-up actions to be taken and any adjustments necessary, including, if indicated, the reorientation of the project.

Without prejudice to the obligations applicable to contracts concluded for the implementation of this action, the Commission may, on the basis of a risk assessment, contract independent audits or expenditure verification assignments for one or several contracts or agreements.

GIZ will commission independent external audits annually, to provide each report on progress to the Steering Committee with an audit opinion.

5.5 Communication and Visibility

Communication and visibility of the EU is a legal obligation for all external actions funded by the EU.

This action shall contain communication and visibility measures which shall be based on a specific Communication and Visibility Plan of the Action, to be elaborated at the start of implementation.
In terms of legal obligations on communication and visibility, the measures shall be implemented by the Commission, the partner country, contractors, grant beneficiaries and/or entrusted entities.

The Communication and Visibility Manual for European Union External Action shall be used to establish the Communication and Visibility Plan of the Action and the appropriate contractual obligations.

It will be assured that all communication and visibility activities are in accordance with 'Article 8 - Communication and Visibility' of the General Conditions for PA Grant or Delegation Agreements as well as with the latest version of the Communication and Visibility Manual for EU External Action and at the same time reflect the multi-donor nature of this Action. In accordance with the existing Framework Arrangement, activities will be harmonised with specific communication and visibility requirements of the German Government where appropriate.

Communication and visibility actions will be tailored to the nature of the sector and the type of financing mechanism involved. The implementation of this activity by GIZ will be detailed during the preparation of the Delegation Agreement. The strategy will take in due account the EU visibility requirements and will be presented to the EC during the first quarter of the programme.

An indicative Communication and Visibility Plan will be attached as an Annex to this Delegation Agreement.

5.6 Timing and Indicative Action Plan

The project implementation period is 48 months, starting on 1 October 2017 until 31 September 2021. The formulation of a concrete action plan will be defined during the planning workshop at the beginning of the implementation period.

ANNEX: Logical Framework

	Results chain	Indicators	Baselines [reference year]	Targets[6]	Sources and means of verification	Assumptions
Overall objective: Impact	The access of all CARIFORUM citizens to modern, clean and reliable energy supplies with a significant share of local and regional renewable energy sources is increased	The medium-term and long-term C-SERMS targets, as well as the stated national targets for the DR, are on track	Mid-term and long-term C-SERMS targets, as well as the national targets for the DR, are clearly defined **[2017]**	Average Annual Growth Rate of **3% p.a.** for electricity generated from RES	**Annual Energy Balances** for CARIFORUM beneficiary states **Mid-term and final reports** for the TAPSEC	The national and CARICOM strategies and targets for RE power generation, within the CARIFORUM region, are clearly defined The CARIFORUM states, which are without defined strategies or targets, adopt national strategies and targets that are realistic and attainable Cost of power, in TAPSEC beneficiary countries, is "de-linked" from global oil prices, through integration of substantial RES Private investments, necessary for RE and EE improvements, are clearly identified and mobilised Climate financing is available to support RE and EE investments in the
		For CARICOM Average annual increase of **3-5%** in the amount of electricity generated from RES, between 2017-2027 Average annual reduction of **5-6%** in energy intensity across CARICOM, between 2017-2027	**For CARICOM** Approximately 9.1% of total electricity [**1,900 GWh**] is generated from RES **[2015]** Average Annual Energy Intensity of **~13,000 BTU per USD of GDP [2015]**	**For CARICOM** Approximately **7,300 GWh** and **12,000 GWh** of electricity is generated from RES in 2022 and 2027, respectively *This is based on C-SERMS Targets of 28% by 2022, and 47% by 2027* C-SERMS EE Target of **33%** reduction in energy intensity by 2027	**For CARICOM** **CARICOM ANNUAL ENERGY REPORT CARD**, which will be a joint publication between CCS and CCREEE **Annual CARICOM Energy Balance**, which will be produced by CCS, OLADE	

[6] Target values have to be finalized at a planning workshop held during the first 6 month of the project.

		For DR The Renewable Energy Law [57/07], National Development Strategy 2030 [01/12], Draft Energy Efficiency Law and the Climate-Compatible Plan for Development set clearly defined targets for renewable energy (anticipated to be around 25% share in the overall energy mix by 2025) and greenhouse gas emissions (anticipated to be around 25% reduction by 2030)	**For DR** Renewable energy accounts for around 15% of electricity generated; hydro (13.2%) and wind (1.7%) **[2015]**	**For DR** **25%** of total electricity will be generated from RES by 2025 EE Target: Loss reduction from 32% [2015] to **15%** by 2022	**For DR** **Annual Report from the Ministry of Energy and Mines**	Caribbean **For CARICOM** The annual demand growth rate for the power sector is ~3.6% The intended energy intensity reductions are achieved There is no significant shifts in the economic base for the region, as this can impact energy usage pattern There are no significant global or regional "economic downturns", which can impact the financial markets that are necessary for capital mobilisation RE technologies continue to improve in cost-effectiveness relative to conventional power generation options **For DR** There is agreement on the necessary reforms for RE and EE improvements, with political approval of the targets identified Institutional framework for guiding the implementation of RE and
Specific objective(s): Outcome(s)	The recommendations from the CARICOM Energy Policy (CEP) , as well as the National Renewable Energy Policy of the Dominican Republic, are effectively adopted by Member States and implemented, where feasible	1. No of CARIFORUM countries that have policies and strategies and projects that are linked to NDC the pipeline and other climate-related initiatives	0/15 **[2017]**	4/15 **[2018]** 14/15 **[2020]**	Communications to UNFCCC by CARIFORUM countries Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports	
		2. No. of CARIFORUM countries where net billing and/or FIT for grid interconnection is legislated or in an advanced state of consideration	3/15 **[2017]**	12/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports	
		3. No. of CARIFORUM countries which have introduced or proposed minimum energy performance standards and labels for electrical appliances	3/15 **[2017]**	12/15 **[2020]**	Annual Board Reports for CROSQ, as well as INDOCAL and other NSB's Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and	

					Final Reports	EE reforms are finalized The barriers to RE and EE implementation are clearly identified and addressed in a targeted manner There are no significant global or regional "economic downturns", which can impact the financial markets that are necessary for capital mobilisation RE technologies continue to improve in cost-effectiveness relative to conventional power generation options
		4. No. of model policies, model legislations and model contracts for RE/EE technologies and applications developed and available to countries	0 **[2017]**	10 **[2018]** 20 **[2020]**	Consultants' Reports Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		5. No. of CARIFORUM countries that have revised targets for sustainable energy (EE and RE) to match realistic options and opportunities, as well as to achieve integration with regional targets	0/15 **[2017]**	10/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		6. Amount of investments made in RE or EE projects, during the TAPSEC implementation period	0 **[2017]**	300 million USD **[2018]** 1 billion USD **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		7. No. of persons who have found permanent employment in the sustainable energy sector, and the percentage of whom are **youths [under 35]** or **females**	XXX **[2017]**	100 **[2018]** 25% youths 20% females 300 **[2020]** 33% youths 25% females	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	

Outputs	1. POLICY: The regulatory frameworks for enabling RE development and EE applications in countries are supported	1.1 No of CARIFORUM countries which have received direct support, under the TAPSEC, for developing a conducive legislative environment for RE and EE	0/15 **[2017]**	4/15 **[2018]** 10/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	CARIFORUM countries adopt sustainable energy policies and allocate adequate resources to accelerate and sustain their implementation
		1.2 No of CARIFORUM countries which have received support, under the TAPSEC, for adopting or strengthening minimum energy performance standards and labels for electrical appliances and equipment, as part of a regional programme for enhancing the quality infrastructure for RE and EE	0/15 **[2017]**	4/15 **[2018]** 15/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		1.3 Monitoring and reporting mechanisms implemented to support the C-SERMS implementation, in general, and C-SERMS Platform, in particular, to include the DR equivalent, *if necessary*	0 **[2017]**	1 **[2017]** 2 **[2018]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		1.4 No of CARIFORUM countries that have established or are in the process of introducing energy services models for supporting small-scale RE and EE investments in buildings through a multi-stakeholder market approach, that includes the electric utilities	0/15 **[2017]**	2/15 **[2018]** 5/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		1.5 No of CARIFORUM countries that have introduced policies and legislation, including concept proof projects, to	0/15 **[2017]**	5/15 **[2018]** 10/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as	

		enable the business environment for promoting sustainable energy use within the transport sector			well as Mid-term and Final Reports	
	2.1. INFORMATION: The region's energy information network is improved	2.1 No. of CARIFORUM countries benefitting from accurate and reliable energy statistics and information repositories, established as part of the regional energy knowledge hub for CARICOM, as well as a national equivalent for the DR	0/15 **[2017]**	8/15 **[2018]** 15 /15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	The regional energy knowledge hub aggregates national energy statistics and information systems within CARIFORUM
	2.2. CAPACITY BUILDING: The individual, collective, and institutional capacity for delivering technical solutions among key players within the RE and EE sector (e.g. project owners and developers, financiers, engineers and technicians, policymakers, and energy planners) is strengthened	2.2 No of CARIFORUM countries for which scenario analyses and energy system models are **supporting** energy planning and policy implementation, as well as political and investment decision-making	0/15 **[2017]**	4/15 **[2018]** 10/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	There is "continuity" as it regards policy-direction, mandate and senior personnel within the targeted institutions
		2.3 No. of "hubs of excellence" for sustainable energy actions and technology within the region that are identified or developed, and strengthened to provide increased quality and quantity of services to key stakeholders	0 **[2017]**	3 **[2018]** 7 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		2.4 No of CARIFORUM countries that develop and adopt clear mechanisms for improving cooperation and coordination between ministries and institutions with energy and climate mandates	0/15 **[2017]**	5/15 **[2018]** 12/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		2.5 No of persons with energy and climate-related skills, who are trained to assess	0 **[2017]**	30 **[2018]**	Annual TAPSEC Reports to the Steering Committee,	

		and report on the local environmental and climate impacts of energy initiatives and programmes, using international standards		100 **[2020]**	as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		2.6 No of regional programmes and certification standards developed for RE and EE knowledge and skills training	0 **[2017]**	3 programmes; 1 certification std **[2018]** 8 programmes; 3 certification stds **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	The Caribbean Vocational Qualification (CVQ) and similar existing modalities will be extended to RE and EE skills certification sector
		2.7 No. of initiatives, actions or events held to support **information sharing** and **knowledge exchange** on sustainable energy matters for stakeholders within CARIFORUM	0 **[2017]**	At least one **[2017]** At least two per year **[2018-2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		2 No. of sustainable energy promotion and awareness building actions completed	0 **[2017]**	4 **[2018]** 12 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		2.9 No of CARIFORUM countries for which grid assessment and smart grid, including electric vehicle, roadmaps have been supported under the TAPSEC	0/15 **[2017]**	8/15 **[2018]** 15/15 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
	2. FINANCE: Innovative mechanisms for financing RE and EE projects are identified and their accessibility for project developers, especially those from the CARIFORUM region, is supported	3.1 No. of projects on RE or EE supported through the project preparation modalities, established for facilitating actions that target the advancement of potentially transformative projects from "ideation" to bankability	0 **[2017]**	4 **[2018]** 20 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	Project preparation modalities, for supporting innovative RE and EE opportunities, are developed and available in the region

		3.2 No. of mechanisms developed for targeting the reduction of transaction costs for RE and EE projects	0 **[2017]**	3 **[2018]** 6 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		3.3 No. of small and medium-scale enterprises that are supported in accessing project finance	0 **[2017]**	10 **[2018]** 25 **[2020]**	Annual TAPSEC Reports to the Steering Committee, as well as Mid-term and Final Reports as well as Mid-term and Final Reports	
		3.4 No of CARIFORUM countries that have programmes and projects that are linked to climate financing mechanisms	0/15 **[2017]**	3/15 **[2018]** 12/15 **[2020]**	Communications to UNFCCC by CARIFORUM countries	