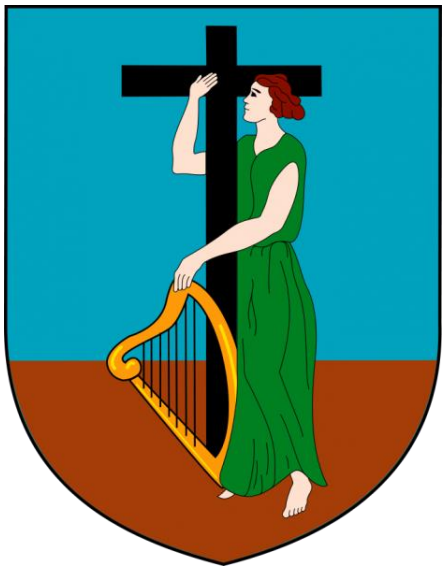

MONTSERRAT ENERGY STRATEGY

Prepared for:

Ministry of Communications, Works, Energy & Labour

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Contents

LIST OF ACRONYMS AND ABBREVIATIONS

CARICOM	Caribbean Community
CEP	CARICOM Energy Policy
C-SERMS	Caribbean Sustainable Energy Roadmap and Strategy
DFID	Department for International Development (United Kingdom)
EU	Energy Unit
kW	Kilo Watt = 10^3 watt
kWh	Kilo Watt hours
LPG	Liquefied petroleum gas
MATHLE	Ministry of Agriculture, Trade, Housing, Land and Environment
MCWEL	Ministry of Communication, Works, Energy and Labour
MFEDT	Ministry of Finance, Economic Development and Tourism
MEPS	Minimum Energy Performance Standards
MUL	Montserrat Utilities Limited
MW	Mega Watt = 10^6 Watt
MWh	Mega Watt hours
NAMA	Nationally-appropriate Mitigation Action
NGO	Non-Governmental Organisation
O&M	Operation and Maintenance
OECS	Organisation of Eastern Caribbean States
OLADE	*Organisación Latinoamericana de Energia*, or Latin American Energy Organization
RCEEB	Regional Collaboration on Efficient Energy-use in Buildings
REETA	Renewable Energy and Energy Efficiency Technical Assistance
RESIM	Regional Energy Statistics and Information Management
SWAC	Seawater Air Conditioning
SWRO	Seawater Reverse Osmosis
UK	United Kingdom
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
USD	US Dollar
WTE	Waste to Energy
XCD	Eastern Caribbean Dollar

Executive Summary

Montserrat along with its other Caribbean nation island states stands at a crossroad, faced with several critical challenges associated with the generation, distribution and use of energy. Working in tandem with regional agencies (CARICOM & OECS) and supported by regional and international donors (technical & financial), Montserrat is advancing the realisation of the massive potential for sustainable energy solutions.

Montserrat National Energy Policy 2016 - 2030

The Government of Montserrat Cabinet approval of the Power to Change – Montserrat National Energy Policy 2016 – 2030 in February 2016 signalled its intention to it citizenry, the region and the world at large to transition Montserrat Energy Sector from current fossil base dependency to sustainable indigenous renewable energy sources. The CARICOM Energy Policy 2013 has provided a coordinated regional approach to expedite uptake of renewable energy and energy efficiency solutions in the Caribbean. The policy charts a new climate-compatible development path that harness domestic renewable energy resources, minimises environmental damage and spurs social opportunity, economic growth and innovations. The policy articulates a number of indicative targets for the next fifteen years.

Montserrat Energy Strategy 2016 – 2030.

A Strategy for Sustainable, Accessible & Secure Energy.

The Montserrat National Energy Policy mechanisms and reforms must be compatible with regional (CARICOM) targets. Achieving the ambitious regional and national targets for renewable energy generation, energy efficiency and CO_2 emissions reductions will require coordinated efforts on both the regional and national levels. The Montserrat Energy Strategy provides Priority Axis and Investment Priorities designed to release the transformation of the Montserrat Energy Sector.

The Montserrat Sustainable Energy Plan

The Montserrat Sustainable Energy Plan address *growing concerns* regarding the dependence of the country on imported fossil fuels for its energy needs and is structured in this way to give a comprehensive and long term perspective of what the Government of Montserrat aims to achieve in *Powering Change* in the energy landscape of Montserrat. The Montserrat Sustainable Energy Plan will be implemented in three phases:-

First Phase, 2016 – 2020: "**Transforming Montserrat's Energy Sector**", focused on
- Energy Efficiency

- Indigenous Renewable Energy
- Sustainable Transport

Second Phase, 2021 – 2025: "**Energizing Montserrat's Economy**", focused on
- Country-wide penetration of sustainable energy

- Sustainable tourism, agriculture and Information & Communication Technologies

Third Phase, 2026 – 2030: "**Sustaining Montserrat's Energy Future**", focused on
- Greening Montserrat's economy at all levels

- Inclusive sustainable industrial development

The Context

2.1 Regional Energy position and challenges

Section 1.1 Energy and the Regional Context of CARICOM; of the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) states the following in Box 1 below:-

Box 1 Energy and the Regional Context of CARICOM from the CSERMS Roadmap

1.1 Energy and the Regional Context of CARICOM

Established in 1973 under the Treaty of Chaguaramas, CARICOM is a regional organization representing 15 member states: Antigua and Barbuda, the Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St. Kitts and Nevis, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

CARICOM member states, representing a total population of just over 17 million people, exhibit a high degree of geographic, cultural, and economic diversity. Although many CARICOM states are located close to one another, their topography varies widely, with significant implications for both available energy resources and options for energy sector development. The CARICOM region comprises several relatively large states in the Greater Antilles, a number of much smaller island states in the archipelago of the Lesser Antilles, and three low-lying coastal states.

Although the tourism and service sectors represent the economic mainstays of many CARICOM member states, other important industries, including agriculture, manufacturing, and mining, flourish across the region. In 2015, the per capita gross domestic product (GDP) (at purchasing power parity, PPP) ranged from USD 1,799 in Haiti to USD 32,654 in Trinidad and Tobago. This wide range in GDP demonstrates both the region's economic diversity (see Table 1) and the need for a regional energy strategy to consider a wide range of development capacities and priorities.

Table 1. Selected Indicators of CARICOM Member States

Country	Population (2014)	Total Land Area	Urban Population Share (2014)	GDP (2015)	GDP Per Capita (2015)	Major Industries
		square kilometers	percent	billion USD, PPP	USD, PPP	
Antigua and Barbuda	91,295	443	24	2.1	22,966	Tourism, construction, light manufacturing
The Bahamas	321,834	13,380	83	9.3	25,577	Tourism, banking, cement, oil transshipment
Barbados	289,680	430	32	4.6	16,425	Tourism, sugar, light manufacturing, component assembly
Belize	340,844	22,966	44	3.0	8,321	Tourism, oil, food processing, garments, construction
Dominica	73,449	751	69	0.8	11,154	Agriculture, tourism, financial and other services, water bottling, soaps, essential oils
Grenada	110,152	344	36	1.3	12,231	Food and beverages, textiles, light assembly, tourism
Guyana	735,554	214,969	29	5.8	7,200	Bauxite, sugar, rice milling, timber, textiles, gold mining
Haiti	9,996,731	27,750	57	19.1	1,799	Textiles, sugar refining, flour milling, cement
Jamaica	2,930,050	10,991	55	24.7	8,784	Tourism, bauxite/alumina, rum, chemicals, agricultural processing
Montserrat	5,215	102	9	0.04	8,500	Tourism, rum, textiles, electronic appliances
Saint Lucia	163,362	616	18	2.0	11,832	Tourism, clothing, assembly of electronic components, beverages
St. Kitts and Nevis	51,538	261	32	1.3	21,585	Tourism, cotton, salt, copra, clothing
St. Vincent and the Grenadines	102,918	389	50	1.2	11,088	Tourism, food processing, cement, furniture, clothing
Suriname	573,311	163,820	60	9.5	17,062	Bauxite and gold mining, alumina production, oil, lumber, food processing
Trinidad and Tobago	1,223,916	5,128	9	44.3	32,654	Petroleum and petroleum products, LNG, methanol, ammonia, urea, steel products, beverages, food processing, cement

Source: See Endnote 1 for this section.

Despite this diversity, CARICOM member states face many shared energy challenges. (See Figure 1.) Most CARICOM members rely almost exclusively on fossil fuels for both transportation and electricity generation. Because most member states have few to no exploitable domestic fossil fuel reserves, their reliance on imported fossil fuels to meet domestic demand threatens their energy security, exposing them to the volatility of international oil markets and requiring them to devote a large portion of their annual GDP to energy imports. This impedes broader economic and social development by depleting and damaging natural resources, diverting to foreign energy producers large sums of money that otherwise could be invested domestically, increasing national debt at the expense of a country's financial ratings, and generally resulting in high electricity tariffs that can discourage economic development and foreign investment well beyond the energy sector.

FIGURE 1. **Major Energy Challenges in the CARICOM Region**

The characteristics of most electric power systems throughout the region—isolated, outdated grids, small overall generation capacity, and single-utility monopolies—pose significant challenges to the development of sustainable energy solutions. With the exception of Trinidad and Tobago, which uses domestic natural gas for power generation, these systems rely mainly on expensive imported fuels such as heavy fuel oil (HFO) and diesel, further exacerbating the cost issues facing CARICOM member states. Low efficiency across the region in the transportation, manufacturing, food processing, residential, and commercial sectors, as well as in the electricity sector itself, further aggravates energy system costs. All member states share a particular vulnerability to the environmental and socioeconomic impacts of climate change, caused largely by the burning of fossil fuels. These impacts include sea-level rise, water scarcity, coral bleaching, and the increased strength and frequency of tropical storms.

Fortunately, each of CARICOM's 15 member states possesses significant renewable energy resources, including biomass, geothermal, hydropower, solar, waste-to-energy, and wind, as well as tremendous opportunities to make dramatic improvements in energy efficiency. Proven grid technologies exist that can be used to renovate outdated infrastructure, and tested economic models and effective policies are available to make the necessary investments happen. Caribbean countries, under the political and economic umbrella of CARICOM, have the potential to become global leaders in climate-compatible development by collectively pursuing an alternative, less emissions-intensive path that is financially, economically, and socially sustainable.

Small-island states such as those in CARICOM can serve as ideal showcases for low-emissions development strategies because of the congruence of their national economic and security interests with the global climate agenda, as well as their small size and relative economic homogeneity. With adequate support, they can demonstrate on a localized scale the kind of sustainable energy transition that ultimately needs to be achieved globally.

2.2 Montserrat Key Energy Sector Issues

The cost of fuel imports is a concern at the macroeconomic level, and for individuals. Lack of diversity in energy sources exposes the country to the *volatility of fossil fuel prices*, and *instability in supply* when fuel shipments are delayed. Though global oil prices are currently at a four-year low, fossil energy sources have been **becoming progressively costlier** and prices, as demonstrated by the most recent roller coaster trend, are **more volatile than ever**. Despite the falling oil prices, there is continued emphasis for Montserrat to place greater highlight and focus on the need for new electricity market design in order to respond to the greater unpredictability of supply. This requires the increased adoption of lower cost alternatives, *especially indigenous renewable sources of energy*, within the electricity mix. Simultaneously, the generation systems are mostly characterized by ageing, inefficient power plants and low efficiency in the end-use sectors and the country has high energy intensity.

Montserrat is ideally suited for development of cost-effective, indigenous renewable energy systems, with significant geothermal, solar and wind resources. Nonetheless, the energy supply continues to be heavily dependent on imported oil; the country has high levels of electricity coverage with weak operational efficiency and maintenance, which also experience high supply costs because of limited load concentration, relatively high cost of low volume thermal plants and high fuel transport costs. Montserrat has a vertically integrated electricity utility, Montserrat Utilities Limited (MUL), which handle the electricity needs of the island but because of the small size and limited institutional capacity for energy planning, energy management and the regulation of energy usage remain elementary.

On account of the structure of the Montserrat energy sector, the country has mostly high energy prices (for both electricity and liquid fuels), which continue to impact negatively on business performance and the disposable income of consumers. The price of electricity in Montserrat is around XCD 1.30 (USD 0.49) per kWh (2014), which is among the highest in the Region. A significant portion of the cost can be attributed to the fuel surcharges of around XCD 0.84 (USD 0.31) per kWh (2014), which constitutes nearly two-third of the charges.

The Government of Montserrat is also concerned about the effects of using fossil fuels on local and global environmental sustainability. In addition to global concern about carbon dioxide emissions, using fossil fuels leads to direct pollution effects on the country's natural environment, which has been earmarked as a vital economic resource for the country, particularly for the sustainable tourism industry.

POLICY OBJECTIVES

There are four **primary objectives** of the Montserrat Energy Policy:-

1. Montserratians are well aware of the importance of energy conservation, use energy wisely and continuously pursue opportunities for improving their use of energy, with key economic sectors embracing eco-efficiency.

2. Montserrat has a modern energy infrastructure with clean and secure generation capacity, ensuring that energy supplies are reliably and affordably available in homes, communities and the productive sectors on a sustainable basis.

3. Montserrat is a world-class example for renewable energy use, providing secure energy supplies at internationally competitive prices and a small carbon footprint, capable of supporting medium- and long-term economic growth, social development and environmental sustainability.

4. Montserrat has a well-defined and established governance, institutional, legal and regulatory framework to support the future developments in the energy sector, underpinned by high levels of consultation and citizen participation in this sector that is the "cornerstone" of the plans to restore prosperity and sustainability to the island.

The primary objectives are supported by **supplemental objective** components:

A. ***Increase energy efficiency and conservation:*** The Government will increase energy efficiency and conservation where economically viable leading to a reduction in fossil fuel import and ensuring energy access to all citizens.

B. ***Improve domestic energy supply:*** The Government will secure efficient energy, including electricity supply, integrating renewable energy where practical and economically feasible.

C. ***Improve end use sectors:*** The Government will take action to utilize and encourage sustainable energy practices within the individual economic sectors of Montserrat. This entails a reduction in energy consumption per unit of economic output in all sectors of the economy.

D. ***Foster institutional strengthening:*** The Government will take the necessary actions to restructure administrative sectors and ensure the institutional requirements to enable an energy transition. This includes the use of regulatory and fiscal measures to encourage renewable energy generation and energy efficiency measures. Lowering the cost to the citizens will require the structural reformation of government's administrative apparatus and procedures.

STRATEGIC AREAS

The Montserrat National Energy Policy (MNEP) identifies specific policies for energy transition and use. These policies set out how the Government of Montserrat (GOM) will pursue the objectives of the policy in the areas of fossil fuel management, electricity supply and energy efficiency throughout all sectors of the island's economy.

4.1 MNEP Section 3. 0 Policies for Energy Efficiency and Conservation

The Government of Montserrat's policy is to encourage and direct more efficient use of energy in all sectors of the economy through conservation, the use of energy efficiency technologies and better demand-side management and energy use in buildings.

4.2 MNEP Section 3.1 Energy Conservation

There are numerous opportunities for electricity savings through *conservation measures*, the *use of energy-efficiency technologies* and *better energy demand management*. Statistics on energy demand are scarce, and there has been insufficient analysis on matters related to conservation and efficiency in energy-use, as well as demand side management. In order to implement measures for the improvement of energy conservation and efficiency and assess their impact on energy supply, there is a strong need to identify and assess key market potentials.

4.3 MNEP Section 3.2 Promote the Uptake of Energy Efficient Appliances and Equipment

The appliance and equipment markets in Montserrat are not *perfectly* competitive and while differences in taste, use, and discount rates do create *legitimate* demand for a variety of cost and energy efficiency options, these imperfectly competitive markets will not necessarily provide the best options. The introduction of energy performance standards is therefore critical in protecting the poor from expensive "cheap products" while simultaneously protecting importers of highly efficient products from competitors saturating the market with inefficient products. With orientation from the Regional rules and in consultation with key stakeholders, including industry, consumers, relevant government agencies and product importers, Government intends to introduce energy performance standards for select household items and equipment. The standards will be implemented in a gradual manner so as to progressively remove the most inefficient products from the market until only the required level of efficiency is imported.

4.4 MNEP Section 3.3 Improve Energy Efficiency in Buildings

Globally, buildings account for over a third of world total energy use; typically 10 to 20% (depending on building type) of the total lifecycle energy consumed is used for the manufacturing and assembly of building materials, construction, maintenance, refurbishment and demolition. The building envelope provides predominantly for structural support, moisture and humidity control and temperature regulation and consequently, the envelope affects ventilation and energy use within the building. In the hot, humid climates of the Caribbean, including Montserrat, this requires the exclusion of heat through the use of cool roofs, glazed windows and landscaping,

as well as the simultaneous reduction of heat sources through utilization of daytime lighting, efficient lighting and cooling systems; energy efficient building designs may be suitably promoted through Building Codes. In particular, around 80 to 90% of building energy use is over the life of the building, for cooling, lighting and ventilation, and operating costs.

The Government of Montserrat has a three-pronged policy approach for improving the efficiency of energy-use for *new* and *existing* buildings in the country:

- For new buildings, Government will work through the Regional mechanism to support the establishment of Energy Efficient Building Codes (EEBC), which will be adopted when ready.
- For existing buildings, Government will examine the opportunities for providing (and, if necessary, develop) fiscal and other incentives to *encourage* energy audits and the implementation of energy saving applications in the commercial sector, especially offices and guesthouses/houses.
- Finally, Government intends to be a leader in energy efficiency retrofits by conducting energy audits on, and developing a subsequent plan to retrofit, public buildings in order to improve their energy performance.

4.5 MNEP Section 3.4 Progress Reporting: Energy Conservation and Efficiency

It is Government policy to report progress on energy efficiency in macroeconomic reports. The purpose of this is to provide a public benchmark on efficiency gains that have been made through the interventions undertaken. Reporting will provide an important check, ensuring that efforts to reduce energy consumption are having their expected benefits and provide lessons for future applications.

4.6 MNEP Section 4.1 Efficiency in Power Generation

Government will establish an overall heat rate target for diesel engine generation efficiency. The target will be determined through discussion between MCWEL and MUL and will reference CARILEC benchmarking data for similar electric utilities within the Region. Further, this target will be used to set overall efficiency targets for the portion of electricity that is generated by diesel fuel.

4.7 MNEP Section 4.2 Utility Scale Renewable Distributed Power Generation

Distributed power generation is defined as electricity generation that is located at or close to customer premises, and is interconnected directly to the distribution network. This definition implies that distributed power generation is: (i) grid-connected; (ii) located at or close to premises where the load being served; and (iii) implemented on a smaller scale than that of utility scale plants connected to a transmission grid.

The transition however requires "Solomonic judgement" such that a framework of "energy democracy", in which citizens are allowed to *make decisions and choices* on the way in which they access and utilize energy, **does not** place the effective function and business of the utility in peril.

4.8 MNEP Section 4.3 Public Awareness and Education Campaign

To complement its efforts to develop the renewable energy potential of Montserrat, Government will need to raise awareness of the country's renewable energy potential among citizens. This will be done by designing and implementing a national programme of education and awareness in renewable energy. This programme will target public servants in the ministries and government agencies, including school teachers and community workers, as well as the general public, especially students.

4.9 MNEP Section 4.4 Specific Renewable Resource Development

It is the policy of the Government to promote the use of Montserrat's domestic renewable energy resources for the production of power to support the electricity and transport sectors, wherever economically viable. To achieve this Policy objective, there is urgent need for the quantification and mapping of RE resources within Montserrat. This will be achieved through the completion of RE, including geothermal, resource assessments and eventual development of a National Resource Atlas, the outcome of which will be reduction in the uncertainties and costs for RE development within Montserrat, which will stimulate better planning and increased investments in the sector. The Resources evaluated are: Solar, Wind, Geothermal, Waste-to-Energy, Hydrogen and Other Fuels.

4.10 MNEP Section 5.1 Transport Sector

It is the Government's policy to promote efficient vehicles that is linked to a robust, integrated public transport sector. The transport sector is the largest user of fossil fuels, representing 47% of the total fuel consumed within the country. In essence, the Government of Montserrat intends to improve the efficiency with which fossil fuel is used for transportation through *conservation and transport demand management programmes*, linked to the *promotion of efficient, including electric and advanced, vehicle technologies*. The measures are expected to slow the growth in fossil fuel demand for transportation and the actions of Government will seek to, *inter alia*:

- Improve the efficiency of motorized domestic and commercial transport through strategies that encourage the use of efficient conventional vehicle technologies.

- Optimize the mix of technologies within the Montserrat vehicle stock, *which is currently based on conventional vehicles with internal diesel and gasoline combustion engines*, through the promotion of electric, hybrid electric, and other advanced vehicle technologies.

- Introduce transport demand management in Montserrat, to include the introduction of an efficient, cost-effective public transport system supported by transport planning, including route selection and decision-support.

Improving Efficiency of Motorized Transportation

Government intends to encourage the use efficient vehicle technologies, including efficient internal combustion engines (ICE) and light vehicle designs as well as the use of electric and advanced vehicle technologies, for transportation, whenever their use is deemed to be economically feasible and more environmentally friendly than the current fuel mix.

Public Transport

It is the intention of the Government of Montserrat to introduce a cost-effective public transport system within the island. The system will be developed as part of a comprehensive transport demand management strategy and will, through the reduction of individual vehicle use, lead to more efficient use of energy as well as lower cost of transport to the general public. Further, a reliable public bus service will support the fledging tourism sector and development plans for Montserrat through the efficient and cost-effective movement of citizens and visitors around the island.

4.11 MNEP Section 5.2 Agricultural Sector

It is the intention of the Government of Montserrat to identify policies and strategies to encourage the use of sustainable practices in agriculture [1] so as to provide economic and environmental benefits for the country. A key component in this will be improvements in the energy intensity of the agricultural sector through the more efficient use of energy inputs into the various activities. This strategy will derive orientation from best practices within other Small Island States and will include energy-efficient farming, irrigation, storage and transport. A mix of general awareness campaigns and specific training programmes will be utilized to encourage farms to achieve the most cost-effective reduction in energy usage realizable. The agricultural sector is important to the food security, and sustainable development, of Montserrat; gains in energy efficiency can result in lower prices for domestically produced agricultural produce, viz. crops and animals.

4.12 MNEP Section 5.3 Industrial and Commercial Sectors

The industrial and commercial activities of Montserrat were severely disrupted by volcanic activity, which began in July 1995. The eruption of the Soufriere Volcano in June 1997, in particular, caused the destruction of Plymouth (See Figure 1), which was the largest settlement on the island, with around 5,000 inhabitants. Plymouth had been the site of *almost all* the island's

[2] "Agriculture" in this Section does not include agribusiness which involves industrial processing plants. Agribusiness is dealt with in Section 5.3. as part of the Industrial Sector.

shops and services, in addition to having been its seat of government. Prior to the eruption, the country of (then) 12,000 residents had an export economy based on services (including tourism), agriculture, clothing, and electronic parts manufacturing. At present, Plymouth has been declared an exclusion zone and the population of the country is around 4,900. Industry is limited to mining, with some amount of aggregate export, and cigarette production. Although there is some amount of agriculture and financial service industries within the country, these are, *at best*, limited to the local needs; there is very little export.

It is the intention of Government to re-develop the agriculture and services (including tourism) industries in Montserrat. In particular, there is *potential for*, and *interest in*, developing a manufacturing sector that is based on the availability of abundant, clean, affordable energy services – including geothermal power and heat. This is intended to attract and encourage sustainable, low carbon industries as part of an inclusive sustainable industrial development plan.

4.13 MNEP Section 5.4 Tourism and Hospitality Sector

It is the Government's policy that the tourism and hospitality sector will be expanded to become part the national green approach to business, contributing to economic growth but without significant impact on the country's carbon footprint over time.

The Plan will help the tourism and hospitality sector to expand but, through the use of technologies that leapfrog the traditional approach, in an energy (and resource) efficient way. This will include the use of energy efficient new and retrofitted buildings, together with energy management and green procurement practices that utilize efficient equipment. The Government will seek to identify partnerships to support the development of certification and incentive schemes, which – *together with minimum energy performance standards and energy codes for hotels and guest houses* – will provide the basis for a "push-pull approach".

4.14 MNEP Section 5.5 Domestic Sector

It is the policy of the Government of Montserrat that the domestic sector will have affordable access to diversified supply of energy services, to include local options to produce the desired (including electrical) services, and energy efficient end-use appliances and equipment. The Government will ensure that its policy is met through a "mix" of public awareness, targeting responsible energy-use in households, as well as technical standards and regulations that promote energy efficient markets. In addition, the Government will provide fiscal incentives, where necessary, to promote the use of cost-effective utility-scale distributed generation and efficient energy applications, such as solar water heating and efficient lighting devices in new and existing homes.

4.15 MNEP Section 5.6 Information and Communication Technology

The Government of Montserrat (GOM) will articulates a coherent, national approach to the adoption and use of ICT over the period 2012 – 2016. It has been developed with a view to supporting the achievement of the Montserrat Sustainable Development Plan (SDP) goals. As a major companion plan to the SDP, the National ICT Plan will address the various roles and requirements of ICT in supporting and accelerating the realisation of the SDP's vision. The government will collaborate with the Ministry of Communication Works Energy and Labour (MCWEL) on such initiatives. Taking account of the current state of ICT in Montserrat, the National ICT Policy identifies specific objectives in focus areas which have been categorised as: *Environment, Learning, Access, Virtual,* and *Adoption [ELAVA]*.

AREAS FOR ACTION

The Montserrat Sustainable Action Plan (MSEP) sets out how the Government intends to implement the Montserrat National Energy Policy (MNEP) and follows the vision of the Policy, i.e.:

> "*Reliable, low-cost, sustainable provision of energy services matched to the societal and development needs of Montserrat over time, and based on robust, diverse energy sources and distribution systems that utilizes appropriate generation technologies, and equitably provided to all sectors of the society*."

The main components of the MSEP are:

- **Summary of the Montserrat Sustainable Energy Plan:** Summary of the actions and sub-actions of the Plan, and the time scale and implementing body for the actions
- **Plan for Energy Efficiency and Conservation:** This component covers the Government's plan to encourage energy efficiency and conservation as it applies to Montserratian society as a whole
- **Plan for Energy Supply:** This component covers Government's plan to provide efficient energy, *including electricity*, supply, integrating renewable energy where practical and economically feasible
- **Plan for End-Use Sectors:** This component covers policies for sustainable energy that are specific to individual economic sectors, and are not covered in previous sections
- **Plan for Institutional Strengthening and Funding:** This component covers the administrative and institutional requirements, including the proposed Montserrat Energy Unit, to implement the Plan. It also provides guidance on potential funding sources.

IMPLEMENTATING THE STARTEGY

The Montserrat Sustainable Energy Plan is how Government of Montserrat intends to implement the Montserrat Energy Strategy. The Montserrat Energy Strategy lays out an ambitious strategy to improve energy sustainability in Montserrat. Under the existing arrangement, the Ministry of Communications, Works, Energy and Labour (MCWEL) has portfolio responsibility for the sector.

There is need for the creation of a dedicated Energy Unit with dedicated responsibility for energy matters, including the implementation of the energy policy and strategy, with the requisite resources – human and financial – to support same. The tasks and mandates of the Energy Unit will be best achieved if there is support available from both *internal* and *external* sources. The sections below are implementing components of the Montserrat National Energy Policy 2016-2030:

6.1 MNEP Section 6.1 Implementation of the Montserrat Energy Unit

It is the Government's policy to implement an Energy Unit that is adequately empowered and appropriately staffed so as to provide the MCWEL with the institutional capacity required for successful implementation of the Policy, Strategy and the Plan. The Unit will undertake the necessary planning and administrative actions to give effect to the policy priorities and needs. It becomes clear therefore that establishment of the Unit is deeply hinged on the hiring of the required staff with suitable skills sets. Though working under the MCWEL, or (in future) any other Government Ministry with the portfolio responsibility for energy, an ability to **interact** and **work directly** with other public agencies and departments on cross-sectorial energy matters will be critical.

6.2 MNEP Section 6.2 Institutional Responsibilities of the Energy Unit

The Energy Unit will be responsible for measuring the impact of the Sustainable Energy Plan. For the first year of operation, the Energy Unit shall consist of three persons, viz. two (2) Nationals of Montserrat and one (1) overseas expert, recruited either regionally or internationally.

It shall become a part of Government policy that:

- The Energy Unit coordinates with various government agencies, and consultants with other stakeholders, to propose and design appropriate regulations and policies to address energy and energy-related matters in Montserrat, especially in areas related to the production, delivery and use of energy;

- The Energy Unit supports the assessment of the fiscal and economic measures required for the successful implementation of the Policy. The Energy Unit and Ministry responsible for Finance will ensure that Government's tax revenues streams are not unreasonably compromised when developing and offering new tax incentives, rebates, and relief;

- The Energy Unit maintains an Experts' Database, to include information on external experts capable of conducting Environmental Impact Assessments, Social Impact

Assessments, and Strategic Environmental Assessments, as part of the planning and assessment process preceding the approval and implementation of major national projects within the energy sector. The Energy Unit will work closely with the existing Regional framework to benefit from the existence of such information, when available; and

- The Energy Unit maintains a dedicated desk with responsibility for geothermal energy.
- The Energy Unit will housed within the Montserrat Energy Centre of Excellence [MECE]

6.3 MNEP Section 6.3 Funding to Implement the Policy and the Plan

It is the Government's policy to secure appropriate funding to implement the Policy, Strategy and the Plan. Many of the actions specified in the Plan will require the re-alignment of existing personnel and resource allocations within Government. Likewise, some actions will require outside consultants and funding from outside sources. In particular, the Energy Unit will need to be equipped with all required office and supporting infrastructure to become operational within six months after the Cabinet decision to establish the Unit. The budget of the Energy Unit, especially within the first year, needs to include a budget that is sufficient for supporting international, including Regional, travel for networking and capacity building activities.

6.4 MNEP Section 6. 4 Regional Relationships

The Government intends to capitalize on regional relationships by working toward the implementation of regional approaches that lead to greater efficiency or cost savings in energy.

Monitoring and Evaluation

The Monitoring, Reporting and Evaluation for all programmes and projects associated with the implementation of the Power to Change – The Montserrat National Energy Policy 2016 – 2030 will be conducted in line with Article 18 of COUNCIL REGULATION (EU) 2015/322 of 2 March 2015 on the implementation of the 11th European Development Fund.

The General Framework for M & E as per A Guide to Monitoring and Evaluation for Energy Projects – Monitoring and Evaluation in Energy for Development (M&EED) International Working Group December 2006 will be used.

Appendices