CARICOM

ENERGY POLICY

This CARICOM Energy Policy was approved by the Forty-First Special Meeting of the COTED on ENERGY held 1 March 2013, in Trinidad and Tobago

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SECTION I: PREAMBLE & BACKGROUND

ACRONYMS AND ABBREVIATIONS

5Cs	Caribbean Community Climate Change Centre
ALBA	Bolivarian Alliance for the Americas
AOSIS	Alliance of Small Island States
Bbls	barrels
Boe	Barrel of Oil Equivalent
Boepd	Barrels of oil equivalent per day
CARICOM	Caribbean Community
CARILEC	Association of Caribbean Electric Utilities
CDM	Clean Development Mechanism
CEIS	Caribbean Energy Information Systems
CET	Common External Tariff
CIMH	Caribbean Institute of Metrology and Hydrology
CNG	Compressed Natural Gas
COHSOD	Council for Human and Social Development
COTED	Council for Trade and Economic Development
CROSQ	CARICOM Regional Organisation for Standards and Quality
C-SERMS	Caribbean Sustainable Energy Roadmap and Strategy
CSME	CARICOM Single Market and Economy
DNA	Designated National Authorities
ECERA	Eastern Caribbean Energy Regulatory Authority
ECPA	Energy and Climate Partnership of the Americas
FOB	Freight On Board
GHG	Greenhouse Gases
IADB	Inter-American Development Bank
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producers
ISO	International Organisation for Standardization
LNG	Liquefied Natural Gas
MTBE	Methyl Tertiary Butyl Ether
MW	Megawatt
NAMAs	Nationally Appropriate Mitigation Actions
OECS	Organization of Eastern Caribbean States
OLADE	Latin American Energy Organization
OTEC	Ocean Thermal Energy Conversion
PETROCARIBE	Energy Agreement between Venezuela and Caribbean States
PDVSA	Petroleos de Venezuela SA
PPA	Power Purchase Agreement
RE	Renewable Energy
RON	Research Octane Number
RTC	Revised Treaty of Chaguaramas
SIDS	Small Island Developing States
SPREP	Secretariat of the Pacific Regional Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change

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INTRODUCTION

MANDATE/TERMS OF REFERENCE

1. At its Fourteenth Inter-Sessional Meeting held in Port-of-Spain, Trinidad and Tobago, in February 2003, the Heads of Government of the Caribbean Community -

> "**Agreed** ***to establish a Task Force, comprising Barbados, Grenada, Guyana, Jamaica, Suriname and Trinidad and Tobago[1], to develop recommendations for a Regional Energy Policy, which would address issues such as -***
>
> **(i)** ***Security of energy supplies;***
>
> ***(ii)*** ***Energy pricing policy and the impact on relative competitiveness in the CARICOM Single Market and Economy (CSME);***
>
> ***(iii)*** ***Purchasing and transportation arrangements[2]".***

2. When the Task Force began its work, it recognized that in addition to petroleum and petroleum product pricing, it would also need to consider issues pertaining to[3]:

a. Natural gas;

b. Renewable energy;

c. Investment requirements and coordinated investments in the Regional Energy sector;

d. Energy efficiency;

e. Environmental Impact; and

f. Rationalization of the Regional Energy Sector.

3. The Heads of Government, at their Twenty-Fourth Conference, held in July 2003 in Montego Bay, Jamaica, agreed to the Task Force's expanded Terms of Reference.

[1] Bahamas participated as an observer
[2] Regional Energy Policy For The Caribbean Community – Initial Report of the Task Force
[3] Ibid.

4. In the process of drafting this Policy, the Task Force faced three significant developments and challenges. The first development was encountered with the signing of the Energy Cooperation Agreement (PETROCARIBE) between certain Member States of CARICOM and the Bolivarian Republic of Venezuela. This CARICOM Energy policy, however, does not consider in great detail any of the bilateral arrangements agreed under the PETROCARIBE Initiative, other than the summary provided on this initiative in the section on CARICOM Energy Trends.

5. The first challenge stemmed from the unavailability of timely and relevant data. In 2003, the First Meeting of the Task Force, held in Port of Spain, agreed that it was important to conduct a Study on the Rationalisation of the Regional Energy Sector. Given the diverse nature of the sector in the Region, such a study was expected to lead to a better understanding of its operation and to provide valuable information to support the elaboration and implementation of a Regional Energy Policy as well as domestic energy policies. The Conference urged the Governments concerned to use their influence to encourage their petroleum-based companies to make resources available for the conduct of the Study. However, since all required resources were not received, the Study was not carried out. This study is still required, but the original Terms of Reference will need to be amended in light of the implementation of the PETROCARIBE Agreement and the completion of the Energy Pricing Study.

6. Pricing was an important part of this Task Force's mandate and it represented the second challenge. The issue of pricing with respect to non-discrimination and national treatment under the Revised Treaty of Chaguaramas was referred to the CARICOM Secretariat for an Advisory Legal Opinion. The CARICOM Secretariat drew the Task Force's attention to the specific process outlined in the decision of the Conference on this matter. Specifically, the Conference had decided that the Secretariat's Advisory Legal Opinion should be submitted to the Community Council, in accordance with Article 13.4 (f) of the Revised Treaty. In its deliberations the Task Force did not have the benefit of any conclusive legal opinion on pricing of hydrocarbons for inclusion in this CARICOM Energy Policy.

a) In February 2007 the Draft CARICOM (Regional) Energy Policy developed by the Task Force was submitted to the 18th Inter-Sessional Meeting of the Conference of Heads of Government. It was determined that an Energy Pricing Study to inter alia: (i) better understand the pricing structure for petroleum products, including all cost elements of price build up (transportation and storage); and (ii) regional trade of LNG was fundamental to the finalization of the Policy.

b) Since the formulation of the Draft Regional Energy Policy in 2007, an Energy Unit was established within the CARICOM Secretariat in April 2008 with one of the mandates being to finalize and implement the Regional Energy Policy. In this regard the Energy Unit successfully mobilized resources from the Inter-American Development Bank (IADB) to conduct the Energy Pricing Study.

c) The study titled: '*Energy Pricing in CARICOM States*' (**Energy Pricing Study**) presents an analysis of energy pricing and the energy supply/demand situation in thirteen of the fifteen CARICOM Member States (Haiti and Montserrat omitted). Some of the anticipated results of the Rationalization Study have been achieved from the Energy Pricing Study. However, some aspects of the Terms of Reference for the proposed Rationalization Study relating to terminal, berthing and storage capacities are still relevant.

d) The Energy Pricing Study commenced in February 2010 and a comprehensive draft report was completed and submitted to the CARICOM Secretariat. The study offered definitive findings on the inconclusive technical issues highlighted in the Advisory Legal Opinion. The findings of the Energy Pricing Study and an updated Legal Opinion on the issue of the Interpretation of '*National Treatment*' as it relates to Trade in Natural Gas were presented to the Special COTED on Energy held on March 24, 2011. The Special COTED on Energy agreed that the CARICOM Energy Policy should be finalized even while the matter of pricing of natural gas was further investigated and clarified.

OUTLOOK ON ENERGY AND THE ECONOMY

I. GLOBAL PERSPECTIVE

7. **Primary Energy Demand**[4]: Energy demand is expected to increase by 36% between 2008 and 2035 or 1.2% per year on average. This assumes implementation of policy commitments and plans announced by countries across the globe. China, the world's largest energy consumer accounts for 36% of the projected growth in global energy use with rising demand of 75% between 2008 and 2035.

8. **Fossil-fuel consumption subsidies:** Subsidies for fossil fuels used in final consumption and for inputs to power generation worldwide amounted to US $312 billion in 2009. In September 2009, G20 leaders committed to phase out and rationalize fossil-fuel subsidies.

9. **Oil Prices**[5]: Oil prices peaked at US $147 per barrel in July 2008. However, once the global recession hit in late 2008 and demand for oil fell, price plummeted to as low as US $33 per barrel. Prices have steadily increased to above US $120 per barrel in the first quarter of 2012 and have subsequently retreated to under US$100 per barrel. Unrest in the Middle East and North Africa in early 2011 has contributed to oil prices reaching the highest level since September 2008.

10. **Energy Mix:**. Petroleum currently accounts for 80% of primary energy supply and is expected to remain the dominant fuel in the primary energy mix until 2035. However its share is expected to diminish as a result of increased utilization of renewable energy sources, declining reserves, increased oil prices and fuel efficiency measures. Demand for coal rises until 2020 and then declines towards 2035. The share of nuclear power is expected to rise from 6% in 2008 to 8% in 2035. However safety concerns arising in the aftermath of the March 2011 disaster at the Fukushima nuclear plants in Japan may affect the planned contribution of nuclear

[4] Source: http://www.worldenergyoutlook.org/docs/weo2010/factsheets.pdf. Except for oil prices shown in paragraph 7, all projections are based on the **International Energy Agency's** World Energy Outlook to 2035 – New Policies Scenario which is one of several major independent sources on global energy trends.

[5] Projections are from the Energy Information Administration.

power to the global energy demand. Modern renewable energy - including hydro, wind, solar, geothermal, modern biomass and marine energy – is expected to triple between 2008 and 2035, increasing its share in the total energy mix from 7% to 14%.

11. **Natural Gas:** This fuel will be central to meeting the world's energy needs for at least the next 2½ decades. Global natural gas demand fell in 2009 due to the financial and economic crisis, but increases of 44% or an average of 1.4% per year are projected between 2008 and 2035. China's gas demand is the fastest growing and will account for one-fifth of the global increase in demand. The Middle East is projected to retain its leadership status in gas production with output doubling by 2035. Over one third of the increase in gas output is expected to come from unconventional sources, including shale gas, coalbed methane and from tight gas reservoirs in the United States and other regions.

12. **Renewable Energ**y: Renewable energy based power generation is projected to triple between 2008 and 2035 and the share of renewable in global electricity generation will increase from 19% in 2008 to almost 33% by 2035. Wind and hydropower account for the largest increase with the latter remaining dominant. Electricity produced from solar photovoltaics will increase rapidly but its share will reach only 2% in 2035. Since investments in renewable technologies are more capital intensive than for those using fossil fuels, significant capital is required to produce the extra renewable energy capacity. Investment in renewables to produce electricity is estimated at US $5.7 trillion over the period 2010 to 2035.

13. **Biofuels:** The use of biofuels is projected to grow four-fold over the period 2008 – 2035 and satisfy 8% of the road transport fuel demand by 2035, an increase from the current 3%. The United States, Brazil and the European Union are expected to remain the world's largest producers and consumers of biofuels. Globally, Government support to biofuels is projected to rise to about US $45 billion per year between 2010 and 2020, and US $65 billion per year between 2021 and 2035.

14. **Energy and Climate Change:** The World Energy Council's 2010 Assessment of countries' energy and climate policies concludes that the energy sector is responsible for 60% of

the global GHG emissions and much of regional and urban air pollution. Addressing climate changes requires transformation of the energy sector to more sustainable solutions that reconcile climate change concerns with economic development and energy access through the deployment of renewable energy and energy efficiency and conservation in the electricity, transportation and other sectors.

II. CARICOM ENERGY TRENDS

15 The Caribbean Community (CARICOM) consists of developing small island States and low lying coastal States, all of which exhibit unique and peculiar characteristics, including, *inter alia*, varying topographies, limited natural resources, small populations and fragmented markets with different energy product specifications.

16. **Fossil Fuel:** All CARICOM Member States depend heavily on fossil fuels to supply their energy demand. The fifteen CARICOM Member States could be classified into three broad groupings based on their import and export capabilities of petroleum derived products as follows:

A. Trinidad and Tobago is the major producer and only net exporter of petroleum, petroleum related products and natural gas. In 2005 Suriname exported some amount of crude oil but imported LPG, gasoline and diesel oil;

B. Suriname, Barbados and Belize are producers of crude oil to supply some of their domestic needs but overall are net importers. Barbados produces natural gas for sale on the domestic market to residential, commercial and special users; and

C. All other CARICOM Member States are non-producers of hydrocarbons but net importers.

17. **Climate Change:** Climate Change has now advanced as a priority matter for decision makers around the globe. Caribbean countries are recognized as being among the most vulnerable to global climate change and the consequences of global warming are projected to adversely affect the countries in the Caribbean including through higher average air and sea temperatures, rising sea levels and other changing weather patterns, such as stronger and more frequent hurricanes, and more frequent flooding and drought periods. While CARICOM States presently have no legal obligation to reduce their greenhouse gas emissions there is the need for these States to show leadership in tackling the issues associated with climate change. Accordingly, deployment of renewable energy resources, improved efficiency in the use of energy, and energy conservation, are increasingly high on the national development agenda of CARICOM States. One of the priorities of CARICOM Heads of Government is for the Region to embark on a more sustainable pattern of energy supply and end-use for the future through greater utilization of renewable and sustainable energy sources, reduced dependence on fossil fuels and greater efficiency and conservation in the use of energy, within the context of energy security and the desire for a low carbon approach to development. Also, in the context of CARICOM States demonstrating leadership in tackling the issues associated with climate change and complementing measures for sustainable energy, Guyana has crafted a Low Carbon Development Strategy to protect and maintain Guyana's forests to reduce global carbon emissions. Guyana's Low Carbon Development Strategy and REDD+ model has been cited as one of the working examples to achieve conservation of nature and address global climate change while creating livelihood opportunities.

18. **Primary Energy Consumption**: Primary consumption of petroleum products within CARICOM in 2007 totaled 220.46 million boe with Trinidad and Tobago accounting for 148.96 million boe. Meanwhile total primary energy consumption per capita in CARICOM for 2007 was 319.38 boe with Trinidad and Tobago recording 120.83 boe of the total.

19. **Petroleum Products:** Consumption of petroleum products within CARICOM, totaled 224,000 boepd with Jamaica leading at 77,000 boepd, followed by Trinidad and Tobago's 43,000 boepd and the Bahamas 36,000 boepd. Distillate and residual fuel oil accounted for 57% of all the petroleum products consumed in 14 of the 15 CARICOM Member States in 2008.

These fuel oils are used mainly in power plants for electricity generation. The other major categories of petroleum products consumed in 2008 were motor gasoline and other petroleum products that accounted for 16% and 13% respectively.

20. **Electricity Consumption:** Electricity consumption increased in all CARICOM Member States over the period 1998 – 2007, except in Haiti where it remained relatively flat. The contribution of renewable energy in CARICOM is miniscule compared to the vast potential available. Renewable energy contributed about 9% to the total primary energy consumed between 1998 to 2007, however there has been a gradual decline over the subsequent years as the share of renewable energies for electricity generation declined, while the overall output grew in this period. Belize, Jamaica and Suriname recorded significant increases in renewable energy electricity mainly from hydropower. Wind powered generation was added in Jamaica and St. Kitts and Nevis and pockets of biomass based energy in other countries. Electricity consumption for heating water in Barbados decreased due to increased penetration in the utilization of solar water.

21. **Electricity markets in selected CARICOM Countries:** The electricity market is characterized by a mix of state-owned and private or partially private utilities. All of the utilities within CARICOM are vertically integrated except for Trinidad and Tobago where generation is unbundled from transmission and distribution. Investment plans for generation and transmission and distribution, as well as performance standards for various areas of service, are lacking in some of the utilities in smaller Member States. The following table presents a snap shot of the electricity market in CARICOM Member States:

Table 1: Electricity Markets in CARICOM Member States

Country	Main Utilities	Peak Demand[6]	System Energy losses (% of net generation)	Generation Mix
Antigua and Barbuda	Antigua Public Utilities Authority	51 MW in 2009	23% in 2009	Diesel engines
Bahamas	Bahamas Electricity Corporation – state-owned	308 MW in 2008	15%	Diesel engines and gas turbine
	Grand Bahama Power Company – privately owned		8.9%	Steam turbines and diesel engines
Barbados	Barbados Power & Light – privately owned	166 MW in 2009	6.6% in 2009	Residual fuel oil and diesel for steam and gas turbines
Belize	Belize Electricity Limited – nationalised by the Government in June 2011	76.2 MW in 2009	11.7% in 2009	HFO, hydro, bagasse, gas turbine and diesel
Dominica	Dominica Electricity Services Ltd. DOMLEC – privately owned	17.17 MW in 2011	8.6% in 2011	Diesel engines and hydro
Grenada	Grenada Electricity Services Ltd. GRENLEC – privately owned	30.5 MW in 2009	9.2% in 2009	Diesel engines
Guyana	Guyana Power & Light Inc. – state-owned	94 MW in 2009	34.2% in 2008	HFO, diesel and bagasse
Haiti	Electricité d'Haiti (EdH) – state-owned	latent demand: est. 550 MW[7]	about 50%	Diesel engines, hydro
Jamaica	Jamaica Public Service Company - privately owned	644 MW in 2009	24% in 2009	Wind, hydro, steam turbines, diesel, gas turbines, combined cycle
Montserrat	Montserrat Utilities Ltd.	about 2 MW		Diesel engines
St. Kitts and Nevis	St. Kitts Electricity Department (SKED) – state-owned	30 MW in 2008	15% est. in 2005	Diesel engines

[6] The figures here do no not include self generation within the residential, commercial or industrial sectors, including bauxite and sugar industries.

[7] The installed name-plate capacity is about 270 MW, but far less is available.

Country	Main Utilities	Peak Demand[6]	System Energy losses (% of net generation)	Generation Mix
	Nevis Electricity Company Ltd. (NEVLEC) – state-owned	9 MW in 2008	20.3% in 2008	Diesel engines, wind
St. Lucia	St. Lucia Electricity Services Ltd. (LUCELEC) – private/public enterprise	55.9 MW in 2009	9.3% in 2009	Diesel engines
St. Vincent and the Grenadines	St. Vincent Electricity Services Ltd. (VINLEC) – state-owned	24.5 MW in 2008	8.3% in 2008	Diesel engines and hydro
Suriname	Energy Companies of Suriname (EBS) through its subsidiary Electricity Company of Paramaribo (EPAR) - state-owned	145 MW in 2009 (total generating capacity is 408 MW)	9.5% in 2008	Hydro, HFO, and diesel
Trinidad & Tobago	Trinidad & Tobago Electricity Commission - state-owned	1,182 MW in 2009	9.6% in 2009	Natural gas
	PowerGen established in 1994 - private/public enterprise			

22. **Regulatory Framework:** Barbados, Belize, Dominica, Guyana, Jamaica and Trinidad and Tobago have independent statutory regulatory authorities for the electricity sector. The Bahamas has an autonomous regulatory authority however its jurisdiction has not been extended to the electricity sector. St. Lucia has expressed intention to set up a regulatory commission in its National Energy Policy of 2010. A World Bank Study in 2006- 2007 recommended the creation of sub-regional regulatory authority proposed as the Eastern Caribbean Electricity Regulatory Authority (ECERA). Once established, ECERA could monitor and regulate the electricity sector in the OECS to optimize cost and technical resources. OECS Member States confirmed their commitment to set up ECERA at the 49th meeting of the OECS Authority in Tortola, in May 2009. ECERA will be located in Saint Lucia in keeping with the agreed proposal. The first phase of the ECERA programme has been launched with Grenada and Saint Lucia. Other OECS Member States have expressed interest in joining ECERA at a later date.

23. **Oil Refineries:** After Trinidad and Tobago, Suriname is the next largest oil producer within CARICOM. Barbados is also exploiting relatively small quantities of petroleum, but closed its oil refinery in 1998 and has since been sending its oil to Trinidad and Tobago for processing. At present refinery capacity exists only in Suriname, Jamaica and Trinidad and Tobago with total capacity in 2009 of 211,000 boepd, with Trinidad and Tobago accounting for three quarters of this amount. The following table shows the capacity in the three CARICOM Member States during the period 2000 to 2009.

Table 2: Crude Oil Distillation Capacity (thousand barrels per day).[8]

Country	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Suriname	7	7	7	7	7	7	7	7	7	7
Jamaica	34.2	34.2	34.2	34.2	36	36	36	36	36	36
Trinidad and Tobago	160	160	160	160	165	165	175	168	168	168
Total	**201.2**	**201.2**	**201.2**	**201.2**	**208**	**208**	**218**	**211**	**211**	**211**

24. **Crude oil and natural gas exploration:** With respect to exploration and production Trinidad and Tobago accounts for 88% of crude oil production in the Region and 99% of the natural gas production in both the onshore and offshore environments. Trinidad and Tobago is the largest supplier of LNG to the United States (US), accounting for 75% of the US total net imports in 2008. However, over the years LNG producers in Trinidad and Tobago have diverted suppliers to markets other than the US where higher prices are obtained. Jamaica has been searching for hydrocarbons since 1955 but without success. In a new attempt to explore oil and gas potentials, nineteen (19) offshore and four (4) onshore blocks have been offered in the 2010 bid round (third bid round in six years) with closure date in March 2011. Guyana remains optimistic about the prospects of discovering hydrocarbons in commercial quantities despite decades of search not yielding positive results. Crude oil production in the four (4) hydrocarbon producing CARICOM Member States is as follows -

[8] Source: Draft Technical Study on Regional Energy Sector December 2010 ('the Technical Study') prepared under the Strategic Plan for Regional Development spearheaded by the CARICOM Secretariat - adopted from the United States Energy Information Agency

Table 3: Crude Oil Production within CARICOM in 2009[9].

Country	Crude Oil Production in 2009 (bbls / day)
Trinidad and Tobago	109,000
Suriname	16,000
Belize	4,200
Barbados	900

25. **Economic impact resulting from fossil fuel dependence:** Dependence on imported fossil fuels within CARICOM has created significant macro-economic challenges for the fuel importing countries. The value of energy imports compared to total imports in the importing Member States have progressively increased over the years. This scenario has a deleterious impact on macroeconomic sustainability. Petroleum derivate imports account for between 40% and 60% of total export earnings for countries such as Jamaica and Guyana with a larger industrial base. For the tourism / service oriented Member States such as Belize, Grenada, Saint Vincent and the Grenadines and Barbados, petroleum imports range from 13% to 30% of export earnings. In 2008 Grenada recorded a higher ratio due to a sharp decline in export earnings and increased petroleum prices.

26. **Common External Tariff:** In accordance with Articles 82 and 83 of the Revised Treaty of Chaguaramas, Member States are required to maintain Common External Tariff (CET) on extra-regional goods that do not qualify for Community treatment, including petroleum products. The economic factors governing sourcing of petroleum products by Member States are: (i) closest source to minimize freight cost; and (ii) lowest FOB price.

27. **Petroleum Fund:** In September 2004, the CARICOM Petroleum Fund was established as a quick disbursing grant facility on a non-discriminatory basis among CARICOM Member States to provide relief in the context of high prices for crude oil and petroleum products on the international market. Total disbursements to beneficiary Member States from that fund as at the end of 2010, is estimated to be in excess of US $270 Million. It should be noted that this funding is inactive since 2010.

[9] **Source: 2010 Energy Pricing Study**

28. **PetroCaribe:** The PetroCaribe initiative came into being in 2005. To date, all CARICOM countries that import hydrocarbons have bilateral agreements with Venezuela, except Barbados, St. Lucia and Montserrat. It should be noted that St. Lucia was a signatory to the framework agreement but did not enter into a bilateral agreement. The PetroCaribe Agreements provide for the importing countries to be supplied with a stipulated amount of crude and refined oil products from Venezuela at intervals through its state owned oil company Petróleos de Venezuela S. A. (PDVSA). Based on the Agreements a percentage of the payments for oil purchases is converted into a low interest long term loan with sliding rates of interest and repayment periods depending on the price of oil. PetroCaribe provides participating Member States with balance of payment relief on oil bills during skyrocketing oil prices.

29. **ALBA:** Even prior to the advent of PetroCaribe, ALBA was launched in December 2004 as a financial cooperation for financing physical infrastructure and social programmes. Venezuela committed US $100 million to the scheme and another US $30 million for infrastructure projects. One key element of ALBA is the creation of the ALBA Carib Fund for participating countries where 25% of the bill for imports of crude oil from Venezuela is credited to this Fund for the purpose of poverty alleviation and social and economic programmes.

30. **Energy and Climate Partnership of the Americas**[10]**:** The Energy and Climate Partnership of the Americas (ECPA) initiative was announced at the 2009 the Summit of Americas by President Obama to support sustainable energy development and clean energy matters. The goal of ECPA is to foster partnerships across the Americas to achieve low carbon economic growth and development. ECPA is a flexible mechanism through which governments in the Western Hemisphere, on a voluntary basis, may lead multi-country or bilateral initiatives including: energy efficiency, renewable energy, cleaner and more efficient use of fossil fuel, energy infrastructure, energy poverty, sustainable forests and land use and adaptation.

[10] More Information available online at: http://www.ecpamericas.org/

31. **SIDS DOCK[11]:** A Memorandum of Agreement for establishing the SIDS DOCK[12] sustainable energy initiative was formally signed by ten countries in December 2009. Several other Member Countries of AOSIS have since signed the Agreement. SIDS DOCK has been developed jointly by the Caribbean Community Climate Change Centre (5Cs) and the Secretariat of the Pacific Regional Environment Programme (SPREP). This initiative among member countries of the Alliance of Small Island States (AOSIS) offers Small Island Developing States (SIDS) a collective institutional assistance mechanism to proceed on a sustainable economic development path and help generate financial resources for addressing climate change adaptation *inter alia*.

32. As at October 2011, the eight (8) CARICOM Member States participating in SIDS DOCK are: Antigua and Barbuda, the Bahamas, Belize, Dominica, Grenada, Jamaica, Saint Lucia and Suriname. Barbados and St. Vincent and the Grenadines have committed to signing. Under SIDS DOCK, public – private partnerships will be promoted as a means for investments in sustainable energy projects and technology transfers.

33. **C-SERMS:** At the 20th Meeting of the Heads of Government of the Caribbean Community held in Belize City, in March 2009, it was agreed that: "***a regional sustainable energy roadmap should be developed and implemented to guide, encourage and expedite the increased use of renewable energy and energy efficiency, as a key climate change mitigation strategy"***. The 3rd Joint Meeting of the Council for Trade and Economic Development (COTED) and the Council for Human and Social Development (COHSOD) held in September 2010 agreed that the 'Roadmap' will be complemented by a 'Strategy'. The Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) is conceptualised as an updateable sustainable energy planning, management and implementation framework as well as a communication tool to be developed under the CARICOM Energy Programme in collaboration with CARICOM Member States and other partners. Through C-SERMS, realistic regional level sustainable energy targets and strategies for the short, medium and long term horizons will be established. The approach to

[11] More Information on SIDS DOCK available online at: http://aosis.info/sids-dock/

[12] The word 'DOCK' is not an acronym but reflects the concept that the initiative is designed as a 'DOCKing station' to connect the energy sector in SIDS with the global finance, carbon and sustainable energy technologies markets.

developing the C-SERMS is to baseline energy efficiency opportunities and renewable energy resource potential. The development of C-SERMS will be guided by a broad-based stakeholder platform that will utilize appropriate tools to scan, monitor, analyse, track, plan and make adjustments to the set targets and strategies as required.

SECTION II

GOAL/ VISION, OBJECTIVES, SUMMARY ENERGY POLICY ACTIONS AND GUIDING PRINCIPLES

CARICOM ENERGY POLICY GOAL / VISION

The Goal/ Vision of the CARICOM Energy Policy

Fundamental ***transformation of the energy sectors*** *of the Member States of the Community through the* ***provision of secure and sustainable supplies of energy*** *in a manner which minimizes* ***energy waste in all sectors,*** *to ensure that all CARICOM citizens have access to modern, clean and reliable energy supplies at affordable and stable prices, and to facilitate the* ***growth of internationally competitive Regional industries*** *towards achieving* ***sustainable development of the Community***

OBJECTIVES OF CARICOM ENERGY POLICY

34. In fulfillment of the Goal /Vision of the CARICOM Energy Policy and to assure access to affordable, adequate, safe and clean energy products necessary for the development of Member States and for the consolidation of the CSME (established by the Revised Treaty of Chaguaramas), the Community will develop a programme of regional actions in a coherent and comprehensive way in pursuit of the following objectives:

(a) ***sustainable and secure energy supplies*** through diversification of energy sources;

(b) ***accelerated deployment of renewable and clean sources*** of energy supplies towards increased ***energy supply diversification and affordability***;

(c) sustained growth of ***intra-Community trade in energy***;

(d) ***increased energy efficiency and conservation*** in all sectors, including the transportation sub-sector;

(e) establishment and enforcement of ***labeling and standards*** for the importation of electrical appliances as well as ***standards for vehicles*** importation;

(f) ***increased investment*** in production, transformation and distribution of viable energy resources;

(g) strengthening and enhancement of the ***human and institutional capacities*** in the Community energy sector;

(h) ***programmed expansion of electricity*** generation, transmission, distribution and trade;

(i) ***improved access*** to affordable energy by the poor and vulnerable;

(j) ***greater use of renewable energy*** for electricity generation as well as in the transportation, industrial and agricultural sectors**;**

(k) ***coordinated approach*** to exploring and establishing an institutional framework for ***leveraging financing mechanisms*** for the development of viable energy resources;

(l) increased ***technology transfer*** and information sharing;

(m) established ***regional and national targets*** for emissions reduction with corresponding mitigation actions;

(n) strategies for maintenance of ***adequate energy reserves*** in the ***event of disasters*****;** and

(o) Strengthened ***research, development and innovation*** efforts in energy sector especially in areas of clean and renewable energy sources and technologies.

35. Quantitative Regional level targets for sustainable energy will be established in the context of the Caribbean Sustainable Energy Roadmap and Strategy **(C-SERMS),** based on rationalization of the potential energy resources and human and institutional capacity which will accompany the CEP and provide a implementation framework engaging all Member States and actors in the energy sector.

SUMMARY OF BROAD CARICOM ENERGY POLICY ACTIONS

36. ***In order to realize the Goal/Vision for the energy sector of the Community, it is the Policy of CARICOM to***:

SECURITY OF SUPPLY AND FUEL DIVERSIFICATION (Chapter 1)

1. ***Ensure increased energy security through timely access to adequate, reliable and affordable supplies of energy by all Member States of CARICOM.***

EXPLOITATION OF HYDROCARBON SOURCES AND DEVELOPMENT OF FOSSIL FUEL MARKETS (Chapter 2)

2. ***Secure least cost hydrocarbon resources for each Member State and ensure that appropriate standards for petroleum and petroleum related products are introduced and enforced.***

RENEWABLE ENERGY (Chapter 3)

3. ***Diversify the energy sources through increased use of renewable energy in a manner that assures optimization with other sectors.***

ELECTRICITY SECTOR (Chapter 4)

4. ***Ensure the sustainability of the electricity sector through increased use of renewable energy, improved legislative and regulatory framework and cross border trade of electricity generated from indigenous renewable energy sources.***

ENERGY CONSERVATION AND EFFICIENCY (Chapter 5)

5. ***Promote energy savings efforts in all sectors***

ENERGY USE FOR TRANSPORTATION (Chapter 6)

6. ***Promote fuel switching in the transportation sector to cleaner energy sources and encourage greater efficiency of energy use in the transportation sector.***

ENERGY INVESTMENT (Chapter 7)

7. ***Undertake the necessary reforms in a timely manner to encourage greater investment in the energy sector.***

INTRA-COMMUNITY TRADE IN HYDROCARBON ENERGY SOURCES (Chapter 8)

8. ***Ensure fair pricing and access to hydrocarbon resources by all Member States to improve the competitiveness of regional industries.***

ENERGY AND THE ENVIRONMENT (Chapter 9)

9. ***Ensure that energy is supplied and consumed in a manner that creates minimal adverse impact on the environment.***

ENHANCEMENT OF HUMAN AND INSTITUTIONAL CAPACITY (Chapter 10)

10. ***Build and strengthen the human capacity and skills as well as institutional capacity within the Region, encourage research and development and increase public education and awareness to ensure energy sector development.***

ENERGY ACCESS AND POVERTY ALLEVIATION (Chapter 11)

11. ***Eliminate energy poverty and ensure access to clean, affordable and reliable energy supplies by all citizens of the Region.***

CROSS-CUTTING ISSUES (Chapter 12)

12. ***Encourage sustainable energy practices within all other sectors and areas where there is linkage to energy use such as agriculture, youth and culture, etc.***

ENERGY AND CLIMATE CHANGE (Chapter 13)

13. ***Establish regional and national targets for the reduction of greenhouse gas emissions in the energy sector and implement appropriate mitigation actions relevant to the energy sector.***

ENERGY AND DISASTER PREPAREDNESS (Chapter 14)

14. ***Develop strategies to ensure the availability of energy supplies and products and a strategic response to any oil spill and sustainability of energy services during any crisis.***

TRADE IN ENERGY SERVICES (Chapter 15)

15. ***Develop strategies to take advantage of opportunities for trade in energy services regional and internationally.***

PRINCIPLES GUIDING ACTIONS OUTLINED IN THE CARICOM ENERGY POLICY

37. The CARICOM Energy Policy is guided by the following:

1. Community Mandates on Energy and Revised Treaty of Chaguaramas

The CARICOM Energy Policy **(CEP)** is not one of the Sectoral Polices specified in the Revised Treaty of Chaguaramas (RTC) but has its genesis from a Mandate of the Fourteenth Inter-Sessional Meeting of the Heads of Government of the Caribbean Community held in Port of Spain, Trinidad and Tobago, in February 2003. However, the development of the CARICOM Energy Policy also falls within the purview of Article 15 2 (e) of the RTC which requires that Council for Trade and Economic Development (COTED) promote measures for the development of energy and natural resources on a sustainable basis. Further as a Community Energy Policy, the trade related aspects of the **CEP** will comply with the requirements of the RTC as related to CSME. The CEP also takes into consideration the various Mandates (in relation to energy) of the various Community Organs since the Fourteenth Inter-Sessional Session of the Conference of Heads of Government in 2003, including the Liliendaal Declaration on Climate Change, mandates of the Special COTED, Energy Held March 24, 2011 and outcome of Retreat of Heads of Government in May 2011.

2. Focus on the Regional Level Energy Sector Challenges and Opportunities

The Policy is designed to create solutions to the following major issues affecting the Regional Energy Sector by providing a menu of actions to be implemented collectively or individually by Member States, viz:

(i) *Weak security of Energy Supplies in the Region for most Member States and the need to optimize the use of Regional indigenous energy resources (both conventional and renewable);*

(j) *Low affordability of energy, low economic competitiveness and threat to macro-economic sustainability of most Member States arising from high cost of imported fuel;*

(k) *Energy poverty at various levels and in the most acute case;*

(l) *Need to lower carbon foot print and increase climate compatibility of the energy sector.*

3. Recognition that Member States' energy resources and level of energy sector development vary

It is recognized that the energy resources as well as the state of energy sector development within the fifteen (15) CARICOM Member States are varied. Accordingly, while some of the actions proposed in this policy may apply to some Member States there will be instances where actions are not relevant or feasible for other Member States. ***Therefore this Policy is crafted with the understanding that Member States will only commit to take individual actions where relevant and feasible. Nothing in the policy will imply a binding commitment on any Member State to implement any action proposed in the CEP that is not relevant or feasible to that particular Member State.***

4. Consistency, Complimentarity And Collaboration

Cognizance is taken of the fact that at the time this CEP is being finalized many of the CARICOM Member States have in place an approved National Energy Policy or are substantially along the course of adopting a National Energy Policy. However, the economies and energy markets of most CARICOM Member States are too small for **common** problems and issues to be addressed on **'country-alone' basis**. Therefore, the focus of this CEP is based on the principle of **'Collective Approach and Cooperation'** particularly where synergies could be attained to achieve a radical transformation of the regional energy sector consistent with the Goal and Vision of this Policy. Therefore CEP has complementarity with national energy policies of CARICOM Member States and in this regards is a **common energy policy.** Further, the CEP is consistent with other Community policies and recognizes the cross-cutting nature of energy being a key input to all economic activities.

5. Principle of Subsidiarity

Notwithstanding that energy policy development is highly influenced by the available energy resources, the CEP seeks to utilize the principle of subsidiarity which emphasize regional level treatment of those actions which have comparative advantage by being implemented at the regional level. This includes regional level coordination of national actions, in which case the complete action is not carried out at a regional level but in Member States while being coordinated at the Regional level.

SECTION III
DETAILS OF ENERGY POLICY ACTIONS

CHAPTER 1.0 SECURITY OF SUPPLY AND FUEL DIVERSIFICATION

The Policy is to ensure increased energy security through timely access to adequate, reliable and affordable supplies of energy by all Member States of CARICOM.

38. The 2008 spikes in oil prices, geopolitical challenges in the Middle East and continuing price volatility have combined to bring into sharp focus the dependency and vulnerability to imported energy for most Member States. In addition security of energy supply must, *inter alia*, take into consideration the growing environmental concerns attributed to energy choices and the climate change challenges resulting from excessive burning of fossil fuels.

39. In the context of this CARICOM Energy Policy and the need for research and investment in the production of energy, essential for the sustainable market-driven development of the Community, **security of supply**: *means the availability of and timely access by Member States to energy resources of an acceptable quality, at competitive prices and at prices that are both affordable for consumers and reasonable for producers and reflect true final costs for producing and supplying energy.*

40. Since Member States exert limited influence on developments in the international energy markets, the CARICOM Energy Policy must be inherently flexible, so as to enable Member States to respond to the extra-regional developments that affect the regional energy market and particularly the security of energy supplies.

41. In order to ensure timely access to adequate and reliable supplies of energy, where feasible, Member States will:

a) Determine local, regional and extra-regional capacity to supply oil and gas products;

b) Determine local and regional potential of renewable energy sources;

c) Diversify the energy supply mix to include Natural gas and other alternate energy options;

d) Determine optimum supply strategy for the Community (Petroleum Supply Optimization Study and Database) to ensure the availability of adequate energy supplies at all times;

e) Assure access to regional energy products by non-producing Member States;

f) Devise and institute a CARICOM Strategy to develop and maintain strategic regional reserves of crude oil and energy products to be accessed in time of emergency or crisis;

g) Devise a Community strategy for solidifying internal energy markets of Member States;

h) Develop a Community roadmap and strategy for sustainable energy;

i) Collaborate in pooling individual efforts to exert leverage on pricing and marketing arrangements in the Region;

j) Promote structured cooperation and collaboration among energy firms and agencies in the various Member States - including national hydrocarbon companies, electric utilities and renewable energy agencies - through the formation of regional associations;

k) Develop and implement least cost shipping arrangements for petroleum products in the Region that take account of the special needs of the Region;

l) Continue to engage in extra-regional third party arrangements for energy supplies and services as needed.

CHAPTER 2.0 EXPLOITATION OF HYDROCARBON SOURCES AND DEVELOPMENT OF FOSSIL FUEL MARKETS

The Policy is to secure least cost development of hydrocarbon resources in each Member State and ensure that appropriate standards for petroleum and petroleum products are introduced and enforced.

2.1 PETROLEUM SECTOR

42. The dynamics of the international petroleum market, notably continuing robust demand, constraints in refining capacity and escalating prices, require an urgent co-ordinated effort by concerned States to explore alternative means to secure affordable petroleum-based products.

Where feasible, Member States will:

a) Facilitate dialogue among national oil companies, with the aim of increasing supplies of and access to supplies of energy resources among CARICOM Member States;

b) Urge private and public entities within the Region to seek opportunities to explore and develop potential crude oil and natural gas reserves within the wider Caribbean; and

c) Enhance participation by Community enterprises in exploration, production, refining and shipping of petroleum and petroleum products.

2.1.1 Specifications for Petroleum Products

43. It is accepted that many CARICOM Member States may already have domestic national standard specifications for petroleum products traded and consumed within their jurisdictions. However such specifications are absent in some Member States or where these exist they are not enforced.

44. One of the findings in the Regional Energy Pricing Study is that gasoline retailers incorrectly advertise 93 and 95 Research Octane Number (RON) level gasoline as premium grade when in fact this is mid-grade. Accordingly in some territories motorists are usually led to believe that they are purchasing the higher grade. Moreover, regulations and standards regarding the product quality of petroleum need to be introduced where these are absent and enforced.

Where feasible, Member States will, in association with CROSQ:

a) Identify those specifications for petroleum products that can be standardized;
b) Adopt such standards that include product quality, performance, health and safety and environmental protection;
c) Develop and implement regulations to give legal force to standards;
d) Require that producers and retail suppliers of petroleum derivates, including gasoline, comply with standards regarding grade and rating and that retailers post the grade and rating to ensure that consumers are informed;
e) Regulate the sulphur content in diesel produced or imported to bring it in line with international best practice;
f) Phase out the use of MTBE as an oxygenate for gasoline; and
g) Strengthen the capacity of the regulatory authority to monitor and enforce standards and regulations for petroleum specifications.

2.1.2 Transportation of Petroleum and Petroleum Related Products

45. The transportation of petroleum and related products into and within the CARICOM is effected through an established distribution network of vessels, trucks and retail outlets which are owned and operated predominantly by private firms, but with some State involvement.

46. The Energy Pricing Study established that in various Member States there is only one transnational oil company that holds a monopoly in terminal and storage facilities. These companies are thus able to control, the transportation and freight markets.

47. This distribution network has kept the Region supplied with petroleum products, but at a high cost to Member States. It is imperative that steps are taken, not only to reduce such high transportation and distribution costs, but to implement measures which ensure that a more efficient and cost effective transportation network is put in place.

Where feasible, Member States will:

a) Improve and optimize the efficiency of the transportation network for petroleum and related products;

b) Adopt appropriate measures to ensure that transportation costs for petroleum and related products are transparent;

c) Cooperate in developing adequate strategic storage systems for petroleum and related products to reduce costs;

d) Develop efficient transshipment hubs;

e) Create regional and national strategic reserves for petroleum and related products;

f) Establish mechanisms for protecting consumers by assuring affordable petroleum products to consumers through the reduction of excesses in transportation costs for petroleum and petroleum related products;

g) Foster competition in intra-regional and domestic transportation of petroleum and petroleum related products by removing monopolies on terminal and storage; and

h) Implement measures to ensure that adverse environmental impacts are minimized in the transportation of petroleum products.

2.2 NATURAL GAS SECTOR

2.2.1 Optimize Use of Natural Gas

48. Compared to crude oil, natural gas is a less expensive and cleaner fossil fuel which can be used not only to generate electricity efficiently (by deploying advanced technologies) but also as a feedstock for the manufacture of petrochemical products, fuel for the manufacturing sector and for vehicular transportation. The possibility exists for Member States

within the Community to satisfy their demand for natural gas from the resources of those Member States with natural gas resources.

In order to realize this potential, where feasible Member States will:

a) Develop and implement programmes and projects which aim to incorporate and optimize the use of natural gas in the energy mix;

b) Establish natural gas as a key energy transnational source for the Region;

c) Facilitate research into natural gas utilization and transportation through the Natural Gas Institute of the Americas and other tertiary and research institutions;

d) Support investigation into the potential of new natural gas reserves; and

e) Support exploration of unconventional sources of natural gas including shale gas and coalbed methane.

CHAPTER 3.0 RENEWABLE ENERGY

The policy is to diversify the energy sources through increased use of renewable energy in a manner that assures optimization with other sectors.

3.1 RENEWABLE ENERGY SOURCES

49. There are numerous commercially viable renewable energy sources available within the CARICOM, including, solar, wind, biomass, bio-gas, landfill gas, bio-ethanol, hydro, and geo-thermal. Approved and draft national energy policies of some Member States also include the possibility of: waste-to-energy, marine energy, including tidal and wave energy, and solar passive systems. At present, other renewable energy applications such as bio-fuels are becoming more commercially and financially viable and are worthy of further development. Member States are urged to keep abreast of developments in renewable energy resources such as ocean thermal energy conversion (OTEC), ocean waves, tides and currents, as well as hydrogen.

In order to increase the use of renewable energy to substitute and to substitute for the heavy reliance on petroleum and petroleum products, where feasible, Member States will:

a) Develop comprehensive national energy policies that seek to increase the use of commercially viable and sustainable renewable energy sources and support such policies with action plans that propose concrete targets;
b) Draft and implement legislation and regulations to promote the use and development of renewable energy sources;
c) Draft and implement regulatory and legislative reforms to:

    (i) require utilities to use or increase the utilization of renewable energy sources in the electricity sector supported by specific instruments and incentives, including net-metering / net-billing; feed-in tariffs; quota obligations; tax and duty exemption; and standards and rules for grid connection;

(ii) require that utilities draft and publish interconnection guidelines for different renewable energy technologies and generation capacity; and

(iii) cater for harmonized interconnection policies that allow for self-generation and feed-in of excess electricity for small renewable power producers (e.g. rooftop grid connected photovoltaic) without onerous bureaucratic hurdles.

d) Ensure that the synergies between agricultural production and the renewable energy sector are established and optimized (e.g. for bio-energy sources such as bio-ethanol, bio-diesel and biomass);

e) Identify available sustainable energy and renewable energy sources and technologies that are practical, commercially viable, environmentally sound and suited to particular Member States and conduct assessments based on technical, financial, economic and environmental considerations;

f) Encourage the substitution of conventional biomass energy sources that may be damaging to human health (e.g. charcoal and wood fuel) with more benign commercially viable renewable energy technologies;

g) Ensure that biomass used for energy purposes is done in a sustainable manner based on internationally recognized standards and verification methods;

h) Facilitate short and long term programmes for active research, development and training in renewable energy technologies, designs, planning, operation and maintenance;

i) Establish South-South cooperation programmes as a means to harness existing expertise from outside the Region;

j) Use carbon trading opportunities as a means of enhancing the financial returns of renewable energy projects;

k) Ensure adequate capacity is established and maintained within the Energy Unit of the CARICOM Secretariat, as the central coordinating mechanism for sustainable energy development in the Region, *inter alia*, to:

(i) Research, advise on, recommend, co-ordinate and conduct educational programmes on renewable energy;

(i) Promote commercially viable renewable technologies;

(ii) Develop model laws and fiscal policies to support renewable energy;

(iii) Develop and provide timely update the C-SERMS, coordinate support from developmental partners and multilateral agencies to avert duplication of efforts and ensure efficient use of resources**,** identify sources of grant financing and establish links between regional sustainable energy initiatives;

(iv) Establish appropriate linkage with hemispheric and global level sustainable energy initiatives (such as ECPA, SIDS-DOCK, IYSEFA) to facilitate knowledge sharing, RE project financing and implementation.

l) Establish other regional level Mechanism as deemed necessary to support expedited implementation of renewable energy projects on a partial or full turn-key basis;

m) Adopt guidelines from ISO, or any other globally standardization entity in order to ensure that the products and components of renewable energy technology are of acceptable standard.

3.2 SUBSTITUTION OF THE FOSSIL BASED ENERGY AS THE PRINCIPAL SOURCE IN ELECTRICITY GENERATION

50. Where feasible, Member States will, emphasize and aggressively pursue the development of renewable energy resources such as, geothermal energy, hydropower, bio-fuels, solar power, wind power and waste to energy, which can provide direct replacement for fossil fuels as the principal source (base-load type) for generating electricity at the national level and which can support regional or cross border supply of electricity.

CHAPTER 4.0 ELECTRICITY SECTOR

The Policy is to ensure long term the sustainability of the electricity sector, inter alia through timely investments in infrastructure and appropriate technologies, increased use of renewable energy, improved legislative and regulatory framework and cross border trade of electricity generated from indigenous renewable energy sources.

4.1 POWER GENERATION, TRANSMISSION AND DISTRIBUTION

51. The Region is characterized with a mix of state-owned and privately owned utilities with licensed or statutory obligation to generate electricity and operate the national grid for the purpose of transmitting and distributing electricity to end users. All of the utilities within CARICOM are vertically integrated, except for Trinidad and Tobago that unbundled the transmission and distribution system from generation in the 1990s. While most of the utilities are market monopolies, others have an obligation to foster competition in generation and others have voluntarily adopted policies that allow for Independent Power Producers (IPPs). Accordingly, the practice of IPPs supplying power to the incumbent utility under Power Purchase Agreements (PPAs) is not uncommon in some of the Member States, viz: Antigua and Barbuda, Belize, Guyana, Jamaica, St. Kitts and Nevis, and Trinidad and Tobago.

52. Some Member States allow self-generation of electricity mainly in the commercial and industrial sectors for covering own demand. Others have also introduced net-metering / net- billing schemes and other grid interconnection mechanisms as policy instruments for fostering the deployment of renewable energy on the grid. The Regional Energy Pricing Study commissioned by the CARICOM Secretariat (2010) concluded that for power systems with less than 300 MW only a Single Buyer Model is economically feasible for national markets and unbundling of is not workable. System losses that include technical and non-technical losses within CARICOM range from under 7% to over 34% of net generation. The national grid in some Member States is not fully interconnected. As such, power suppliers are required to maintain capital intensive operations with relatively large reserves or margin of generation, which translates to high operating costs and limits economies of scale.

53. Electricity rates in Member States are among the highest in the world and the reasons for this include: lack of economies of scale; isolation of utilities due to the lack of an interconnecting transmission system; over capacity as a result of the isolation; lack of collective buying arrangements for fuel, power plants and line hardware; and the historical use of "*cost of service*" and "*rate of return*" regulation which encourages over investment. To achieve a sustainable reduction in such rates, Member States will need to intervene in the electricity sector in a manner that goes beyond the narrow traditional role of regulating the generation, transmission, distribution and pricing of electricity.

Where feasible, Member States will:

a) Identify, develop and promote alternative or renewable energy sources, technologies and systems for electricity generation;

b) Promote advanced high-efficiency power generation technologies such as combined cycle and cogeneration;

c) Design and implement the appropriate legal and regulatory framework to promote competition in power generation and foster independent power producers (IPPs);

d) Cooperate in the observance of best practice industry standards and foster adequate investment mechanisms to reduce system losses in the electricity sector;

e) Urge utilities within Member States to cooperate and participate in collective purchasing of fuel, power plants and line hardware through regional networks, such as CARILEC, to gain economies of scale and reduce operating costs;

f) Support strategies that require utilities to compute and make available to investors their avoided costs for various types of energy sources;

g) Conduct public education on the benefits of 'green electricity', including benefits of energy conservation and energy efficiency;

h) Consider or maintain a Single Buyer Model for power systems under 300 MW;

i) Urge utilities to introduce appropriate technologies (such as pre-paid meters) as as part of strategies to curb non-technical losses through unlawful consumption of electricity or non-payment; and

j) Foster institutional collaboration aimed at the production of electricity from municipal solid waste or other alternative fuels.

4.2 CROSS-BORDER TRADE OF ELECTRICITY

54. Many of the potential large scale hydropower and geothermal projects of CARICOM Member States will only be economically viable through the establishment of enlarged markets via the export of electricity produced to neighbouring countries. This, as economies of scale will be gained from regional energy integration where electricity surplus that far exceeds demand in the local market can satisfy unmet demand in a neighbouring country, for instance geothermal development in Nevis, Montserrat and Dominica and hydropower development in Guyana. This will necessitate the implementation of options and arrangements for cross-border transmission of electricity produced from various RE sources via submarine cable as the default mechanism. Cross border transmission of electricity can facilitate a paradigm shift where more Member States can become exporters of energy.

Where feasible, Member States will:

a) Pursue opportunities for import, export and cross-border trade in electricity;

b) Promote the deployment of new technologies that promote higher energy efficiencies in electric power generation, reduce transmission and distribution losses, and reduce commercial losses;

c) Strengthen regional cooperation in integration of energy facilities and energy trade;

d) Set up joint working groups involving regional and international partners to explore the technical, economic, ecological and social feasibility of electricity interconnections;

e) Establish framework conditions that will facilitate involvement of private investors in the export of electricity; and

f) Share information on the development of their respective electricity markets to gain knowledge about export / import needs.

4.3 ELECTRICITY LEGISLATION AND REGULATION

55. The creation of a transparent and independent enabling regulatory system is critical to the development of the electricity sector. However, this is constrained by a shortage of qualified personnel in the smaller Member States. In addition, in some Member States existing national electricity sector and supply laws are archaic and do not promote competition in generation; interconnection at the distribution scale; energy efficiency and conservation; enhanced safety and performance standards for electricity generation, transmission and distribution. Legislative and regulatory reforms are needed to diversify the power sector towards greater use of renewable energy and increased energy efficiency.

56. Establishment of a sub-regional regulatory authority for improved governance of the electricity sector of the OECS has been studied by the World Bank. This concept has been endorsed by Heads of Government of the OECS. At present, except for Dominica, there is no independent regulator for electricity utilities in the other OECS countries. A sub-regional regulatory authority will allow for sharing of resources and mitigate some of the challenges associated with scarcity of financial and highly skilled human resources. An independent regulatory framework will serve to boost investors' confidence in renewable energy development and enhance achievement of the objective for security of energy supply through diversification of energy sources.

Where feasible, Member States will:

a) Establish independent regulatory agencies at a national, sub-regional or regional level;

b) Promote regulation of the electricity sector and introduction of relevant regulatory and legislative reforms; and

c) Support the efforts at regional and sub-regional levels to mobilize resources to implement projects aimed at regulatory and legislative reforms.

CHAPTER 5.0 ENERGY CONSERVATION AND EFFICIENCY

The Policy is to promote energy savings efforts in all sectors.

57. Though the Region has witnessed the realization of several renewable energy projects over the past decade, the overall proportion of the contribution of renewable energy use in the primary energy use remains quite low. This is due to in part to the fact that the rate of growth in energy demand has far outstripped the pace introduction of supplies from renewable energy sources. The achievement of a sustainable energy path will therefore require commitments to increasing the contributions of both renewables and energy efficiency and conservation. Growing climate change concern is also a strong driver for serious commitment to conservation and efficient issues across all sectors utilizing energy.

58. To optimize the use of energy for development, it is important to implement measures to minimize energy consumption and increase energy efficiency. Often, these measures could be implemented within short timeframes at little or no investment cost.

Where feasible, Member States will:

a) Promote energy conservation, energy efficiency, reductions in energy intensity and establish appropriate measurement and monitoring standards and guidelines adopted at a regional level;

b) Promote energy saving measures through introduction of fiscal incentives and other incentives;

c) Implement intensive energy saving and energy efficiency programmes, which include:

   (i) energy audits of residential, commercial, public, Government and industrial properties;

   (ii) energy management guidelines; and

   (iii) retrofitting.

d) Promote energy efficiency, renewable energy and sustainable 'green' design features in the design, construction, refurbishment and upgrade of public, commercial and residential buildings through building codes;

e) Establish regional energy efficiency institutional networks and energy efficiency testing facilities;

f) Set minimum efficiency standards that require electric utility and electricity producers to decommission inefficient generating equipment and conduct Demand Side Management programmes;

g) Develop regional public sector energy efficiency programmes;

h) Establish training capacity in energy auditing, energy efficiency and conservation, and other relevant disciplines in national and regional agencies;

i) Support the development and implementation of a Regional Strategy on Energy Efficiency;

j) Establish a regional collaboration mechanism with organizations such as CROSQ for the creation and implementation of standards and labeling for energy consuming equipment, electrical appliances and vehicles and adopt and enforce such strategies at a national level;

k) Enact energy efficiency legislation;

l) Introduce regulations and fiscal incentives to encourage the use of solar-thermal systems for hot water production in all sectors;

m) Promote life-style changes to use less energy, for example, walking and bicycle riding; and

n) Actively encourage the use of energy efficient appliances and lighting.

CHAPTER 6.0 ENERGY USE FOR TRANSPORTATION

The Policy is to promote fuel switching in the transportation sector to cleaner energy sources and encourage greater efficiency transportation sector.

59. Within CARICOM (except Trinidad and Tobago), energy consumption in the transport sector depends almost exclusively on imported petroleum products, mainly gasoline, diesel and kerosene, with limited options for diversification of energy sources. Transportation of people and goods is crucial to the functioning of the whole economy. In addition the transportation sector contributes a high level of emissions, including (GHG) emissions and this is a serious environmental concern. For all CARICOM countries except Trinidad and Tobago, the sector also remains highly vulnerable to the dependence on imported fuel supplies and unpredictable spikes in oil prices.

Where feasible, Member States will:

a) Implement strategies to encourage fuel switching in the transportation sector and improve fuel conservation and efficiency in ground, marine and aviation transportation;

b) Promote the use of fuel efficient vehicles through public awareness campaigns and/or labeling schemes on fuel efficiency and correlate vehicle import taxes to fuel consumption;

c) Promote the use of cleaner fuels in the transport sector, in particular CNG and biofuels, if those options prove to be sustainable and economically attractive;

d) Identify appropriate incentives for promoting technological development in fuel switching as well as the use of electric and hybrid vehicles and collaborate with electric utilities on suitable high-voltage upgrades to national grids;

e) Apply appropriate planning designs to the road transportation networks and in traffic management to promote energy efficiency; and

f) Identify and implement alternative modes of transport, in particular mass transit systems that promote energy efficiency.

CHAPTER 7.0 ENERGY INVESTMENT

The Policy is to undertake the necessary reforms in a timely manner to encourage greater investment in the energy sector.

60. Energy related projects are capital intensive, and as a consequence require considerable capital investment from both public and private sectors of CARICOM Member States. Appropriate conditions must be created to attract much needed financing from domestic, regional and international sources for energy projects.

Where feasible, Member States will:

a) Strengthen the requisite fiscal, policy, legislative and regulatory frameworks to encourage and increase private and public sector investment in the development and commercialization of relevant energy related projects (including provision of fiscal and economic incentives), in *inter alia*:
   (i) Petroleum resources;
   (ii) Natural gas resources;
   (iii) Renewable energy resources;
   (iv) Energy efficiency.

b) Establish energy investment promotion units or facilities to:
   (i) record, monitor, facilitate and support public and private investments in energy and renewable energy related projects;
   (ii) identify local, regional or international agencies which provide funds for energy or renewable energy or clean energy projects (such as natural gas) projects and assist prospective investors in satisfying the application criteria;
   (iii) develop or coordinate the sharing of relevant information which will facilitate investment decision making for energy sector investment.

c) Participate as members in relevant regional and international organizations in order to maximize access to resources, assistance and support;

d) Develop and maintain an up-to-date pipeline of renewable energy, energy efficiency projects and nationally appropriate mitigation actions (NAMAs) and cooperate in exploring innovative financing mechanisms, including carbon trading opportunities and international funding schemes;

e) Establish or strengthen Designated National Authorities (DNA) for handling projects under the Clean Development Mechanism (CDM) or subsequent international carbon trading programmes and cooperate in developing joint CDM projects.

CHAPTER 8.0 INTRA-COMMUNITY TRADE IN HYDROCARBON ENERGY SOURCES

The Policy is to ensure fair pricing and access to hydrocarbon resources by all Member States to improve the competitiveness of regional industries.

8.1 CRUDE OIL AND PETROLEUM PRODUCTS

61. All Member States, except Trinidad and Tobago, are net importers of petroleum. CARICOM Member States expend a significant percentage of their national budgets and export earnings annually on petroleum imports.

62. The supply of petroleum products is constrained by several factors, including the availability of appropriate shipping services and issues relating to parcel size and product specifications.

Where feasible, Member States will:

a) Increase energy efficiency, enhance energy conservation and reduce the demand for petroleum per unit of output;

b) Collaborate in developing measures to ensure appropriate, transparent and least-cost mechanisms for shipping petroleum products on a long-term basis;

c) Create strategic stockpiles of petroleum and petroleum products;

d) Foster increased collaboration and coordination among national petroleum companies, so as to maximize their leverage in the market; and

e) Utilize developments in technology which allow for the commercial distribution of energy among Member States in an efficient manner.

8.2 NATURAL GAS

63. Natural gas is considered as an environmentally friendly clean fuel, offering important environmental benefits when compared to other fossil fuels. A key trans-border supply option for natural gas in the Caribbean is centered on the initiative described as "*The Eastern Caribbean Pipeline Project*" between Trinidad and Barbados and continuing to Martinique and Guadeloupe with a spur to St. Lucia. However some CARICOM countries are considering possibilities of use of LNG to supply power sector, especially due to changes in the global market for natural gas with trend towards smaller LNG shipments and generally lower prices resulting from large discoveries globally.

64. Given the increasing demand for natural gas among some CARICOM Member States, the establishment of a more efficient transportation, distribution and marketing network for natural gas is required.

65. Natural gas supply options and the costs thereof vary, depending on whether it is transported, distributed or traded in the following forms:

- CNG;
- LNG; or
- Piped natural gas.

Where feasible, Member States will:

a) Identify and implement alternative methods and measures aimed at:
   (i) creating more efficient means to transport natural gas; and
   (ii) expanding the transportation and trade network for natural gas within the CARICOM.

b) Co-ordinate shipping arrangements to minimize transportation costs.

8.3 PRICING

66. The prices of petroleum products in the Region are volatile and subject to the vagaries of the international market-place. Developments in global energy markets have led to

surging oil and, to a lesser extent, natural gas prices. Within CARICOM the demand for and supply of petroleum is estimated at less than 1% of world demand and world supply respectively. Moreover, CARICOM Member States have little or no capability to influence prices of crude oil and petroleum products which are traded internationally in the global market.

67. Determination of basic petroleum prices will remain largely a function of demand and supply in the global market-place and by extension within the Community. Pricing of regional energy sources should conform to Article 177 of the Revised Treaty of Chaguaramas that pertains to the Prohibition of Anti-Competitive Business Conduct. Member States need to focus on and positively affect both demand and supply.

68. Delivered and retail prices for petroleum and petroleum products within CARICOM vary widely but are among the highest in the world. Trinidad and Tobago and Suriname are the only CARICOM countries in which retail petroleum products prices are directly subsidized.

69. Some Member States have in the past taken policy decisions to reduce the tax on petroleum products during spikes to ease the burden on consumers, in effect providing indirect subsidies. The Regional Energy Pricing Study (2010) found that there is need for greater transparency in the price build-up structure for many of the CARICOM Member States as there are some concerns regarding the mechanism used to pass fluctuations in international prices onto the domestic retail market.

Where feasible, Member States will:

a) Identify mechanisms which mitigate the adverse effects of escalating prices for crude, petroleum products and natural gas;

b) Phase out and rationalize fossil-fuel subsidies and establish pass-through pricing systems on the domestic market to better reflect global price variations and enhance the competitiveness of renewables; and

c) Urge the relevant authorities to collaborate in ensuring transparency in the price build-up structure for petroleum and petroleum products within CARICOM.

CHAPTER 9.0 ENERGY AND THE ENVIRONMENT

The Policy is to ensure that energy is supplied and consumed in a manner that creates minimal adverse impact on the environment.

70. The production, transportation and use of energy have considerable impact on the environment. It is important to ensure that economic growth, sustainable and secure energy supplies and a clean environment are compatible objectives. The challenge for the Community is therefore to ensure that the solutions for ensuring sustainable and secure energy supplies do not exacerbate problems in the environment.

71. The integration of environmental considerations within the Community energy policy needs to take place in a balanced way taking into account the goals and objectives of the policy. A key objective of this policy is to ensure that good environmental practices are observed in accordance with national, regional and international environmental standards and legislation. To achieve these objectives, action at all levels is required.

Where feasible, Member States will:

(a) Evaluate and disseminate information on the environmental impacts of various energy options;
(b) Develop and implement information and educational programmes on the benefits of clean energy for end users;
(c) Ensure the exchange of information, the dissemination of environmental best practices on the production, transportation and utilization of energy and shared analyses to facilitate cooperation among Member States;
(d) Strengthen the capacity of the relevant authorities to monitor and enforce existing national, regional and international environmental legislation and Standards;
(e) Introduce economic and fiscal incentives and measures, which promote good environmental practices in the energy sector;
(f) Introduce programmes for self-regulation of energy producers and suppliers;

(g) Develop appropriate plans for liability and compensation regimes for cases of environmental acts and omissions negatively affecting the environment;

(h) Create enabling framework to foster clean energy projects through financial or other incentives; and

(i) Develop adequate, clear and transparent requirements and procedures for the execution and approval of environmental impact assessments in the case of large-scale energy projects.

CHAPTER 10.0 ENHANCEMENT OF HUMAN AND INSTITUTIONAL CAPACITY

The Policy is to build and strengthen the human capacity and skills as well as the institutional capacity within the Region, encourage research and development and increase public education and awareness to ensure energy sector development.

10.1 HUMAN RESOURCE DEVELOPMENT

72. It is important that CARICOM Member States train and develop skilled personnel to satisfy the current and future human resources demands of the energy industries.

Where feasible, Member States will:

a) Identify and promote mechanisms to develop a regional pool of human resources to provide the requisite professional expertise and skills needed in the energy sector;

b) Establish regional mechanisms to provide for training and technical assistance in the energy field;

c) Persuade public and private schools, technical colleges and universities, to conduct programmes and courses and offer overseas student or job trainee/internship exchange energy programmes in subjects including, *inter alia*: petroleum value chain; renewable energy; energy efficiency; energy policy, programming and research and development; and

d) Offer scholarships and funding for the training of skilled personnel in energy and energy related fields.

10.2 INSTITUTIONAL STRENGTHENING

73. CARICOM Member States should ensure that the appropriate legal, fiscal and regulatory frameworks are established in order to aid the development and implementation of the CARICOM Energy Policy.

Where feasible, Member States will:

a) Create, develop and promote institutional capabilities in the energy and electricity sectors in areas including:
   (i) Energy Policy formulation;
   (ii) Energy management, assessment and audit of energy systems;
   (iii) Resource monitoring;
   (iv) Design of legislative and regulatory frameworks pertaining to the energy and electricity sectors; and
   (v) Energy sector diagnosis and energy planning including the use of modeling techniques.

b) Support the CARICOM Secretariat, through its Energy Programme, as the central coordinating mechanism for energy sector development within CARICOM including oversight for the coordination of energy information function, given the current institutional arrangements for regional energy information;

c) Support the strengthening of the capacity of CEIS to provide harmonized data on the energy sector, conduct relevant and timely analyses and establish a central Regional Energy Database, which serves as depository for regional energy or energy related information for use by Member States and potential investors;

d) Provide, on a timely basis, the requisite information that the central depository requires to fulfill its function;

e) Develop a mechanism for facilitating intra-Community technical cooperation;

f) Urge all electricity generating utilities and other associated public and private sector entities in CARICOM to participate in relevant Regional Associations and Organizations;

g) Identify energy focal points and direct CARICOM Secretariat to convene regular meetings of officials to oversee the implementation of the CARICOM Energy Policy and C-SERMS;

h) Foster dialogue among national oil companies with the aim of enhancing access to energy resources within the Community and strengthen the CARICOM Energy Programme to coordinate inter-governmental energy dialogue and planning;

i) Collaborate with external partners and organizations such as OLADE to devise ways to improve the energy planning capacity and energy information systems in the Region;

j) Establish up-to-date energy balances and collect and publish sector-specific energy supply and consumption data on an annual basis and use jointly agreed indicators for cross-country comparison;

k) Support the CARICOM Secretariat, though its Energy Programme, to establish a CARICOM energy balance framework to support analysis, planning and tracking;

l) Establish appropriate national institutional structure to manage the energy sector; and

m) Consolidate resources, as in Centres of Excellence or a dedicated agency, around various sustainable energy technologies, in an effort to standardize methods to avoid duplication, share best practices, provide technical assistance, project management, etc, towards more rapid implementation of sustainable energy projects.

10.3 RESEARCH AND DEVELOPMENT

74. Market-led research, technological development, adaptation and commercialization of technology in the energy sector should be directed to enhancing the competitiveness of regional industries and improving the quality of life of the people of the Community.

Where feasible, Member States will:

a) Facilitate research and development primarily in natural gas, solar energy, geothermal energy, bio-energy, and other renewable resources by public and private sector agencies, research establishments and tertiary institutions and assist in identifying sources of funding for such activities;

b) Establish guidelines for the adaptation, diffusion and transfer of appropriate technologies in the fields of priority interest for research and development;

c) Promote research and development of appropriate energy related technology programmes;

d) Promote cooperation in research and technological development among Member States;

e) Facilitate cooperation:

(i) in training;

(ii) in the exchange of scientific and technical information among competent institutions; and

(iii) among private sector enterprises to integrate the results of research and development.

f) Support research and development and investigation into smart grid technology through regional and international collaboration on the assessment of smart grid pilot programmes as a strategy to reduce energy consumption, increase the efficiency of the electricity network and manage electricity generation from renewable technologies.

10.4 PUBLIC EDUCATION AND OUTREACH

75. Taking into account significant changes occurring in the global energy sector, it is imperative that the public be sensitized and encouraged to play an active role in the implementation of the programmes and projects emanating from the CARICOM Energy Policy. Further, in order to create a critical demand for clean, renewable energy and efficient technologies for sustainable market, it is necessary that the awareness levels of consumers and users be increased. Awareness level is linked to consumer demand and development of the market, business creation and jobs. Awareness building especially about the benefits and opportunities in relation clean and renewable energy technologies needs to be on-going and strategic.

Member States will:

i. undertake to create and implement programmes and course curriculum which ensure the availability and public dissemination of adequate information on the benefits of energy conservation and efficiency;

ii. Establish and stage national energy week as part of CARICOM Energy week celebration; and

iii. Support regional level clean energy, renewable energy and energy efficiency promotion through coordination and implementation of national and regional level strategies on a continuing basis.

CHAPTER 11.0 ENERGY ACCESS AND POVERTY ALLEVIATION

The Policy is to eliminate energy poverty and ensure access to clean, affordable and reliable energy supplies by all citizens of the Region.

76. In most CARICOM Member States, the majority of the population is connected to an electricity grid, however in some territories, a significant percentage of households have no access to the national grid or affordable energy supplies. Territories with special and extreme energy poverty situations are recognized as special challenges for the Community and may require responses involving regional level strategic approach. This, as access to modern energy services are crucial to human well-being and to a country's economic development; Energy services are intricately linked to hunger reduction, food security and rural development and are an absolute necessity for achievement of MDGs. Further, lack of access to modern energy forms of energy are intricately linked to issue of gender inequality, poor health for women and children caused by inhalation of smoke and particulate matter from conventional burning of biomass for cooking and heating.

Where feasible, Member States will:

a) Increase access to electricity and clean cooking fuels in remote areas and peri-urban communities where applicable, deploy alternative technologies in rural farming communities;

b) Establish and expand programmes to provide affordable energy to the poor and vulnerable in the Community and to eliminate energy poverty;

c) Expand programmes that leverage economic opportunities from expanded energy access and with emphasis on energy for production;

d) Support community participation in the management of isolated electricity systems in remote areas; and

e) Cooperate to establish regional level strategies to eliminate all incidence of extreme energy poverty in the Community.

CHAPTER 12.0 CROSS-CUTTING ISSUES

The Policy is to encourage sustainable energy practices and considerations in national development planning and within all other sectors and areas where there are linkages to energy production and use, such as agriculture, youth and culture, gender, etc.

77. Recognizing the cross-cutting nature of energy and its important linkage on various sectors including agriculture, industry, water resource management, transportation, waste management and climate change it is imperative that Member States take into consideration integrated energy planning and mainstreaming of sustainable energy considerations in national development planning and management.

Where feasible, Member States will:

Consider cross-cutting nature of energy production and use and the linkages with other sectors and, where necessary:

12.1. AGRICULTURE SECTOR

78. The agriculture sector both requires energy and can produce energy "an energy-smart approach to agriculture offers a way to take better advantage of this dual relationship between energy and food[13]". There are opportunities for the agriculture sector in CARICOM to shift towards being more energy smart. Against this background, where feasible Member States will:

(i) Take actions to mitigate the impact of energy planning on the agricultural sector with regard to the issue of bio-energy production and food security;

(ii) Encourage efficient energy usage to enhance irrigation and boost agricultural production;

(iii) Maximize the utilization of agricultural waste as feedstock for bio-energy production including animal waste for fuel;

(iv) Encourage the dual use of lands for agriculture and wind farms;

[13] FAO - 2011

(v) Foster the efficient use of energy to create value added agricultural products;

(vi) Pool resources for regional strategy for bio-energy industry including focus on bio-fuels and biomass feedstock; and

(vii) Pool resources to pursue research and development of second generation bio-energy production.

12.2. INDUSTRY AND ENTREPRENEURSHIP

79. Energy is a critical input to industry, and proper management of energy input through optimal fuel selection, energy efficiency and conservation is the basis for increased efficiency, productivity and competitiveness of industry. However, the energy sector itself is changing towards greater participation in generation especially using renewable energy sources, by small generators, whether domestic or commercial and will provide increased business opportunities for individuals, small, medium and large enterprises which are not traditionally involved in energy production. In this way, the energy sector in many territories can shift from being viewed as a problem to being viewed as an opportunity. Recognizing the opportunities for expansion of businesses and entrepreneurship in the energy sector,

Member States will:

i. create the necessary enabling legislative and regulatory frameworks to allow for small generators to produce electricity and supply to the grid in an economically sustainable manner;

ii. establish the relevant grid feed-in mechanisms to facilitate the development of decentralized/distributive renewable energy based industry; and

iii. encourage provision of capacity building and business development support for small and medium generators.

12.3. YOUTH AND CULTURE

80. Youth have been identified as vulnerable groups within the Community but are also very active as agents of change and cultural ambassadors. The energy sector can therefore represents opportunities for youth development and employment as well as the creativity and vibrancy of youth can be tapped to effect some of the desired changes towards a more sustainable energy pathway, characterized by improve EE and greater adoption of RE. Further, it is recognized in the area of awareness building, education and behavioural changes that the cultural industries can play and important role in combination with input from youth.

Recognizing the link between youth, culture and sustainable energy, where feasible Member States will:

i. promote job creation, career development opportunities in the energy sector among youth, especially in context of new paradigm for decentralized distributive generation and the spin-off services;
ii. engage youth in form of various youth groups in promotion of sustainable energy and through life style promotions;
iii. target students as a special group for effecting change towards more sustainable energy practices; and
iv. promote the use of indigenous art forms and music to generate interest and mobilized support for sustainable energy practices.

12.4. PHYSICAL PLANNING AND DEVELOPMENT

81. Member States will:

i. mainstream energy efficiency and optimization considerations in the urban and rural development planning processes;
ii. develop appropriate legislations for private and public sector housing development which require appropriate energy consideration for transportation, water, and physical amenities;
iii. encourage professional and trade allies to adopt sustainable energy code of ethics; and

iv. Encourage capacity building support for physical planners in the area of energy efficiency and conservation and sustainable energy in general.

12.5. GENDER

82. The role of gender has evolved as an important factor for consideration in many areas of development. It can be reasonably concluded that the energy sector development in CARICOM is not gender neutral. Increasingly in CARICOM households are headed by females and they also figure highly in energy products and services buying decision. Further, in territories where there are significant energy access challenges, it has been well established that women and children bear the brunt of the energy poverty problem. It seems necessary that energy-gender link be given carefully consideration and attention the development of strategies for transformed energy sector.

Where feasible Member States will:

i. Recognize and provide attention to energy-gender link in energy efficiency and energy access strategy towards enhanced benefits for energy sector strategy development and establishing equity in the context of energy access and energy poverty reduction.

12.6. NEW TECHNOLOGIES

83. Member States will:

i. Keep track of and pursue the development of new renewable energy technologies, such as ocean thermal energy conversion that offer the combined potential for usage to produce desalinated water; and

ii. Implement regulations that safeguard against ground, surface and marine water contamination resulting from the exportation, production, storage, transportation and use of energy.

12.7. WASTE DISPOSAL FROM THE ENERGY SECTOR

84. Member States will:

Implement measures to foster:

(i) sustainable methods of production in energy industries including reducing waste, recycling and reusing materials

(ii) safe disposal of waste from energy production, conversion, transmission, distribution and consuming activities, including safe disposal of equipment and materials replaced during energy efficiency improvements and upgrades

CHAPTER 13.0 ENERGY AND CLIMATE CHANGE

The Policy is to establish regional and national targets for the reduction of greenhouse gas emissions in the energy sector and implement appropriate mitigation actions relevant to the energy sector.

85. According to the World Energy Council's 2010 assessment of country's energy and climate policies, the energy sector is responsible for 60% of the global (GHG) emissions and much of regional and urban air pollution. Notwithstanding, the relatively miniscule emission levels within CARICOM Member States to the global stock, the Intergovernmental Panel on Climate Change (IPCC) has concluded that small island developing states and low-lying states such as the CARICOM Member States are especially vulnerable to the effects of climate change. As a result, SIDS must be at the forefront of calling for stronger action on the part of developed states for reducing missions and must therefore lead the process for migrating to low carbon systems. Furthermore, climate compatible systems will enhance the service oriented industries of the CARICOM e.g. large tourism industry that is characteristic of many Member States.

Where feasible, Member States will:

a) Collaborate on the establishment of regional targets for emission reduction within the context of the Caribbean Sustainable Energy Roadmap and Strategy (C-SERMS) that are informed by international obligations and voluntary commitments under the United Nations Framework Convention on Climate Change (UNFCCC) and the Alliance of Small Island States' (AOSIS) climate change negotiating strategy and objectives;

b) Determine greenhouse gas emissions baselines and establish national emission reduction targets for voluntary commitment as Nationally Appropriate Mitigation Actions (NAMAs); and

c) Identify projects that could be funded from resources available under the global climate change agenda and make collective representation for such funds to be disbursed.

CHAPTER 14.0 ENERGY AND DISASTER PREPAREDNESS

The Policy is to develop strategies to ensure the availability of energy supplies and products and a strategic response to any oil spill and sustainability of energy services during any crisis.

86. CARICOM Member States are vulnerable to the effects of climate change which include rising seas, coastal erosion, flooding, and more frequent and intense weather events, including hurricanes. These can cause catastrophic damage to the overhead transmission and distribution facilities used in the Region.

87. Notwithstanding the absence of any major oil spill in the Region, onshore or off-shore oil spill similar to the 2010 Gulf of Mexico Oil spill could cause serious negative environmental, socio-economical and macro-economic impacts on the developing economics of CARICOM Member States.

Where feasible, Member States will:

a) Develop and implement a regional strategy to develop and maintain strategic regional reserves of crude oil and energy products to be accessed in time of emergency or crisis;

b) Support the development and implementation of a regional rapid response strategy for the restoration of electricity facilities;

c) Promote the use of renewable energy technologies with the aim of minimizing the possibility of oceanic pollution resulting from oil and petroleum discharge into rivers, seas and ocean whether from tankers and ships spills or industrial activities;

d) Collaborate in developing a Regional Oil Spill Plan; and

e) Collaborate to develop a comprehensive energy sector disaster response plan focused on all technologies deployed in the Region.

CHAPTER 15.0 TRADE IN ENERGY SERVICES

The Policy is to develop strategies to take advantage of opportunities for trade in energy services regional and internationally.

88. A wide range of services underpin the production, transport and distribution of energy goods and products. These services range from geological mapping of prospective oil and gas fields, renewable energy resource assessments, through trading and marketing of diverse energy products to end-use energy efficiency, auditing and energy facilities management. Few service sectors have as broad a scope as energy or are as deeply connected with the alleviation of poverty, the diffusion of technology and the achievement of environmentally sustainable growth.

89. It has been identified in a regional study (2009) providing a Assessment of the Energy Services Sector in the Caribbean that the area of energy services is now being given increasing attention in the context of trade and the WTO and is therefore identified as a potential area of opportunity for CARICOM countries involved in oil and gas as well as renewable energy development. Further, international trade commitments in the energy services sector can have major strategic implications and liberalization of domestic energy markets can also yield important economic benefits. In view of the potential benefits of fully developing an energy services sector in CARICOM and the evolution of the regional energy sector, Member States will:

i. Seek to harmonize and extend of local content provisions in the energy sector in line with the Treaty and to facilitate regional business development;

ii. potential area for Caribbean private-sector investment and seek to include the energy services sector in their business and export development activities;

iii. Support regional level initiatives (possibly model off The Energy Industry Competency Development Initiative - EICDI) to create a common and internationally recognised system of technical training and certification for the Caribbean energy sector for addressing skills gap and barriers for regional firms access contracts with multi-nationals;

iv. Will seek to address existing barriers preventing local firms from accessing contracts with multinationals in the Caribbean energy sector; and

v. Encourage increased collaboration and sharing of information between national business communities with respect to opportunities in the energy services sector.

CHAPTER 16.0 CONCLUSION

90. The Member States of the CARICOM Community have for some considerable time evinced an interest in the formulation of a CARICOM Energy Policy and the implementation of measures which could insulate net energy importing Member States from the vagaries of the international oil market.

91. Today, however, industry experts generally agree that a fundamental shift in the oil market has occurred, which will prevent prices from returning to the more acceptable levels experienced in the past. If regional Governments accept this assessment for the future direction of the petroleum market, it is crucial that previous inaction is not repeated and immediate steps are taken to implement this policy, with the ultimate goal of assuring the vitality of regional integration movement and avoiding serious economic difficulties among the more vulnerable Member States of the Community.

92. This CARICOM Energy Policy has been so formulated as to lend itself to targeted and programmatic implementation of its constituent elements, whether for example, such elements relate to the creation of strategic reserves of petroleum products and the modalities associated with that exercise; the need for establishment of some measure of control over shipping of petroleum products to disparate island markets and low lying coastal States in the Community; or desirability for diversification of the energy mix and increase in the proportion of renewables in the production of energy.

93. Taking due cognizance of the significance of energy in the everyday life of the citizens of the Caribbean Community and its importance in the sustainable economic development of Member States, it is of critical importance that regional Governments seek to adopt, incorporate and implement the objectives and programmes outlined in this CARICOM Energy Policy.

94. In pursuit of the sustainable economic development of the Community and the enhancement of the quality of life of the people of the Region, acting individually and in concert,

Member States are required now, beginning with the adoption of this Policy, to cooperate and collaborate on measures designed to ensure provision of affordable, ample, clean and high quality energy to the consumers of the Region and to engage in purposeful and concrete actions that minimize, reduce and mitigate any economic distress to most Member States caused by high petroleum prices. The ability of regional governments to exert positive influences on petroleum pricing in the Community will be a function of the collective willingness of Member States to confront those peculiarities and weaknesses in the petroleum market in the Community that conduce to the maintenance of high prices in the Region for petroleum products.

95. Even though Member States are at various stages along the path to energy policy formulation, a CARICOM Energy Policy is still considered critical for an integrated and collaborative approach to tackling the many issues associated with energy production and consumption in the Region. The policy underpins the principles outlined in the Revised Treaty for cooperation in energy trade. A CARICOM Energy Policy will also strengthen efforts to access funding and leverage opportunities available to the Region as a bloc under various initiatives designed to support energy diversification and climate change mitigation.

96. Since the draft CARICOM Energy Policy was presented to Conference of Heads of Government in 2007, significant developments have necessitated the critical review of the draft CARICOM Energy Policy. This finalized CARICOM Energy Policy therefore addresses a number of gaps and key issues for the Region and provides clarification on areas where the language in the initial Draft CARICOM Energy Policy was ambiguous or vague.

97. In addition, the key recommendations contained in the 2009 Energy Services Report have been integrated in the revised text to bolster the importance of the energy services at both the national and regional levels including:

(i) creation of the enabling framework to enhance the integration of energy markets to gain benefits from economies of scale and enhance the viable exploitation of renewable energy projects;

(ii) support regional integration and trade in energy;

(iii) greater collaboration between the public and private sectors in the development of energy resources;

(iv) increased training and research and development in energy technologies; and

(v) enhanced regional and intra-regional cooperation in the compilation and sharing of energy information and data.

END