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**Renewable Energy and Regional Austerity: A Legislative and  
Regulatory Perspective**

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*“The Caribbean region is at the crossroads in its economic history, when it simply cannot afford the high costs and volatile prices of fossil fuels. Our small, open economies are all constrained in their development by uncertainty in the global environment, the volatility in international pricing of oil which impacts severely on our competitiveness, the region’s high electricity rates which are some of the highest in the world, our level of imports and the slow growth in our foreign exchange earnings...*

*Despite these harsh realities, our common history shows that interest in renewable energy and energy efficiency wanes when the price of oil on the international market is modest. However, international oil pricing over the last few years and the projections for the medium term have shown that the days of cheap oil are over. I therefore have no doubt that the region’s interest in this initiative will now be sustained, as evidenced by your presence and enthusiasm shown thus far, in the pursuit of this initiative...*

*Over and over again, we have all recognised that our region is blessed with an abundance of renewable energy resources: solar, wind, biomass and ocean in all countries and in some, hydro and geothermal energy. The challenge for us as a region is how to transform this potential into realisation.”*

Minister in the Office of the Prime Minister, Senator Darcy Boyce, addressing the Caribbean Sustainable Energy Road Map and Strategy (C-SERMS) Resource Mobilisation Forum held on the 11<sup>th</sup> July 2013 at the Accra Beach Hotel, Barbados.

### **ABSTRACT OF PAPER:**

The often clichéd phrase that energy is the *“lifeblood of an economy”* appropriately explains the current ill health of Caribbean economies during the present times of austerity. Over reliance on fossil fuel imports primarily for electricity generation and transportation continue to be a major burden on the balance of payments for regional governments with fuel imports accounting for in excess of 10% to as high as 20% of their Gross Domestic Product (GDP) in some instances. The negative effects associated with this situation have been further exacerbated by the protracted downturn in the economy since 2007, resulting in increased unemployment, reduced foreign direct investment (FDI), declining tourist arrivals and reduced foreign exchange earnings. In short, the region’s reliance on fossil fuels and the current global economic crisis have created the perfect storm for a regional financial catastrophe, with urgent attention now being placed on identifying viable solutions for the immediate to medium term period.

The rapid deployment of Renewable Energy Technology (RET) throughout the region is being heralded as the primary option best equipped to holistically rescue and rebalance the skewed structure of regional economies. Globally, the deployment of RET has been identified as one of the fastest growing sectors, with over 50 % of new installed electricity generating capacity globally comprising of RET’s since 2009.<sup>1</sup> Along with this growing trend, has been the emergence of new sources of FDI, non-governmental funding and technical support and novel foreign exchange earning avenues via trade in renewable energy certificate (REC’s) and carbon trading.

Coinciding with these technological advancements and non-traditional investment opportunities, is the fact that the region due to its proximity to the equator, is blessed with an abundance of exploitable renewable energy (RE) resources, particularly wind and solar. In recent years, the cost of deploying RET’s, particularly solar photovoltaic panels and wind turbines, has significantly plummeted making the generation of electricity via these technologies cheaper than traditional fossil fuel based generation which is currently mainstay for most regional utility companies. In spite of the availability of these commercially and economically viable technologies, several barriers such as a lack of financing options, technical resources, political will, and the absence of legislative and regulatory frameworks exist throughout the region with a few notable exceptions. As consequence, several opportunities and options available to regional governments have been missed, but countless avenues still abound for the region to emerge from the current period of austerity

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<sup>1</sup> International Renewable Energy Agency (IRENA) , Caribbean Country Profiles

Throughout this discussion, attention will be placed on the current state of regional energy policies and prevalence of legislative and regulatory barriers to the deployment of RET. It is accepted globally that policies governing the supply and cost of energy for electricity generation and transportation touches and concern every single individual and entity within a society. Towards this end, the development of appropriate policies to promote access to cheap sources of electricity and fuel for transportation is critical to social and economic sustainability. Small island developing states (SIDS) have largely relied on fossil fuels for over 90 % of their electricity generation, thereby exposing them to fuel price volatility due to their isolation and limited indigenous hydrocarbon and economic resources. As a result, high electricity rates and gasoline prices are an endemic feature of island states globally. The territories of Hawaii, United States Virgin Islands (USVI) and British Virgin Islands (BVI) and Barbados will be examined as global and regional case studies highlighting both the successes and challenges to be considered by regional governments as they seek to rapidly craft policies governing the legislative and regulatory frameworks for the RE sector.

In charting the way forward, there are several policy, legislative and regulatory options available to regional governments to benefit from mature and commercially viable RET's. Accessing these benefits do not require reinventing the wheel, as is demonstrated through a careful examination of the experiences by islands states globally. The opportunities range from the structured deregulation of monopolistic structures amongst several island utilities as was done in telecommunications over a decade earlier, the introduction of interconnection mechanisms such as Distributed Generation or Net-Metering, Wheeling, commercial grid storage and Electric Vehicles (EV's). In addition to these measures, numerous opportunities abound for legal practitioners currently pursuing or contemplating practice within the region's emerging RE sector. The formulation of Power Purchase Agreements (PPA's), resolution of investor and utility disputes, drafting and interpretation of legislative and regulatory policies and the trade of REC's under the World Trade Organisation (WTO) rules are emerging areas of legal practice throughout the region.

## **Introduction**

The often clichéd phrase that energy is the *“lifeblood of an economy”* appropriately explains the current ill health of Caribbean economies during the present times of austerity. Over reliance on fossil fuel imports primarily for electricity generation and transportation continue to be a major burden on the balance of payments for regional governments with fuel imports accounting for in excess of 10% to as high as 20% of their Gross Domestic Product (GDP) in some instances. The main thesis of this paper will be to suggest that immediate investment in Renewable Energy ("RE") and Energy Efficiency ("EE") technologies holds the key to substantially transforming the economic fortunes of regional economies within the next five to seven years, by reducing their dependence on fossil fuel imports and limiting the leakage of foreign exchange from vulnerable open economies.

The success of this transformation however, relies heavily on the level of legislative and regulatory creativity being established by regional policy makers and the relevant stakeholders in their respective economies. This paper will seek to identify several of the opportunities available to regional governments from the rapid introduction of RE and EE technologies, while also highlighting several of the endemic challenges preventing the immediate deployment of these technologies. An emphasis will be placed on legislative and regulatory barriers and some of the successful approaches adopted by other island states globally with special focus on the models adopted in Hawaii, USVI, BVI and Barbados.

## **Background to regional energy crisis**

### **Over Reliance on Fossil Fuel Imports**

For several decades there have been much discussion by regional governments over the need to restructure their respective economies from agrarian mono crop and tourism based economies to a more balanced and diversified ones, relying on a number of interconnected sectors producing sustainable jobs and earning vital foreign exchange. The use of fossil fuels as the primary source of energy for electricity generation and transportation has also been highlighted as one of the major areas of concern for successive regional governments. As far back as the oil crisis of the 1970's, the vulnerability of regional economies from an almost 100 % reliance on fossil fuel imports of mainly oil and its various by-products, had been severely exposed. Unfortunately, after global oil prices stabilized and the immediate negative effects subsided, regional governments failed to pursue deliberate paths to aggressively restructuring their respective economies away from the reliance on this commodity and today are again exposed to the volatility of the world's fossil fuel prices. The emergence of global financial crisis in late 2007, has further exacerbated the macro-economic

weaknesses associated with fossil fuel imports, as declining tourist arrivals, reduced FDI, increased unemployment, and skyrocketing debt to GDP ratios now threaten the ability of regional governments to purchase this important commodity.

### **Impact on Regional Societies**

The large scale use of diesel fired generators for the generation of electricity throughout the region has resulted in consistently high electricity rates, with the notable exceptions of Trinidad and Tobago and Suriname who both possess large domestic energy resources of fossil fuel and hydro power. A June 2011 Caribbean Regional Electric Utility Corporation (CARILEC) release indicated that regional electricity rates averaged above US 0.35 per kilo watt hour (kwh).<sup>2</sup> This price compares poorly with average electricity rates amongst the 27 European Union (EU) members states, whose average price per kwh for the same period was below US 0.18(kwh).<sup>3</sup>

Coincident with consistently high utility rates has been a concomitant rise in the costs of living and doing business throughout the region. These factors have made food prices and access to services increase above the earnings of several citizens throughout the region. With the onset of the global recession this situation was further worsened by the fact that declining or anaemic growth rates, have forced some regional governments to reevaluate various social programs geared towards protecting the most vulnerable groups in their societies.

The major productive and service sectors have also been affected, as 2009 study commissioned by the Barbados Hotel Tourism Association reported that hoteliers identified utilities as the most burdensome input cost affecting the sector ranking above labour and insurance, food and beverage, and building maintenance.<sup>4</sup> This scenario was subsequently supported by similar finding throughout the regional Hotel Sector where high utility costs were identified as an endemic and debilitating feature to the maintenance of cost effective operations.<sup>5</sup>

At the macro-economic level, the importation of fossil fuel consistently accounts for between 10% and 20 % of the gross domestic product (GDP) amongst regional economies. In addition, regional

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<sup>2</sup> Caribbean Electric Utilities Corporation (Carilec) Tariff survey among member utilities - Mid-year (June)2011

<sup>3</sup> Eurostat Half-yearly electricity and gas prices, second half of year, 2009-2011

<sup>4</sup> Barbados Hotel & Tourism Association study entitled "A Study on the Competitive Tourism Environment which Barbados Faces: Its challenges and Solutions.", prepared by Property Consultancy Services Inc. with contribution from Charles Tibitts and Judith Wilcox.

<sup>5</sup> The Caribbean Hotel Energy Efficiency Action Program (CHENACT) CARILEC 2010 CEO Conference Antigua, May 24-26, 2010 Loreto Duffy-Mayers CHENACT Project Manager Mark Oven PA Consulting Group

economies are also characterized by massive trade deficits with the outside world of which fuel again accounts for the largest line item accounting for in excess of 30% and 40% of total imports.<sup>6</sup>

Amidst growing concern over the financial state of regional economies, the data presented above suggests that if we were to reduce our dependence on fossil fuels, we can see an improvement in our trade deficit with the rest of the world while simultaneously saving significant foreign exchange. Therefore, efforts currently being undertaken at both the level of Government and the private sector with respect to renewable energy must be intensified as the deployment of RET holds the key to successfully lifting our economies out of the current austerity.

## **Current state of RET**

By way of background, RE can be defined as a naturally occurring, theoretically inexhaustible source of energy, such as biomass, solar, wind, tidal, wave, and hydroelectric power that is not derived from fossil or nuclear fuel. RET can be defined as devices that utilize or harness renewable energy resources such as solar panels, wind turbines, bio-digesters and hydro. The Caribbean as a region has enjoyed a long history of the successful use of RE particularly during the colonial era when both the rivers and the North East Trade winds of Jamaica and Barbados respectively were used to power windmills for grinding sugar canes. Having been blessed with an abundance of RE resources such as wind, sunshine, geothermal, hydro, biomass, wave and ocean thermal energy, largely due to its geographic location, the region is advantageously positioned to benefit from recent advances in RET's over the past five (5) decades.

Approximately ten (10) years ago, the cost of a barrel of oil was sufficiently low to negate serious investment in RET by regional governments. Additionally, apart from hydro power which was confined to territories with significant rivers and commercial wind projects, all other forms of RET were not economically viable for deployment regionally due to the prohibitively high costs associated with their installation. In the last five years however, there has been a major paradigm shift as the cost of a barrel of oil has consistently hovered between US\$80 and \$100. In contrast, the cost of RET technologies such as wind and solar photovoltaic (pv) have plummeted in price making them competitive or cheaper than conventional fossil fuelled generation.<sup>7</sup> In fact, a recent study conducted by the International Renewable Agency (IRENA) on the costs of deploying RET's, indicated

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<sup>6</sup> International Renewable Energy Agency (IRENA) , Caribbean Country Profiles

<sup>7</sup> Inter-American Development Bank Climate Change and Sustainability Division Energy Division, Discussion Paper No. IDB-DP-292 "Rethinking Our Energy Future: A White Paper on Renewable Energy for the 3GFLAC Regional Forum" prepared by Walter Vergara, Claudio Alatorre and Leandro Alves.

that the installed costs for solar in Latin America and the Caribbean are the lowest globally at utility scale.<sup>8</sup>

Apart from the reductions in the cost of electricity generating RET's, advances in battery storage technologies also provide significant opportunities for regional governments. A May 2012 report prepared by the IRENA entitled "**Electricity Storage and Renewables for Island Power: A Guide to Decision Makers**",<sup>9</sup> indicated that the introduction of storage in the mix of island utility generating infrastructure can lead to greater efficiency and reductions in fuel consumption in the absence of renewables. The report suggests that:

***Detailed modeling of a typical diesel-based island electricity system shows that storage can be cost-effective even in the absence of renewables through its ability to increase diesel generator efficiency and thereby reduce diesel consumption. The rampant oversizing of diesel generators contributes to these potential savings. A combination of renewables, storage and diesel generators—all carefully sized and integrated—can yield the lowest cost solution (based on the levelised cost of electricity).***

Notwithstanding these unique circumstances, the region has been slow to embrace the deployment of a range of RET's to either harness or store its unlimited RE resources, as the current level of RE penetration amongst several of the regional economies is below 1% of total demand for electricity. In addition, several regional governments have only recently commenced drafting or have not approved draft energy policies seeking to identify a path towards the structured deployment of RET's.<sup>10</sup>

## **Major Barriers to RET Deployment**

Despite the natural geographic and climatic advantages enjoyed by the region with respect to its vast renewable energy resources, several barriers exist which militate against the rapid deployment of RET. Barriers to RET deployment, particularly in island nations, have been political, economic, financial, legal, regulatory, technical, institutional and even cultural in nature. Many of these barriers have translated into higher costs or risk premiums compared to conventional energy technologies. As a consequence, economic incentives, such as tax exemptions or feed-in tariffs,

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<sup>8</sup> IRENA Report "Renewable Power Generation Costs for 2012: An Overview."

<sup>9</sup> IRENA Report "Electricity Storage and Renewable for Island Power: A Guide for Decision Makers." IRENA May 2012

<sup>10</sup> Small Developing Island Renewable Energy Knowledge and Technology Transfer Network (DIREKT) Transnational Recommendation Report 2013.page 19



have been required to promote the deployment of RET. As indicated earlier, the absence regionally of clear energy policies continue to inhibit the deployment of RET's.

### **Monopoly Owned Electric Utility Companies**

The region is characterized by a proliferation of privately and publicly owned vertically integrated monopoly utilities. These utilities have gained their existence via the granting of private licences limiting the three distinct services of generation, transmission and distribution to one entity. In addition, quite similarly, several regional governments still maintain control over the provision of these services through government departments or have created statutory corporations wholly owned by the state. The incidence of monopolies throughout the region has highlighted one of the central and most significant barriers to the deployment of RET's. The absence of independent and robust regulatory agencies to facilitate the deregulation of electricity services, which has been one the major catalysts globally, continues to limit the introduction of new technologies and increased competition into a region that is blessed by an abundant of renewable energy resources yet plagued by high rates. The paradox facing regional economies with respect to the structures in existence which support electricity generation were best described in a June 2013 discussion paper released by the Inter-American Development Bank (IDB) examining the deployment of Non-traditional RET's (NRET's) in the Latin American and Caribbean (LAC) region entitled "**Rethinking Our Energy Future**", which stated:

***By and large, the rules of the power sector in LAC and elsewhere, despite being in theory "technology blind", were tailor-made to suit conventional power generation technologies, and have therefore intrinsic biases against renewable energy. NRETs differ from conventional generation in their cost structures, revenue and costs stream, generation profiles, geographical distribution, and the wider range of societal benefits they deliver. Therefore, scaling up NRETs will require a recasting of this framework.<sup>11</sup>***

In essence, the rapid emergence and deployment of RET globally is in direct conflict with the economic objectives of traditional fossil fuel fired utility companies. This circumstance not only holds true for island states, but for all economies worldwide. As a result, utility companies in countries which have failed to adopt and implement robust policies on the integration of RET's backed by clear legislative and regulatory frameworks have been met with strident efforts by utility

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<sup>11</sup> Inter-American Development Bank Climate Change and Sustainability Division Energy Division, Discussion Paper No. IDB-DP-292 "Rethinking Our Energy Future: A White Paper on Renewable Energy for the 3GFLAC Regional Forum" prepared by Walter Vergara, Claudio Alatorre and Leandro Alves. Page 4 Executive Summary

interests to either block or forestall the introduction of RET into their grid infrastructure. An April 2013 article written by Giles Parkinson<sup>12</sup>, commenting on the twice yearly meeting of CEO's of utility companies and grid operators in Australia made the following observation:

***Business models for electricity generators and network operators have been largely untroubled for generations. But here in Australia, and across the globe, they are being challenged by new technologies that take the power (quite literally) of the market out of their hands, and into those of their customers – a trend driven by the plunging cost of solar PV and a whole series of “enablers” such as storage, smart meters and other technologies.***

### **Missed Opportunities and Options for the Future**

Unfortunately several opportunities have already been missed by the region's failure to pursue the development of a regional RE sector, particularly during the current period of austerity. The continued dependence on steady sources of FDI, predominantly for the commencement of major construction or tourism projects, has been one of the symptoms highlighting the current ill health of regional economies as there has been a scarcity of genuine and sustainable sources of FDI. Several high profile regional hotel projects have starting just prior to or after the onset of the global economic crisis, had commenced with much fanfare and tragically grounded to an indeterminate halt. Amidst this global downturn in investor confidence for traditional investment opportunities within the region, there has been an upsurge in global investment in the RE sector. Recent data compiled by Bloomberg New Energy Finance and the United Nations Environment Programme indicates that global investment in the RE sector totalled US\$833 billion between 2004 and 2010, with average annual investment since the onset of the global recession in 2007 being above US\$130 billion annually and increasing to US\$211 billion in 2010.<sup>13</sup> Unfortunately, the absence of approved and legislated Energy Policies in no short measure continues to militate against the region's ability to garner or attract a large proportion of the global share of FDI being directed to the RE sector.

### **Job Creation-**

In addition to missed FDI opportunities, the current period of regional austerity has significantly contributed to increasing levels of unemployment. The regional deployment of RET can have the transformational effect of creating a significant source of employment. The rapid development of a regional RE sector would serve as a source of additional revenue for engineers, electricians, building

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<sup>12</sup>“Electricity suppliers look to EVs to save their business models.” By Giles Parkinson

<http://reneweconmy.com.au/2013/electricity-suppliers-look-to-evs-to-save-their-business-models-24550>

<sup>13</sup> Global Trends in Renewable Energy Investment 2012 – Data Pack – prepared by Frankfurt School, UNEP Collaborating Centre for Sustainable Energy Finance, and Bloomberg New Energy Finance

contractors, carpenters and roof installers outside of their main areas of employment, as their skills would now be critically required to configure, install and service p.v. roof and ground mounted systems for domestic and commercial customers. An April 2012 study conducted on the USVI entitled “**Estimating the Potential Impact of Renewable Energy on the Caribbean Job Sector**”, indicated that conservatively a total of 800 green jobs, representing a total 2000 job years can be created by 2025 in that territory based on current project proposals.<sup>14</sup>

### **Manufacturing**

Despite the foregoing missed opportunities, the adoption of RET and EE products throughout the region can greatly assist in improving the competitiveness of regional manufacturers. The lowering of regional utility rates through the large scale deployment of RET’s would significantly reduce the cost of production for practically all manufacturing processes. In addition to reducing production costs, the deployment of RET can also enable regional manufacturers to employ green labelling as a means of marketing their products globally. The adoption of green labelling can be seen as a potential area of differentiation for regionally produced products for export. The United States Department Of Energy (DOE) through its National Renewable Energy Laboratory (NREL) conducted a study which indicated that products whose labelling indicated that some percentage of the production process was done with RE served as a major attraction and value added feature for a growing number of environmentally conscious customers within the US and EU.<sup>15</sup> The promotion of initiatives such as this amongst regional manufacturers would offer significant value added and branding critical to product differentiation.

### **Rebranding Regional Tourism**

The region’s reliance on tourism as a major driver of economic activity and foreign exchange receipts is well documented. Today, regional tourism faces a grim future through increased competition internally and as a result of the emergence of low cost tropical destinations such as Mexico and the Dominican Republic. Considerable research has been conducted with regards to the positive effects of Green Tourism, especially within the European and North American market. Marketing the region’s various hotels and attractions as being “**green**”, either through the attainment of international certification for the achievement of environmental standards or the increased use of

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<sup>14</sup> Estimating the Potential of Renewable Energy on the Caribbean Job Sector” prepared by Daniel Kammen. PhD and Rebekah Shirley of the Renewable and Appropriate Energy Laboratory (RAEL). University of California, Berkley.

<sup>15</sup>“Made with Renewable Energy: How and why companies are labelling consumer products.” National Renewable Energy Association labeling study

RET, would provide the regional tourism sector with much needed product differentiation from global competitors.

### **Earning Foreign Exchange**

The deployment of the RET can also be seen as an opportunity for regional economies to earn much needed foreign exchange during the current period of austerity. The structured trade of Renewable Energy Certificates (REC's) on the various Renewable Energy trading platforms in India, US, Australia and European Union can be seen as the means of achieving this objective. This opportunity which has emerged through the energy policies the above referenced countries setting quotas for the various RE technologies is called Renewable Portfolio Standards (RPS). In an RPS environment, utility companies are required to produce certificates on an annual basis demonstrating their attainment of the RE benchmarks set by the existing legal framework. Failure to meet these targets can result in fines or penalties. In addition to facilitating the imposition of fines and penalties, RPS's also serve as the legal basis through which utility regulators can dictate or guide utility companies to make certain investments in new generating capacity consistent with national RE policies and directives. Given the varying cost of generating electricity across the world the pressure on utility companies to meet these RPS have created an interesting dynamic where electric utility companies opt out of implementing the necessary RE infrastructure to meet their RPS standards and in turn go to industry specific stock exchanges or trading platforms to purchase REC's to be submitted to their respective regulators to demonstrate their compliance with the relevant RPS or benchmarks. REC's are measured through each Megawatt Hour (MWH or 1000kwh) of electricity produced by a renewable energy source, with one (1) MWH of power generated equating to one (1) REC. It should be noted however, that the various sources of RE energy attract different prices for their REC's, as Solar REC's attract higher prices on the traders market than a Wind or Biomass REC. The average price of one (1) Solar REC in 2011 ranged between US\$50 to US\$250. To bring the potential earning capacity for foreign exchange into sharp focus, the average 1MW solar p.v installation in the region would generate between 5 to 6 MWH of electricity daily or approximated 2000 MWH annually based on the region's documented solar profile. With an average Solar REC price of US\$150 per MWH, a 1MW installation could earn an additional US\$300,000.00 in revenue annually. These earnings would all be in addition to the savings in foreign exchange derived through reduced fuel imports for electricity generation.<sup>16</sup>

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<sup>16</sup> "Solar Renewable Energy Certificate (SREC) Markets: Status and Trends ", National Renewable Energy Laboratory Report

Traditionally, access to REC's trading platforms was restricted to domestic or regional projects and not cross border or international projects. However, a 2009 study written by Prof. Robert Howse of the University of Michigan Law School, and edited by Mr. Alexey Vikhlyaev of the United Nations Conference on Trade and Development (UNCTAD) Secretariat, considered the question of non-tariff barriers and renewable energy from the perspective of the law of the World Trade Organization. The first part of the study examines whether and to what extent, under the law of the WTO government, policies to *promote* renewable energy may be disciplined as non-tariff barriers. The second part addresses whether and to what extent WTO law could be used to challenge or discipline policies (regulatory barriers) that *disadvantage* renewable energy with the following observation being instructive:

***...the exclusion of foreign energy from the trading scheme would appear to be discriminatory under the GATT National Treatment standard. The limitation might be justified under Article XX of the GATT: however, given that emissions from fossil fuel generation are recognized in many international instruments as a global environmental problem, it is an open question whether under Article XX a WTO Member could justify discrimination based on the idea that its view of the problem is one that is limited to local externalities.***<sup>17</sup>

In light of the thesis posited by Professor Howse, it appears beneficial for regional governments and legal practitioners specializing in international trade law to aggressively pursue the enforcement of a favourable ruling granting access to REC trading platforms globally. Such a move would easily facilitate the trading of the commercial attributes being derived from the regions deployment of RET's.

In spite of these numerous opportunities, regional governments have been somewhat slow in accessing the various technical and financial resources currently available with respect to developing their respective RE sectors. This point can be seen, as with the exception of Antigua & Barbuda, Barbados, Cuba, Dominican Republic, St. Lucia, Grenada, and Jamaica, several other regional governments have neglected to pursue becoming members of IRENA. The failure by regional governments to join IRENA and several other NGO's, will continue to limit their access to grant funding and technical support for RE projects.<sup>18</sup> Therefore, the realisation of lifting the region from

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<sup>17</sup> United Nations Conference on Trade and Development- World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers) UNCTAD/DITC/TED/2008/5 UNITED NATIONS PUBLICATION Copyright © United Nations, 2009

<sup>18</sup> IRENA Website contains a list of current and affiliate members of the organization.

its current austerity through the RE sector largely depends on the creation of modern policy initiatives and robust legislative and regulatory frameworks.

## **Legislative and Regulatory Approaches to RET deployment in Island States**

Legal practitioners would be familiar with the tenets of legal precedent, which suggests that when confronted with a particular set of fact circumstances, we simply seek out previously established principles similar to our current scenario, as a means of finding answers and solutions. A similar exercise is now warranted with respect to the region's approach to developing necessary legislative and regulatory frameworks so vital to establishing successful RE sectors. In this regard, some discussion of the legislative and regulatory approaches adopted in Hawaii, the USVI, BVI and Barbados is warranted.

Globally the emergence of the Renewable Energy Sector has been largely driven by a trilogy of policy, legislation and regulation. Policy development speaks to the creation of a vision or objective which is to be achieved by the leaders or government in a given country usually as a means of either addressing or creating some overarching strategic national objective. Once identified, policy is usually given effect or brought into being by the passage and establishment respectively of specific legislation and regulatory interventions. The emergence of the RE sector in the United States of America, serves an example of this three tiered approach the deployment of RET.

In 1978, the US Federal government undertook the most significant legislative intervention leading to the emergence of the RE sector when it passed the Public Utilities Regulatory Policies Act (PURPA)<sup>19</sup> as part of its Energy Act. The passage of PURPA facilitated the deregulation of electricity generation services throughout the United States virtually ending the monopoly control of vertically integrated utility companies, as several Independent Power Producers (IPP's) became eligible for contracts to sell power onto the grid. PURPA also became the basic legislation that enabled renewable energy providers to gain a foothold in the electricity generation market, particularly in California, where state authorities were more aggressive in their interpretation of the statute giving rise to the emergence of several wind projects. In 2005, Congress made a further amendment to the PURPA to facilitate the introduction of RPS's. The incidence of RPS's globally has precipitated the recent upsurge in RET deployment as several countries who have set these targets are now

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<sup>19</sup> Public Utilities Regulations and Policies Act. The Public Utilities Regulations and Policies Act was part of an omnibus bill under passed as the Federal Energy Act in 1978 by the United States Congress.

experiencing significant growth in RE projects. These benchmarks are important as they form the legal basis through which utility companies can be mandated by their respective regulators to make the necessary immediate and future plans with regard to selecting the appropriate investments in plant and technology to facilitate the inclusion of RE sources of electricity into their transmission and distributive network.

### **Hawaii at a Glance**

The State of Hawaii can be considered as the world leader amongst island states with respect to the successful deployment of RET. Hawaii over the past decade, has carefully established a clear policy framework backed by a series of legislative and regulatory policies supported by local and international NGO's and stakeholder institutions. In 2001, Hawaii introduced its first RPS, some 4 years before the US federal requirement and subsequently increased these in 2009 and 2011. Legislation establishing Net Metering was also passed in 2001, enabling house holders and commercial businesses to generate electricity on their premises.<sup>20</sup> Currently the state has an ambitious target of reducing its fossil fuel consumption by 70% by 2030 through the establishment of a RPS of 40 % of its electricity being supplied by RET and an additional 30% reduction through energy efficiency.

On the regulatory end, Hawaii has also taken the lead amongst several islands states with respect to introducing unique regulatory provisions such as the introduction of inter government and intra government wheeling.<sup>21</sup> Wheeling is the industry phrase coined to describe the scenario where an electric utility generates power but does not own power transmission and distribution lines and simply establishes a connection to the network or grid of the existing utility. In return for having access to the network or grid, the IPP pays the utility or owner of the transmission and distribution line based on how much power is being moved and how congested the line is.

At present, Hawaii represents global best practice with respect to the deployment of RET on island states globally. The approach to a create multi stake holder partnership currently serves as the most comprehensive strategy for the deployment of RET as is evidenced through the Hawaii Clean Energy Initiative Agreement.<sup>22</sup> This model which has been largely adopted in the USVI closely resembles the Social Partnership model developed in Barbados just over two decades ago.

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<sup>20</sup> Hawaii Net-metering Legislation established by HRS 269-101 et seq. enacted on the 25<sup>th</sup> June 2001

<sup>21</sup> Senate Bill 703. S.D 1 enacted 2011.

<sup>22</sup> Hawaii Clean Energy Initiative Agreement, 2008

### **A Tale of Two Cities: USVI & BVI**

The vast divergence in legislative and regulatory policy governing the deployment of RET is no more pronounced than through the contrasting energy policies of regional neighbours the USVI and the BVI. The contrast in legislative and regulatory approaches can be regarded as progressive in the USVI versus archaic in the BVI.

### **USVI at a Glance**

Unlike several of its regional counterparts, the USVI over the past five years has closely followed the Hawaiian model with respect to creating the necessary, policy, legislative and regulatory structures critical to facilitating the rapid deployment of RET throughout the islands of St. Thomas, St. Croix and St. John. One of the keys to the rapid growth of the RE sector in the USVI has been the presence of strong political will, as Governor John P. de Jongh Jr. set an aggressive goal in 2010 to reduce the territory's dependence on fossil fuel by 60% by 2025.<sup>23</sup> This ambitious target was identified to buttress a national commitment to developing the USVI's renewable energy resources and increasing its energy security. In support of this initiative, the USVI established a dedicated office for RE.

To further the advance this process, and not simply enounce vague policies as has been the case with some regional governments, the USVI actively sought support from International NGO's dedicated to promoting the deployment of RET in island states. In 2008, the USVI partnered with the Energy Development in Island Nations (EDIN) - an international NGO, formed via a 2008 partnership between Iceland, New Zealand, and the United States.<sup>24</sup> EDIN, since its inception has established a mandate of partnering with island nation globally to achieve a goal of advancing island clean energy deployment. To achieve its mandate, EDIN provides information, training, and technical assistance to support strategic energy planning and project implementation. Along with its partnership with EDIN, additional technical and financial support was received by the USVI from the US Department of Energy (DOE) through support of its National Renewable Energy Laboratory (NREL).

In the USVI the Water and Power Authority (WAPA) signed six power purchase agreements (PPAs) out of a total of 27 project applications on June 4, 2012—one with Toshiba International Corporation, one with Lanco Solar, and four with SunEdison—for a combined 18 megawatts (MW) of solar energy. The 6 solar projects are estimated to represent a total investment of US \$65 million,

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<sup>23</sup> Governor's speech to the nation in 2010

<sup>24</sup> Energy Development in Island Nations



which reflects the vast opportunities available for regional governments in attracting much needed FDI.<sup>25</sup>

### **BVI at a Glance**

The supply of electricity in the British Virgin Islands (BVI) is monopoly controlled by the British Virgin Islands Electricity Corporation (BVIEC), a statutory corporation created via the passage of Ordinance No. 7 of 1978.<sup>26</sup> This Ordinance came into effect in January 1979 with the Government of the BVI being the sole shareholder of BVIEC. The operations of BVIEC currently function under the portfolio of the Ministry of Communication and Works, as there is no dedicated Department or Agency charged with responsibility for energy. At the end of July 2011, the company possessed a total of 15,250 customers who produced a daily peak demand of approximately thirty-two (32) megawatts (MW) supplied by eleven (11) diesel fired generators which have an installed capacity of approximately forty-four (44) MW. BVIEC is solely responsible for the generation, transmission, supply, distribution, and sale of electricity throughout the BVI. Unlike Hawaii and the USVI where both IPP and self-generation is permitted, in the BVI there is both a partial restriction on access to the grid as well as an absolute restriction on self-generation even where it is in isolation from the grid infrastructure, such as off-grid installations. The origins of these restrictions are legislative in nature and can be found in the archaic provisions of section 36(1) of the BVIEC Ordinance which states:

***Subject to the provisions of this Ordinance and to any regulations or by-laws made thereunder, no person other than the Corporation shall use, work or operate or permit to be used, worked or operated any installation for the generation of electricity or the supply of electricity to or for the use of any other person, except under and in accordance with the terms of an authority issued by the Minister under and in accordance with this Ordinance and subject to such conditions as he may deem appropriate.***

Due to the restrictive nature of section 36, a local supermarket, Riteway Food Markets, on the Island of Tortola was reported to have been forced to forego installation of a solar photovoltaic system as part of its renovations to its plant in spite of the fact that the investment would have provided a cheaper and more reliable electricity service.<sup>27</sup> Public outcry in the BVI over high utility rates reached such a crescendo in late 2012 to the extent that the government was forced to subsidize

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<sup>25</sup> National Renewable Energy USVI report- **(NREL/FS-7A20-56183 • December 2012)**

<sup>26</sup> British Virgin Island Electric Corporation ACT

<sup>27</sup> "In BVI, a Push to Change Energy Law" by Alexander Britell . <http://www.caribjournal.com/2011/10/19/in-bvi-a-push-to-change-energy-law/>

electricity rates, as the Premier and Minister of Finance, Honourable, Dr. D. Orlando Smith during his 2013 budget address delivered on November 15<sup>th</sup> 2012 stated:

*Honorable Members would have all heard their constituents lament on the high electricity bills and especially the fuel variation surcharge component of those bills...In the prevailing economic situation, those cries have become greater. Bearing this in mind and other factors in mind, my Government has been examining ways by which we can bring relief to our people, especially at this time....I am pleased to announce that the Government of the Virgin Islands will exempt all residential homes from the fuel surcharge on the electricity bill for the month of December of this year and January of 2013, effectively reducing the variation charge by over 8 percent to each home for 2012 and 2013.<sup>28</sup>*

This scenario clearly illustrates the disjointed state of regional policy with respect to RET deployment in spite of endemic vulnerabilities and geographic advantages. The BVI, despite being a few swimming strokes away from the neighbouring USVI, continues to uphold a major legislative barrier to successfully unlocking the vast economic benefits to be acquired from the deployment of RET. The contrasting policies of both territories towards energy clearly highlights the importance of correctly amending and implementing the appropriate policy, legislative and regulatory mechanisms as a precursor to accessing the benefits being provided by the RE sector. Notwithstanding the near crisis response by the BVI government to its spiralling energy costs, hope of a more enlightened approach consistent with the approaches adopted by USVI has started to emerge. In an address by the Minister for Communications and Works, Honourable Mark H, Vanterpool, delivered on 17<sup>th</sup> May 2013 at the Rotary District 7020 Conference held at the H. Lavity Stoutt Community College (HLSCC), Tortola, he outlined what could best be described as the beginnings of an energy policy focussed on the deployment of RET.

### **Barbados at a glance**

Barbados is at the crossroads with respect the successful deployment of RET's. This guarded assessment of the island's emerging RE sector can be attributed to the fact despite the presence of several lucrative incentives and concessions, the country is currently placed in a legislative and regulatory vacuum with respect to the future direction of the island's energy policy. Draft energy policies were prepared in 2006 and 2010, but to date, neither document has been given legal substance through the passage of comprehensive legislation. In fact, the 2010 policy does not take into account several of the significant changes which have occurred within the last 3 years in the RE

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<sup>28</sup> 2012 Budget Speech in BVI

sector worldwide and as such does not truly reflect current global best practice and approaches to RET deployment. At present, it appears that Barbados has neglected to adopt the three tiered approach of first establishing policy, followed by legislation to give it effect and finally creating regulations to govern the structured deployment of RET in that country. This omission has been highlighted in the August 9<sup>th</sup> 2013 decision of its regulatory body responsible for electricity regulation, the Fair Trading Commission, who in response to being asked to rule on the future of the island's distributed generation RE pilot program, the Renewable Energy Rider (RER), made the following comments:

***In assessing the RER proposal it is necessary to have a broad appreciation of what Barbados is seeking to achieve as it relates to its sustainable energy policy. The Commission is cognisant of the fact that this initiative is voluntary on the part of the BL&P and that the primary pieces of legislation by which the Commission is guided, namely the Fair Trading Commission Act and the Utilities Regulation Act, do not speak to RE pricing and the conditions under which it is to be offered.***

***It must be noted that Barbados is working towards finalisation of its National Sustainable Energy Policy and the RER is only one component of a broader framework aimed at transitioning the country to a sustainable energy environment.<sup>29</sup>***

These comments all point to a failure in Barbados to establish the trilogy of policy, legislation and regulation, as the current cap of 7MW of RE is considered to be too low by industry stakeholders. So in spite of having crafted policy documents over the past seven years, the island's RE sector is still in limbo as highlighted by the FTC as both the Draft Barbados National Energy Policy of 2006<sup>30</sup> and the Sustainable Energy Framework Feasibility study for Barbados of 2010<sup>31</sup> have not been granted legislative expression.

The absence of clear policy directives from regional governments geared towards shaping the legislative and regulatory frameworks governing electric utilities, critical to developing their respective RE sectors appears to be the major barrier limiting the regions access to the vast benefits to be gained from the deployment of RET's. The presence of clear legislative policy and transparent and independent regulatory agencies clothed with oversight of the RE sector is critical for it to first emerge and secondly have a transformational effect.

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<sup>29</sup> Fair Trading Commission: Renewable Energy Rider Decision. Document No.: FTC/URD/DECRES 2013-02

<sup>30</sup> Draft National Energy Policy Issued in 2006

<sup>31</sup> "Sustainable Energy Framework for Barbados. ATN/OC-11473-BA."

## **The Way Forward – Opportunities for Legal Practitioners**

So the question emerges, how would the rapid deployment of RET's affect the region's legal practitioners? The answer lays in the fact that there is a natural correlation between the emergence of RET's deployment and the passage of critical pieces of legislation, the provisions of which will inevitably be exposed to legal scrutiny either in advising clients on their meanings or defending their rights before the region's courts. At the level of international trade, the sale of REC's or carbon credits via WTO provisions, offers opportunities for legal practitioners to diversify their practice.

At the commercial level every IPP or distributed generation programme is governed by the establishment of written contractual arrangements. As a consequence, the drafting of unambiguous terms and conditions in relation to an electric utility's rights to **curtailment** under a Power Purchase Agreement (PPA) has emerged as one of the more contentious provisions under such agreements. Curtailment refers to the provision or clause in PPA's between electric utility companies and IPP's, where the utility companies are entitled to limit the amount of energy being sold or transmitted onto their grid from an IPP's installation. The absence of clear language in the construction of this particular provision of any PPA is critical to the financial viability of any IPP framework as an investor whose installation is being curtailed daily between the peak solar or high wind production hours of 11 a.m. to 3 p.m. may have very little legal recourse. The decided case of ***TXU Portfolio Management, LLC v. FPL Energy, LLC et al***<sup>32</sup> is instructive on this point, as it highlights some of the likely scenarios which can emerge from vague curtailment provisions under a PPA.

Not only is the RE sector a potentially lucrative area of practice for legal practitioners, it is an area of study which should be closely monitored by regional jurists particularly, with respect to the imminent deregulation of electricity generation and related services. Recent experience in the deregulation of the telecommunications sector regionally has shown that there is the potential for a proliferation of legal disputes consuming the attention of the local courts. Quite similarly, the emergence of the regional RE sector coupled with the deregulation of the monopolistic utility structures, will give rise to a plethora of legal disputes, and therein lays the relevance of this sector to legal practitioners. Therefore, against this backdrop, significant opportunities exist for the regions legal practitioners to identify niche areas of practice within the emerging RE sector.

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<sup>32</sup> 2010 Tex. App. LEXIS 5905 (July 27, 2010)

## **Conclusion**

The deployment of RET holds the key to quelling the harsh effects of regional austerity, through the retention of declining foreign exchange via reduced fuel imports, the creation of sustainable jobs and reductions in the costs of living and doing business. However, the absence of clear policies shaping the legal and regulatory framework governing the RE sector would invariably create an environment of uncertainty and can act as a deterrent to foreign investors, currently examining the regions potential. In short, the trilogy of policy, legislation, and regulation is critical to addressing specific issues such as RPS's or benchmarks for RE penetration, storage options and wheeling over the grid infrastructure of monopoly utility companies.

The foregoing sentiments are premised of the fact that with the next 3 to 5 years, the successful large scale deployment of RET in several key sectors holds the key to fundamentally reversing the current economic fortunes of the region during these times of austerity. As a region with mature tourist destinations and ageing hotel plant and attractions, we simply cannot rely on nostalgia as the basis for attracting more visitors to our islands far less make them spend more money. Neither can we await the long anticipated turnaround in the economic fortunes of our major trading partners, the US, UK and EU, to rescue us from prolonged austerity with an abundance of FDI. So as a region, we must explore pragmatic, innovative and somewhat bold, yet surprisingly attainable strategies to salvage the foreign exchange we currently earn, from wholesale leakage through fossil fuel imports. Rapid facilitation of investment in RET, particularly for electricity generation and transportation as was demonstrated earlier, backed by informed legislative and regulatory frameworks can see the region as a whole become one of, if not the most energy efficient in the world through a mix of public awareness, lending institution education, introduction of world leading commercially viable technology and bold policy and legislative initiatives supported through private sector partnership. In essence, the opportunity for the region to shape and re-define its destiny is currently within our grasp.