

CLIMATE GOVERNANCE ARCHITECTURE AND TRADE COMPETITIVENESS- ENVIRONMENTAL JUSTICE AND SIDS

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Key words:

- Caribbean SIDS, climate change, trade competitiveness, carbon border taxes, Maritime and Aviation emission schemes, principle of common but differentiated responsibility

ABSTRACT

The right to development and the fairness in the application of the burden to mitigate greenhouse gas emissions, especially as they relate to Small Island Developing States (SIDS) are discussed in this paper. It poses some questions such as what are the implications of international trends relating to trade and carbon emissions reduction schemes for Caribbean SIDS's competitiveness from the perspective of environmental justice and the principles of common but differentiated responsibilities. While there have been several studies on SIDS vulnerability to climate change, they focus mostly on the effect of climatic events especially natural disasters and sea level rise on island states and consequent adaptation efforts and challenges. This paper draws attention to one way in which the global fight for a green economy works to the detriment of Caribbean SIDS. Climate regulation in the areas of

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maritime and air transport make long hauls more expensive and reduce the trade competitiveness of Caribbean SIDS. Both in the cases of regulation of international transport, and in the case of carbon border taxes being applied to imports, the special vulnerabilities of SIDS have not led to special treatment for these countries. The paper argues that this aspect of climate change regulation requires specific attention at the international and domestic level. The trade and environment discourse must consider the special development challenges and vulnerabilities of SIDS if the principles of justice, fairness and common but differentiated responsibilities are to be observed.

INTRODUCTION

This paper examines the negative economic effects of global climate change regulation on vulnerable Caribbean Small Island Developing States (SIDS). The effort to reduce carbon emissions though helpful in lowering the environmental vulnerability of SIDS, has had an unwanted effect on their economic competitiveness. The international aviation and maritime transport sectors emission reduction schemes increase international transport costs which will make exports from remote SIDS less competitive in global trade. The legality of carbon related border tax measures is not yet decided at the WTO. If applied however to SIDS' exports, they reduce their ability to compete on an already difficult international market. State and private certification schemes related to carbon emissions direct the environmentally sensitive consumer away from products and services shipped from remotely located SIDS.

The complexity of SIDS vulnerability is well documented by Briguglio and others (Briguglio, Cordina, Vella, & Vigilance, 2010) (Kisanga, Cordina, & Briguglio, 2006). A vulnerability index for SIDS was proposed in 1990 by Malta at a United Nations Conference on Trade and Development (UNCTAD) meeting of Government Experts from SIDS and Donors. The 1994 SIDS Global Conference held in Barbados and its outcome document- the Barbados Program of Action (BPoA) for the Sustainable Development of Small Island Developing States-encouraged the development of indices that, "integrate ecological fragility and economic vulnerability" (Para.113 of the BPoA). SIDS economic vulnerability indices measure greater remoteness and higher transport costs, export concentration and instability of exports,

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dependence on basic imports, unstable agricultural production, high levels of economic openness, limited global share of manufacturing and service industries and low resilience (Briguglio and Galea 2003). SIDS environmental vulnerability indices include the high levels of pressures facing their environmental space, the limited intrinsic resilience to these pressures and the ecological integrity of these SIDS. SIDS economies and infrastructure are debilitated by natural disasters such as tropical cyclones and hurricanes typical of large ocean-atmosphere interactions.

Climate change has exacerbated the intensity and frequency of these events. Climate change is also the cause of warming ocean surfaces and increases in heavy rainfall which negatively impact agriculture. Ocean warming and acidification is responsible for coral reef bleaching, loss in mangrove forests due to sea-level rise and saltwater intrusion reduces freshwater lenses. (UNFCCC, 2007a). St. Bernard and others have distilled indicators of social vulnerability: health, education, resource allocation which relate to how exposed and resilient the society is to internal or external pressures, be they environmental impacts, economic loss etc. (Bernard, 2003) Another vulnerability index for SIDS is one that combines the UNDP human development index rank of these SIDS with debt service ratio, GDP per capita, public expenditure on health and adult literacy (Pelling & Uitto, 2001). These studies show that the probability of natural hazard, political economy and the size of the islands are important variables in determining vulnerability in SIDS. In sum, SIDS' smallness and lack of economies of scale, minimal export product diversification, remoteness, high international transportation costs, weak public administration are endemic and persistent challenges that make the new challenges to international competitiveness resultant from climate change regulation almost unbearable. Table 1 shows the GNI per capita of Caribbean States compared with that of North America.

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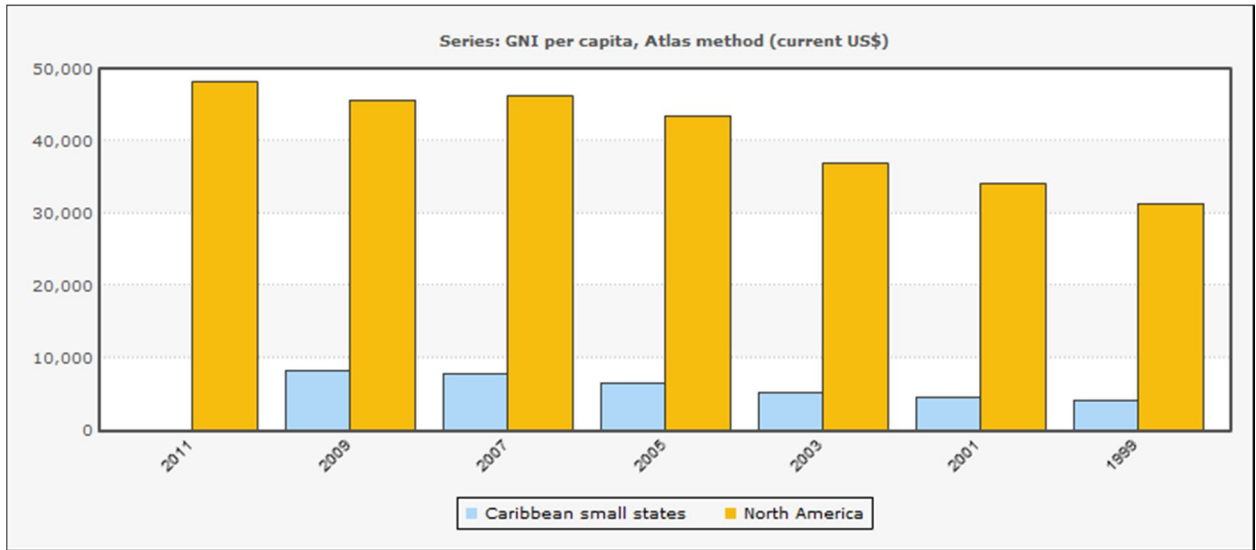


Table 1 - GNI per capita of Caribbean States

Source: World Bank, World Development Indicators

Caribbean States share the characteristics of environmental, social and economic vulnerability of other SIDS and among SIDS, Caribbean Island states are particularly sensitive to the climatic effects of greenhouse gas emissions (Nurse & Sem, 2001). Extreme climate events challenge their sustainability, their sovereignty and weaken their capacity to chart a path for future development. (Intergovernmental Panel on Climate Change, 2012). Although most Caribbean Islands are too small to be identified specifically on global climate change models, most regional projections include the following: sea level rise, increased rain intensity and more frequent and severe flooding, higher surface and air and sea temperatures. These economies are mostly based upon natural endowments (forestry, fishing, tourism, mining, agriculture). 300,000 persons (of the region's 39 million people) for example are employed directly in the fishing industry (Agard, Cropper, & Garcia, 2007).

Tourism is the main foreign exchange earner in many states. For the year 2011, the World Travel and Tourism Council (WTTC) has ranked the Caribbean region first in travel and tourism's total contribution to GDP (14.7%); to capital investment (11.56%) and to exports (16.69% of total Exports). The Caribbean is ranked third in travel and tourism's contribution to employment (12.6%). In the Bahamas 70 per cent of the jobs in the tourist sector depend

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on the country's natural endowments ((UNEP, 2008). A 2008 study estimates the cost hurricane damage, loss of tourist generated revenue and infrastructure damage due to sea level rise to be as high as \$22 billion or 10.3 per cent of GDP for the Caribbean by 2050 (Ramon Bueno, 2008, p. 3). In Barbados for example, 70 per cent of the hotels are within the 250m level of the high water mark (UNFCCC, 2007a) and are under threat from a rise in sea level.

Caribbean SIDS, inherently vulnerable, face new threats to their environment and economic sustainability from climate change. The following sections of the piece will focus on less studied aspects of the climate change problem for SIDS competitiveness. First the literature on adaptation to climate change focuses heavily on the environmental impacts of climate change and not enough of the economic impacts of climate regulation on SIDS trade competitiveness. Secondly the impact of new regulations in international transport is considered. Here too the debate between trade and environment scarcely factors in the peculiar vulnerabilities of SIDS as they are bound to comply with these regulations to the detriment of the economic competitiveness. Thirdly the growth of non-state certification schemes is examined. SIDS will find their market space further reduced by the growing volume of sensitive consumers who will shy away goods and services whose carbon footprint is greater because of the distance the importing states. Finally the piece examines these realities from the perspective of environmental justice. Generally this concept posits that the vulnerable (present and future generations) should not be made to pay the penalties for damages caused to the environment by others. Alternatively the vulnerable should enjoy the benefits of the environment as much as those better placed to harvest environmental goods. The justice debate however is often lacking in considerations of climate regulation and trade where SIDS are concerned.

ADAPTATION TO CLIMATE CHANGE

What does adaptation mean for Caribbean SIDS? Adaptation costs are the cost of development projects to restore welfare to levels predating climate change in areas such as infrastructure, coastal zones, water supply and flood management, agriculture, fisheries, human health, forestry and ecosystem services and extreme climatic events. The costs of

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adaptation for the Caribbean have been estimated to be approximately 21.5 billion per year between 2010 and 2050- or about 10 per cent of the present Caribbean economy (The World Bank, 2010, p. 4). Another study divides adaptation and mitigation measures for the Caribbean SIDS into areas such as improved infrastructure, public education to foster behavioural change in recreational and food choices, policy change, relocation, loss prevention, distribution or absorption and research and monitoring ((Nurse L. , 2007).

Funding mechanisms for adaptation include the Global Environmental Facility, the Special Climate Change Fund, the Least Developed Countries Fund and an Adaptation Fund (funded via a 2% adaptation levy on Clean Development Mechanism projects). All support adaptation projects and finance efforts to reduce emissions, to facilitate technology transfer, to assist countries highly dependent on income from fossil fuels to diversify out of those sectors, and to build capacity in climate change adaptation (UNFCCC, 2007). Future financing mechanisms proposals include extending the CDM adaptation levy, introducing an a adaptation levy on bunker fuels, funding through carbon taxes and raising revenues from auctioning through emission trading schemes (Hægstad Flåm & Skjærseth, 2009). Generally vigilance on the part of recipients is needed to ensure that this adaptation financing is not counted as part of the already pledged aid (Srinivasan, 2006).

These measures extend the burden of reducing carbon emissions to SIDS, in spite of the UNFCCC principles of common but differentiated responsibility and adaptation funding does not cover this. The following sections discuss three sources of loss of competitiveness: maritime transport, aviation transport, carbon border taxes and ecolabeling schemes.

TRADE COMPETITIVENESS ERODED BY INTERNATIONAL SHIPPING AND AVIATION

The Caribbean is part of the Trans-Pacific Trade Route which includes China and North America and both imports and exports are influenced by changes in the international shipping regime.

Ninety per cent of world trade is transported by sea and eight per cent (accounting for 40 per cent value) by air. International shipping amounted to 2.7% of man-made emissions according to a 2009 International Maritime Organisation (IMO) greenhouse gas emissions (GHG) study (Buhaug Ø. C., 2009). CO₂ emissions from shipping has increased twofold between 1994 and 2007 and left unmitigated may expand by 150% over the next decades

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(Buhaug, et al., 2009). Aviation (the means by which most Caribbean SIDS receive visitors) accounts for 1.9 per cent of carbon emissions and is the most emissions intensive transport sector per passenger-kilometre- dollar spent or for time travelled (ICTSD, 2010, p. 1).

The international transport sector, not part of the Kyoto Protocol, has faced increasing international pressure to reduce emissions. There is no established coordination mechanism between the Secretariats for the Kyoto Protocol and the International Maritime Organisation; the two have historically operated independently of each other (Hackmann, 2012). However within the Environmental Protection Committee (MEPC) of the IMO the process of greening the shipping industry has advanced substantially.

In July 2011, the IMO adopted amendments to MARPOL Annex VI to strengthen efforts against pollution. The amendments –to apply to ships of every nationality from 2013- were to the “Regulations for the prevention of air pollution from ships” and a new chapter on “Regulations on Energy efficiency for ships”. The Energy Efficiency Design Index (EEDI) is mandatory for all new ships and the Ship Energy Efficiency Management Plan (SEEMP) will be mandatory for all ships. (Resolution MEPC 203 (62)). It is estimated that by 2020 these measures will have achieved between 10% and 17% reduction in greenhouse gas emissions and by 2030 emissions will fall between 19% and 26%. The EEDI and the SEEMP have the potential to reduce CO2 emissions by up to 180 million tonnes annually by 2020 and 390 million tonnes by 2030 (International Maritime Organisation, 2011, p. 12).

These measures are the first such reduction regime for an entire economic sector. The IMO’s Environmental Protection Committee is also considering Market Based Measures (MBM). Developing countries are however wary of creating a precedent of establishing global emission reductions emissions in an economic sector that is not founded on the principle of common but differentiated responsibilities (UNFCCC Article 4.1 (c)). India registered strong opposition such measures at the IMO’s Environmental Protection Committee meeting in March 2012 (International Maritime Organisation, 2012) and it is debatable whether the IMO and International Civil Aviation Organisation (ICAO) are the correct forums to address emissions since at these institutions the underlying principle for the application of measures is equal treatment of parties – something already internationally recognised as not correctly applicable to carbon reduction commitments and developing states (ICTSD, 2010, p. 37). The International Union for Conservation of Nature’s (IUCN) 2010 proposal (a threshold of 4000 gross tonnes or greater for MBM) to the IMO’s Marine Environment Protection

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Committee was an attempt to apply the common but differentiated responsibilities principle and protect SIDS who face high transport costs for their imports (IUCN, 2010). This may not be sufficient for most Caribbean SIDS engaged in tourism as this figure is way below the average for cruise ships (100,000 – 225,000 gross tonnes) from some Caribbean ports however (Royal Caribbean, 2010).

Jamaica, at the March 2010 60th Session of the Marine Environment Protection Committee, supported a uniform emissions charge on all vessels based on fuel consumed per voyage, independent of design operations or energy source, on the grounds that this measure was easier to administer and would avoid leakages associated with quality control mechanisms. Jamaica also suggested that funds raised be used for mitigation and adaptation measures for the benefit of SIDS (International Maritime Organisation, 2010). This position is understandable given the limited administrative resources facing SIDS at their ports. There is a danger however that such funds never reach these states. Brazil and the Republic of Korea for example, were opposed to proposals that funds be administered through the UNFCCC's funding mechanisms or through those of other international organisations precisely on such grounds (International Maritime Organisation, 2010) para. 5.31). As it stands, it seems that the Jamaican proposal would need to find a way to ensure the effectiveness of such returns.

In air transport, emissions trading and technology standards are the main measures for GHG emissions reduction. Both will increase the cost of air transport. There is no global aviation emissions trading scheme or international aviation tax. The EU Emissions Trading System (ETS), operational since 2008, was extended to aviation as of January 2012 and is to date the only multi-state aviation emissions trading initiative. The ETS applies to airlines operating in the EU regardless of the country of origin (Chiavari, Pallemmaerts, & Withana, 2008). Airlines will be required to pay for emissions that exceed annual emission levels. For the first year, 85% of aviation allowances will be allocated free of charge. The BASIC countries (Brazil, South Africa, India and China) expressed "firm opposition" to the EU's inclusion of international aviation in the ETS in their Joint Statement at the end of the 10th BASIC ministerial meeting of February 2012. They considered that it violates international law and the UNFCCC because of the unilateral nature of the action even in the face of strong international opposition. The Ministers also expressed concern about similar proposals in the area of shipping. (BASIC, 2012).

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The EU ETS makes long haul tourism in the Caribbean less competitive and will reduce tourist arrivals as tourists will choose destinations closer to home for vacation. Initial estimates by the European Commission place the cost of the scheme as anywhere between EUR €2 and EUR €12 per ticket (depending on the price at which carbon is trading). It is difficult for most SIDS to measure the possible future impact of each of these MBM in shipping and aviation. Consultations with shipping and tourism agencies in the Caribbean reveal that the economic impact of these formulas on trade are not yet the subject of market research in the region. Preliminary data shows however that price sensitive travel destinations could face a reduction in tourism between 2.4 and 7 percent (Bartels, 2012). Barbados in particular could face a loss up to 1-2% of its GDP as a result of a fall in tourist arrivals. (Pentelow & Scott, 2011).

Though not specifically related to GHG emissions, the sensitivity of the economies of Caribbean SIDS to variations in the cost of air transport was patent in the most recent United Kingdom increase in the air passenger tax. The UK Air Passenger Duty is not a carbon tax but did negatively affect Caribbean SIDS tourist arrivals. In 2008 the Department of Transport reported that under scenarios then existing, aviation would cover climate change costs with an excess of about £0.1 billion and emphasised that the charge was not only to capture the environmental cost of aviation (Department for Transport, UK, 2008). In 2012 the UK increased Air Passenger Duty which was doubled just 5 years before. This amid strong international opposition and concern from Caribbean SIDS. Some commercial airlines dubbed this a tax on tourism (Thomas, 2012), it has been criticised as being especially harsh on Britain's families (many with roots and links to ex-colonial Caribbean countries) travelling abroad and is considered as partly responsible for the fall in tourist arrivals (Sinclair, 2012). There was a decline of 5.5% in tourist arrivals in the first quarter of 2012 as compared with the same period in 2011. In 2011 figures from the Eastern Caribbean Central Bank registered a decline of 20.7% in UK arrivals between 2008 and 2011. A decline of 12% in the hotel revenue per available room was registered between 2008 and 2012 (Smith Travel Research, 2012). Thus although there is no present data to reflect the impact of the EU ETS, given these trends it is reasonable to assume that a similar reduction in tourist arrivals may result from this scheme. Table 2 shows the high degree of dependence on tourism receipts compared to the global average.

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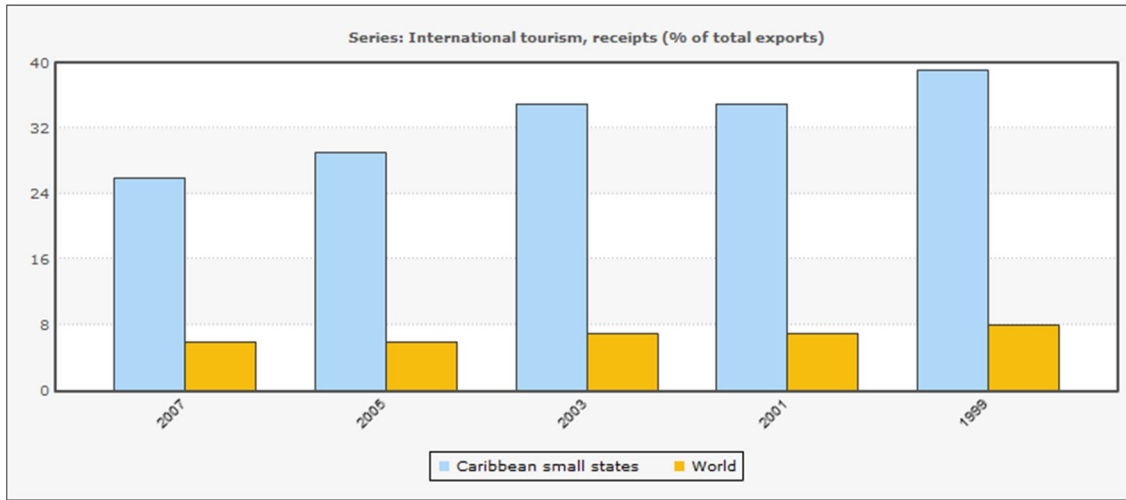


Table 2- Degree of dependence on tourism receipts compared to the global average.

Source: World Bank, World Development Indicators

Efficiency enhancing measures for ships and aircraft as well as market based measures (emission trading or fuel levies for example) in this sector will reduce competitiveness for remotely located SIDS which will face higher transport costs for both exports and imports. Price elasticity of demand in the maritime sector is low. Under the High End scenario for the Copenhagen Summit, a US \$30 carbon price will increase freight costs to 5-6 per cent (Faber, Markowska, & Eyring, 2010). For SIDS this may be as much as 1.5 to 3.0 billion USD per annum or between 0.45 to 0.89 per cent of GDP as compared to 0.02-0.04 per cent for Annex 1 countries (Faber, Markowska, & Eyring, 2010). Impact of increased transport charges will also be greater where market shares are smaller and where there are higher price elasticities. Caribbean SIDS also tend to import lower value bulk goods and thus may bear a higher proportion of the costs of a fuel levy. (International Monetary Fund, 2010). SIDS will thus pay a larger share of the mitigation burden (ICTSD, 2010) (Wang, 2010). Where the importers of services, goods or commodities are sensitive to transport costs, some sources of supply will become uneconomic and in some cases may lead to a substitution of consumption away from imports to domestically or regionally produced substitutes. This does not auger well for exports of Caribbean primary products and for the tourism sector.

Climate change reduces the competitiveness and attractiveness of tourism in Caribbean SIDS on two counts. First, its negative impact upon the environment makes the region less

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attractive (more extreme weather events, loss of coral reefs due to bleaching and ocean warming and acidification, rising sea levels and eroding of beaches and loss of coastal infrastructure etc.). In addition emerging carbon regimes will make long trips less economically attractive to visitors and increase the cost of their imports (Simpson, Gossling, & Scott, 2008).

What are the policy implications for Caribbean SIDS? SIDS would do well to prepare for reduced national income from tourism and for less competitive exports to distant markets. At the international level, SIDS should bring development challenges and competitiveness concerns to the trade and climate change discourse. The disconnect avoids questions of intra-generational equity that will be treated in greater detail later.

The international debate on financing climate change has not given specific attention to financing for the loss of trade competitiveness. The November 2010 Report of the Secretary-General's High-level Advisory Group on Climate Change Financing (AGF) was made against the backdrop of the debates within the IMO and the ICAO to reduce carbon emissions from international transport. The AGF proposed three climate financing mechanisms to address the under-pricing of environmental externalities of carbon emissions and to finance climate change action in developing countries: an emissions trading scheme, a fuel levy on international fuels in the maritime and aviation sectors and an aviation ticket tax (UN High-Level Advisory Group on Climate Change Financing, 2010). The AGF proposed that such measures be equally applied to operators of all nationalities in keeping with IMO/ICAO principles of flag neutrality and non-discrimination (which conflicts with the UNFCCC common but differentiated responsibility principle however).

Should not financing adaptation to climate change for SIDS compensate for loss of economic competitiveness? One option open to Caribbean States is support measures that provide a rebate for carbon costs imbedded in goods and services subject to fuel levies or other market based carbon reducing mechanisms for international transport and resist further attempts to apply schemes that do not accord with environmental justice and CBDR principles.

UNILATERAL CARBON TAXES

The threat to SIDS' trade competitiveness does not come only from the increased cost of international transport. Border adjustment measures for emissions reductions is another

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challenge. The United States' Senate rejected the Kyoto Protocol to the UN Framework Convention on Climate Change in large part for competitiveness reasons (Pauwelyn, 2012). The US has not wanted to saddle itself with the international prescriptions regarding emissions control and by refusing to join the Kyoto Protocol signalled that its position on climate change will be governed by economics and the need to protect its economy's competitive edge. The debate, on-going since the turn of this century in the US, is how to both implement a domestic program to curb greenhouse gas emissions while not reducing the competitiveness of energy-intensive industries (such as chemicals, steel, iron, pulp, cement, paper and aluminium) which compete on the US market with producers not subject to a similar national emission schemes. Several options were proposed to ensure that US firms remain competitive even with a domestic emissions regime. They include excluding trade-exposed firms from the emissions regulations, compensating firms through free emission allowances, giving incentives for emissions reduction, applying border tax adjustment measures (BTA) on imports from countries with weaker or no emission control regulations or requiring imports from these countries to show that emissions allowances were purchased (Pew Centre on Global Climate Change, 2008).

The WTO recognizes the nexus between trade and environment. The Preamble, the General Agreement on Tariffs and Trade (GATT) 1994 Articles XX (b) and (g), the Agreement on Technical Barriers to Trade and the Agreement on Sanitary and Phytosanitary Measures provide countries with the flexibility to adopt trade measures to protect the environment. Such measures must respect the most favoured nation (MFN) and the national treatment (NT) principles of the WTO (GATT Art. I and III) or may be branded a unilateral restriction on trade. The legality of BTA measures has been heavily debated by international lawyers (Pauwelyn, 2012) and (Bordoff, 2008), the issue is still to be tested by rulings at the WTO Panel. Also to be tested by the WTO is whether developing countries who are not historically responsible for the climate problem be exempted from the MFN rule in the application of these taxes (Pauwelyn, 2012), p. 50). And is this a right or is it a possibility at the pleasure and leisure of the state imposing the measure? For developing states, it would be alarming if it were the latter. BTAs applied indiscriminately to imports from developing states appear to run afoul of the principle of common but differentiated responsibilities of the UN Framework Convention on Climate Change (UNFCCC Art. 3.1) and the WTO Enabling Clause. Developing states have not historically contributed to the climate change problem and, for reasons of

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justice, should be afforded different treatment in the application of these measures. The danger for Caribbean SIDS is that BTA measures may be introduced unilaterally and states are not legally obligated to discriminate in favour of developing states under international trade law. It is difficult to see how the principle of common but differentiated responsibilities finds a space in this future.

ECOLABELING

Voluntary or mandatory government, private industry or NGO driven ecolabeling is another threat to competitiveness of exports from Caribbean SIDS.

Ecolabels signify to how environmentally friendly a product or service is regarding economy of use of renewable resources such as water and energy, as well as its impact upon biodiversity, climate change, its reusability, its ethical and social neutral or positive effects etc. (Art. 6 - Regulation (EC) 66/2010). The USDA has an organic label for agricultural products, the Forestry Stewardship Council has a label for environmentally sustainable lumber and there are several others, such as the Energy Star label for energy appliances and Green Globe 21 for tourism (Buckley, 2002). In the EU, ecolabels are given to products originating from within and outside the EU and ecolabeling based on the environmental impact of a product over its life cycle, is administered by the Community together with the relevant bodies of each Member State and the EU Ecolabeling Board.

Although some labels are discredited or may lose credibility for lack of scientific rigour and transparency in their application (Lavallée & Plouffe, 2004), (Font, 2002), generally ecolabels serve to inform consumers of the environmental impact of goods, allow them to differentiate between similar products (Crespi, J. M. and Murette, S., 2005) and enable the consumer to be more equipped to make environmentally friendly decisions. Consumer sensitivity depends upon the type of product, the target market and the available alternatives (Charnovitz, 2010; Vranes, 2011), (Joshi, 2004), (Appleton, 1997), (Gulbrandsen, 2006) as well as the type of label (Lockie, Lyons, Lawrence and Mummery 2002), (Sirieix, Grolleau, Schaer 2008).

NGO and transnational private sector labelling schemes (Melser and Robertson 2005) are not subject to the WTO rules for state driven certification schemes. The latter must satisfy the non-discriminatory most favoured nation and national treatment principles (Charnovitz,

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Beyond Kyoto: Advancing the International Effort Against Climate Change, 2003). Ecolabels must also be applied to similar or “like products” as defined by WTO jurisprudence and the Working Party on Border Tax Adjustments (i.e. products in a close competitive relationship) (Vranes, 2011, p. 421).

As consumer sensitivity to carbon emissions increases and as ecolabels become more common and monitor and report on emissions produced in the manufacture, delivery and use of goods and services they will challenge Caribbean SIDS trade competitiveness. Products and services from remote SIDS necessarily carry a heavy carbon footprint because of aviation or maritime transport emissions. What does this mean for Caribbean SIDS? The trade policy implications are that Caribbean states should look closer markets in North and South American rather than to Europe to ply its products and services.

ENVIRONMENTAL JUSTICE

Will SIDS's economies survive as the world goes green? It is a paradox: Caribbean SIDS need a greener world for environmental survival yet climate change regulation jeopardises their economic survival.

SIDS contribute less than one per cent of greenhouse gas emissions (Placeholder1) and sixteen of the world's fifty-one SIDS are from the Caribbean. SIDS acute vulnerability to climate change gives them the moral authority to be active stakeholders in the shaping of the trade-environment regime (Barnett & Adger, 2000) for they suffer the effects of a climate change problem for which they did not share historic responsibility. Principles of environmental justice as applied to SIDS have not been present the global discourse on trade and emission reductions schemes for aviation, shipping, border tax adjustments nor for environmentally friendly certification schemes. Furthermore the mechanisms that create these schemes often involve SIDS peripherally if at all. Table 3 shows the emissions from Caribbean Small States compared with its neighbouring region in North America. In 2007 the Caribbean's emissions were 60487 (kt) compared to North America's 6126226.

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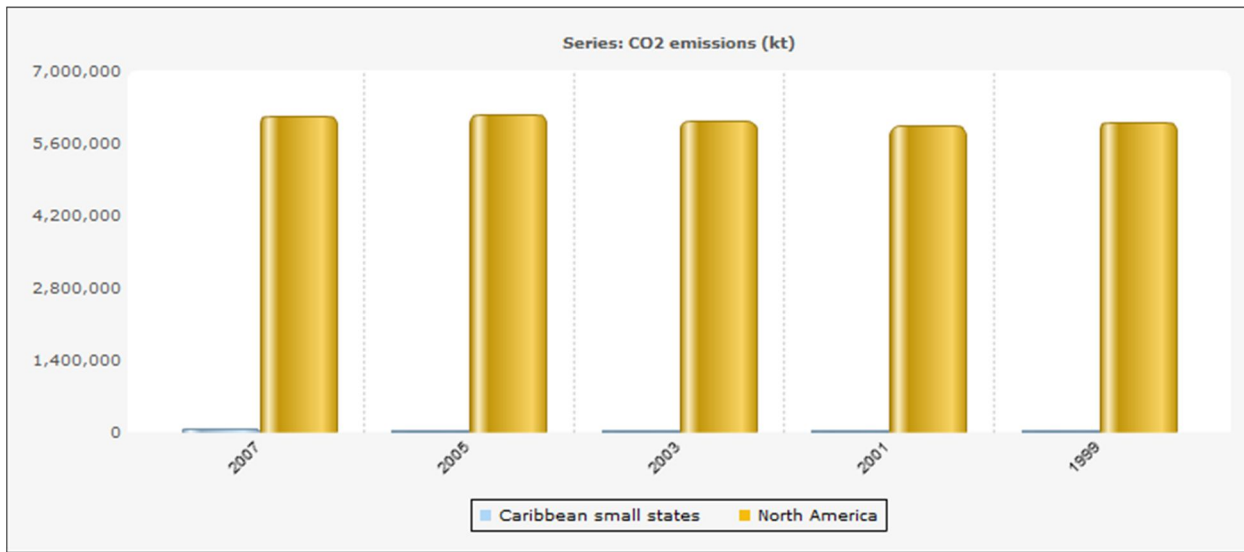


Table 3 –CO2 Emissions from Caribbean Small States compared with North America

Source: World Bank, World Development Indicators

These principles are however part the climate change and sustainable development discourse. The international community commits itself to promote higher standards of living and adequate economic and social conditions for all (Article 55 of the UN Charter). Principle 6 of the Rio Declaration on Environment and Development affirms that, "*the special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority*". The Rio Principle 7 recognises the principle of common but differentiated responsibility (UNEP, 1992). The UNFCCC recognizes the need to protect developing states from the adverse effects of climate change and their differing responsibilities in mitigation efforts (Articles 2 – 4). The Kyoto Protocol Article 3.14 also requires parties to take steps to reduce the adverse effects of climate change on vulnerable developing and least developing states- which AOSIS (the Alliance of Small Island States) for example interprets to include capacity building for adaptation (Barnett & Dessai, 2002)

These principles and concepts however do not seem to go as far as to protect vulnerable SIDS from the adverse effects of trade measures to address climate change that are not contrary to International trade law- i.e. that are not "arbitrary or unjustifiable discrimination or a disguised restriction on international trade" under the WTO (General Agreement on Tariffs and Trade Art. 5). This is a gap in the conceptualization of the climate change regime, especially for SIDS. Neither does adaptation funding build economic rights (such rights as

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the right to work, protection against unemployment and the right to a standard of living that ensures health and well-being) into its design and implementation in so far as these rights are jeopardised by loss of trade competitiveness (United Nations, 1948). Studies thus far on climate change and Caribbean economies tend to focus on how to harness natural endowments and to reduce carbon emissions (UNDP, UWI, Government of Barbados, 2012). Further research is needed on the impact of carbon reduction schemes on trade for Caribbean SIDS.

As discussed above, the Region's perceives the UK APD as an unjust tax that militates against SIDS competitiveness. The communique issued at the close of the May 2012 meeting of the Caribbean Community Council for Foreign and Community Relations, stated that, "*Ministers engaged in intense discussion regarding the deleterious effects that the discriminatory implementation by the UK of its Air Passenger Duty (APD) is having on the Region's economies. They denounced in strong terms the negative impact that the tax continues to have on the region's revenue sources, observing that the tax was distorting trade and compromising the Region's efforts towards sustainable development*".

Caribbean SIDS's economic survival depends on their ability to transition to a global green economy. In justice however those responsible for the climate change problem should help SIDS in this transition – or at least exempt SIDS from some of the burdens of this transition. The "just transition" concept was adopted in 2010 the International Trade Union Confederation in its approach to the challenges labour faces with climate change (Rosemberg, 2010). Made popular by Kohler, it posits that jobs and the environment are not irreconcilable concepts (Kohler, 1996) and that vulnerable sectors should not suffer the impacts of the greening of the economy (International Trade Union Confederation, 2012). Including this concept in the global discourse on environmental justice and SIDS can assist in the conceptualisation of policies of inter-generational equity in the trade-environment discourse.

CONCLUSION

Trade liberalisation challenges sustainable development and the protection of the environment (Cavanagh, 2002). Carbon taxes, new technical specifications on ships and

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aircrafts to reduce emissions, environmentally friendly certification schemes, fuel levies etc. help solve the problem of putting a price on environmental externalities in the global production and trade processes. However they also raise justice and equity issues relating to the environment and trade both at the international and domestic level. Developing SIDS, who do not share historic responsibility for carbon emissions, are being forced to assume the cost of mitigation through these measures.

Applying principles of environmental justice to this analysis would suggest that SIDS should not bear equal burdens of paying for carbon which will reduce trade competitiveness. It is up to SIDS to draw attention to the principles of sustainable development and of common but differentiated responsibility as the climate regime develops in the area of trade. Studies that quantify the economic impact of measures such as carbon border taxes, carbon restrictions on maritime and aviation transport and green certification schemes on products and services are needed. At the IMO's EPC this lack of data limits SIDS ability to engage in debates on the effects of proposed measures. It is also in the interest of SIDS to support certification watch dogs to ensure that certification agencies in the markets in which they have an interest are indeed transparent and fair.

The preliminary findings on the effects of the EU ETS and the case of the UK APD (though the latter is not specifically a carbon emissions reduction measure) show that they are being squeezed out of traditional tourism markets for upon which they depend for economic survival. At the domestic level the poor face the greatest burden as international transport pushes up the costs of imports. Development, inter-generational equity and distributive justice should factor into decisions on trade in a carbon sensitive world.

The missing element in funding adaptation to climate change is in assisting SIDS towards economic diversification of their economies to goods and services that have a small carbon footprint for manufacture, delivery to market and product life cycle and are less vulnerable to climate change (Gueye, Sell, & Strachan, 2010). Resource limitations in several Caribbean States makes coordination between the environment, development and trade departments of government very challenging and is perhaps responsible for the silence on the environmental and development issues related to trade in areas outside of travel for tourism.

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Like China at the WTO and the IMO, the principled stance of SIDS on trade and the environment should be that CBDR should be applied to all market measures to reduce climate change- to thus avoid a loss in competitiveness. This would mean excluding their exports and imports from such regimes. The alternative- that finance raised from such measures should in part be directed to economic adaptation efforts in SIDS- is harder to administer and the conditionalities to access the funds often prove challenging. Financing in this case may be by direct compensation or compensation based on import and export volumes. The difficulty in operationalizing green funds- as is evident in REDD+ and other environmental funds- should however be a call to caution for SIDS to support such policies.

Is this a losing battle? Perhaps, but it throws light on another important way that SIDS are highly vulnerable to the (indirect and economic) effects of climate change.

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