

## CHAPTER 5

### Comparison of Transnational Green Economic Regions in North America

#### INTRODUCTION: COMPARATIVE METHODOLOGY

The three trans-regional initiatives have similarities and differences. In this part I will present a set of comparative concepts to better understand the scope of TGERs. In this case, comparisons help to contextualize the performance of carbon markets, their processes and their institutions. This comparison will be seen from the perspective of radial concepts.<sup>1</sup> The design of *radial concepts* implies that the concept to compare is not integrated through adjectives accompanying *one* main concept. A radial concept cannot be understood without all its radios, which are essential characteristics—this makes them differ from the original abstract concept (or primary concept). A radial concept is based on an *addition* process, where there is connection of attributes in different degrees (or “diminished subtypes”).<sup>2</sup> This permits the researcher to open up several comparative concepts and divide the comparison in different categories. As Kurt Weyland puts it, “by relaxing the demands for definitional inclusion, a radial concept makes multidomain notions more broadly applicable and thus reduces the danger of false negatives.”<sup>3</sup> In this sense, I propose that to speak of transregional green-economic regions is to speak of one radial concept. All three regions are *transnational* in that all three are driven by LGs in the three countries of North

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<sup>1</sup> Collier and Mahon, 1993

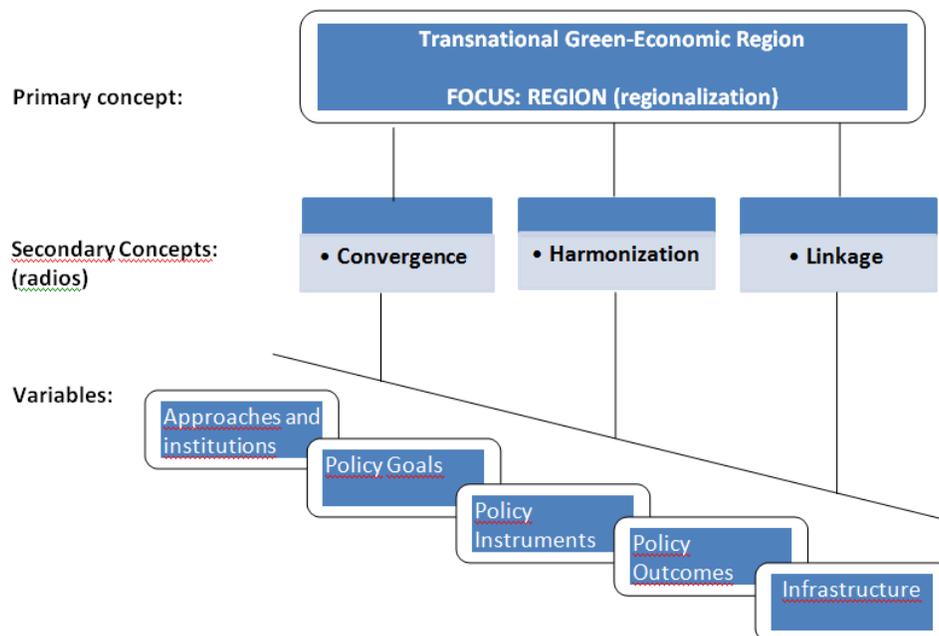
<sup>2</sup> Weyland, 2001

<sup>3</sup> Weyland, 2001:3

America. All three regions find themselves dealing with *economic* approaches to deal with *environmental* affairs like climate change linked directly to energy efficiency.

All three regions are immerse in a *regionalization* process, where a group of LGs have gotten together to develop joint efforts. This regionalization process, as defined in previous chapters is where the differences start appearing and where comparative concepts need to be created. I this section, I will deal with the primary concept of regionalization and derive three secondary comparative concepts (or radios): convergence, harmonization, and linkage. In each of them, I will explain the following 5 variables: 1) approaches to environmental policy and institutional building; 2) policy goals; 3) policy instruments; 4) policy outcomes; and 5) infrastructure. Figure 1 below, helps to better visualize this methodological scheme.

**Figure 1. Methodological scheme – Radial Concepts<sup>4</sup>**



<sup>4</sup> This set of variables was designed by the author taking into account several scholars' work. See Van Nijnatten, 2008b; Harrison, 2007. Daniel Schwanen establishes these four factors as a formula called "Kaya." To know more about it see Schwanen, 2006:296; Winfield, 2002; Moss et al, 2001.

## 5.1 CONVERGENCE

As defined in Chapter 1, *convergence* can be understood as the trend of policies to look alike regarding their structures, processes and performance.<sup>5</sup> The drivers of this convergence can be ideological, economical, external, or internal.<sup>6</sup> In the case of the TGERs, economic coherence is the priority, and in a lower scale, the sharing of values—such as voluntary and market approaches to climate change. In other words, “trading allows the convergence to the cap to occur in a cost-effective way.”<sup>7</sup> The external factors can be characterized as the global, regional, and national climate governance. Internal factor deal with the fact that LGs would decide to create their own options and take them to a transnational regional approach to obtain profit.

Convergence can be traced by using some of the 5 variables in the scheme above. To deal with the *approaches on environmental policy* is necessary to address the building of governance approaches that are expressed in the type of command-and-control system. In this sense, is useful to see if “polluters are required to meet specific emission reduction targets and thus of certain types of equipment to reduce emissions.”<sup>8</sup>

Another approach taken by TGERs is the building of blocks as bases for national or global climate change policies. This idea deals with the lack of efficiency in drafting policies of other levels of government.<sup>9</sup> In this environmental approach, institutional building is a cornerstone. Institutions of TGERs are designed to be flexible to allow

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<sup>5</sup> Drezner, 2001

<sup>6</sup> Drezner, 2001

<sup>7</sup> Aguayo, 2010:248

<sup>8</sup> Van Nijnatten, 2008b:5

<sup>9</sup> Winfield, 2002

change,<sup>10</sup> as cap-and-trade mechanisms show. Indeed, TGERs had opted for market mechanisms instead of state mechanisms.

Assuming that the general approach of the three TGERs is to create a cap-and-trade market, *specific policy goals* and *policy outcomes* reveal that the level of convergence is low. Policy goals refer to “the stated or expected ends of the course of action to which a government is committed, as when Canada's federal government agreed to achieve a 6 percent reduction in greenhouse gases below 1990 levels by 2012 under the terms of the Kyoto Protocol.”<sup>11</sup> Each of the TGERs has established its own goals for reducing GHG. Each of the LGs has done the same within the regions, where the sum of the parts performs as a grand regional goal. Convergence is present in the will of setting regional goals and reducing certain amount of GHGs. For example, RGGI has committed to stabilize CO<sub>2</sub> emissions for 2014 and to reduce 10% for 2018 in 200 electric plants that work with fossil fuels and generate more than 25 megawatts--starting January 1st, 2009. The WCI aimed to reduce GHG emissions 15% below 2005 levels by 2020, and MGGRA would reduce 20% by 2020 and 80% by 2050. All three TGERs have taken the baseline year of 2005.<sup>12</sup>

The scope of policy goals is another item where there are differences. RGGI only addresses CO<sub>2</sub> sources of very few facilities, while WCI and MGGRA address the whole range of GHG gases (as established in the KP) in a wider scope of sectors. In this sense, the outcomes will also portray low convergence in that they differ in GHG reductions and earnings for each of the participants. Policy outcomes

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<sup>10</sup> Hall, 2003. See also Hall and Thelen, 2008. Kathryn Harrison also uses institutions and shared ideas to compare climate policy in Canada and United States. See Harrison, 2007

<sup>11</sup> Van Nijnatten, 2008b:3

<sup>12</sup> However, as LGs are the ones that decide their GHG budgets, some of them have proposed to respect the 1990 baseline; some of them stick to the 2005 baseline.

refer to measures of environmental, quality, such as levels of pollutants in ambient, air, water, soil or plant and animal life. Certainly measuring outcomes is complicated by factors such as geography, industrial concentration and climate change, as well as cross-border flows of pollutants. However, monitoring environmental quality over time provides some indication of whether an environmental program policy program is ‘working’ or not.<sup>13</sup>

It is useful to see how GHGs are being measured and the way registries and inventories have been designed. Another thing to look for is the comparison of sectors and their outcomes. The electricity sector is one of the most emitting sectors in North America. Although only one of the TGERs has already started operations, comparing energy portfolios is useful to this research. In general, TGERs measure climate outcomes by absolute GHG emissions or by GHG intensity (GDP/ energy consumption).<sup>14</sup>

*Policy instruments*, defined as the operative mechanisms for participating in the carbon market, are also different and account for a lower degree of convergence. Each of the LGs performs on the most suitable instrument: vehicles standards, incentives to biofuels, portfolio standards, etc.

Convergence would appear to be a difficult term to apply to the TGERs *infrastructure* because it would imply that all the energy production facilities, the electricity lines, or transportation routes, would look much alike. In the other hand, infrastructure integration suits better to harmonization and linkage. Each of the regions accounts for different sources of energy (in general resulting of the portfolio standard) and builds the

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<sup>13</sup> Van Nijnatten, 2008b:4

<sup>14</sup> Schwanen, 2006:296

own infrastructure for those purposes. Thus, convergence has more to do with the spirit of markets and sharing the general principles of differentiation of responsibilities within a regional scheme. Convergence has not reached these operative levels of carbon markets.

## **5.2 HARMONIZATION**

Harmonization can be understood as standardization. Harmonization is where the operation of the cap-and-trade takes place, and it appears when there are links which allow emissions trade in several directions.

Under a unilateral link, entities in system A can purchase allowances from system B for compliance, but not vice versa...inter-system trading will occur until prices of the two systems converge at an intermediate level. In a fully bilateral link, allowances can be freely graded between two systems and each system`s allowances are equally valid for compliance in both systems. If more than two schemes participate, this becomes a multilateral link.<sup>15</sup>

In any case, coordination is necessary to harmonize rules. These standards are clearly present among members of North American carbon markets. There are structures and norms applicable to all, such as the registries and inventories` methodologies that tend to be homologated within the region or even with the Federal Governments of Canada and U.S. (especially through EPA).<sup>16</sup> The fact that each member of TGERs develops individually their own participation mechanisms, and then adds them to the regional initiative, speaks of

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<sup>15</sup> Tuerk et al, 2009:343

<sup>16</sup> This happens in the case of Canadian and U.S. local governments, where harmonization mechanisms have been created to homologate registries with the Environmental Protection Agency. See Western Climate Initiative, 2010f and 2010g

the attempt to converge but recognizing the main premise of differentiation of responsibilities and capabilities.

Although TGERs share the approach of setting specific *policy goals and outcomes*, differences appear within and among the regions. In this same sense, *policy instruments*, though different, reflect harmonization. TGERs have created incentive structures to harmonize policy instruments to operate cap-and-trade. In this sense, policy instruments refer to the actual means or devices that governments have at their disposal to achieve policy goals. Regulation, subsidies, taxation, and voluntarism are all examples of policy instruments.<sup>17</sup>

Although there is a set of basic instruments for markets to operate, LGs chose to establish different mechanisms. However, these instruments tend to be homologated and standardized. For example, California is entitled to set stricter standards than the nation as a whole and receive a waiver from weaker federal standards.<sup>18</sup> This process allows other states to do the same. In this sense, New York has adopted these recent California standards, which would reduce GHG emissions from cars by 37%, and from light trucks 24% by 2016.<sup>19</sup> This individual initiative has led to a more regional scope. For example, the market-based, technologically neutral emissions-performance standard being developed by the RGGI and the State of Pennsylvania will probably reduce the carbon concentration in fuels used in vehicles and buildings and provide incentives for energy providers to use low-carbon fuels.<sup>20</sup>

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<sup>17</sup> Van Nijnatten, 2008b:3

<sup>18</sup> California is the only state whose vehicle emissions standards preempt federal rules. See Department of Environment of New York, 2011.

<sup>19</sup> Department of Environment of New York, 2011

<sup>20</sup> Department of Environment of New York, 2011

Standardization of carbon market instruments is also present in GHG inventories and registries. This is the requirement for all members in the three markets. The way of measuring has to be homologated to TGERs methodology, which is also the one developed by the EPA.

TGERs try to harmonize with national environmental standards through institutions, such as EPA methodology for registration and inventories or with global institutions, such as the PK or ISO. The three regions count with major institutions to regulate the standardization of processes to aid in the performance of cap-and-trade. Institutions for registries appear in the case of RGGI (RGGI-COATS); in the case of MGGRA, there is Regulatory Agency in charge of the process of partners' GHG registries and inventories. The WCI has a more direct registry system. It does not have a particular agency, but the registration of each partner is directly harmonized with the EPA and The Climate Registry. Other institutions are the ones regulating the relations among partners and the cap-and-trade. In the case of the MGGRA, there is the Regional Administrative Organization (RAO), general institution for checking the performance of the carbon market. Following this steps, the WCI has recently published that it will create a RAO with the same functions held at MGGRA. Although RGGI does not have a general office, it counts with several programs to operate the cap-and-trade. In this sense, MGGRA appears as the TGER with most general institutions (followed by WCI), and RGGI performs with more specific institutions, as it is the only market already in operation. The last kind of institutions deals with electricity integration. In general this sector is dealt with by the NERC and its specific regional offices and standards; all the regions are inscribed in its logic and standards.

Another kind of harmonization intended is the one among regions. As Barry Rabe establishes,

[t]hese regions have moved forward in the absence of any support from their respective federal governments and have generally held together amid periodic uncertainty as to whether they would be allowed to continue operation in the event federal legislation was enacted.<sup>21</sup>

An example of this uncertainty is the declaration of the WCI to “develop administrative systems and infrastructure, continue advancing core policies and programs, work closely with federal governments to promote national and international action and ensure coordination among state, provincial, regional and national programs.”<sup>22</sup> Harmonizing standards (and not converging) is not a random choice of this new markets; it has been a precaution considered to avoid distributional issues, the attainment of prioritized policy objectives, and reduced control over domestic markets. The flexibility these markets show is designed to avoid overlapping or duplicity, as well as to cut costs of implementation.

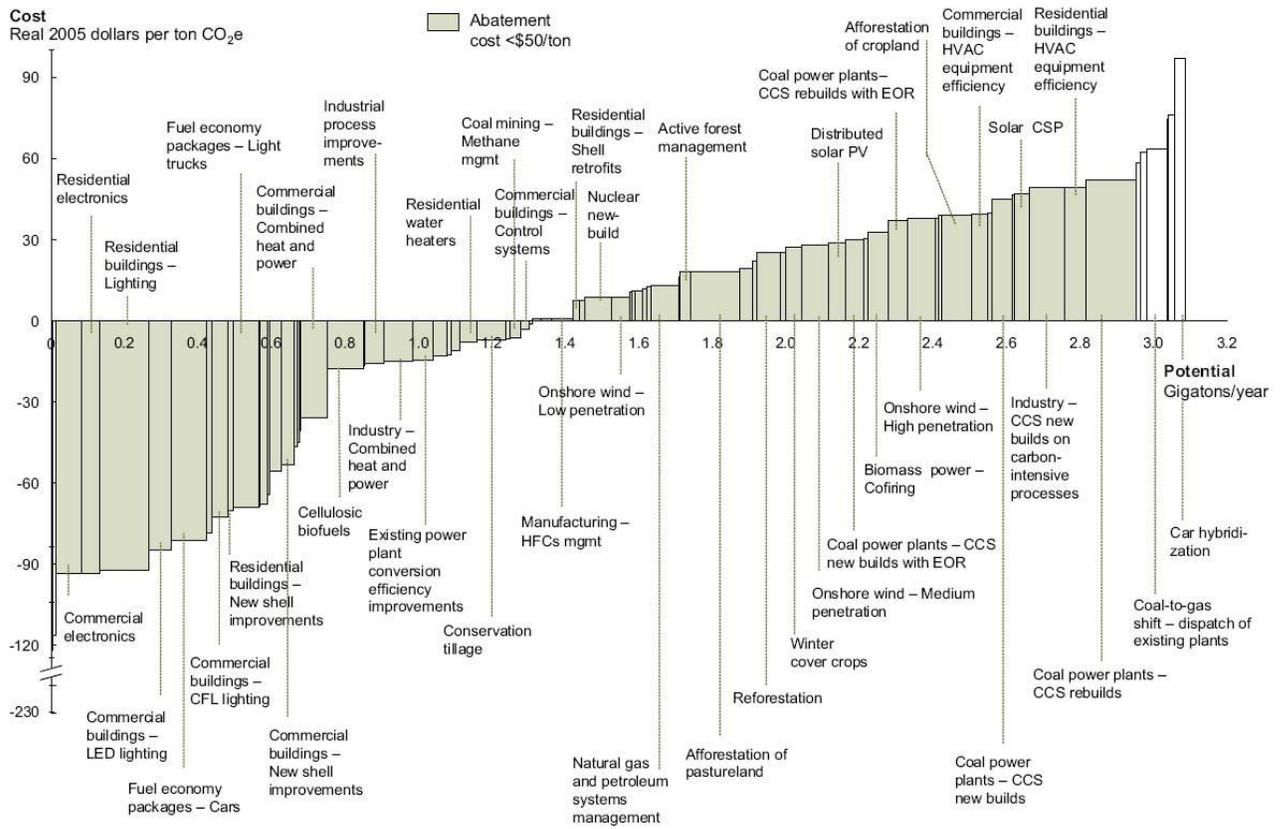
Standardization of prices is another element for harmonization. For example, in the following curve, McKinsey and Company projected the main areas for GHG reduction and their costs for the United States.

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<sup>21</sup> Rabe, 2010:23

<sup>22</sup> Western Climate Initiative, 2010h

Figure 1. U.S. Mid-Range Abatement Curve to 2030<sup>23</sup>



<sup>23</sup> McKinsey & Company, 2007

As this curve shows, there are several strategies that need to be taken into account in an integrated manner. Harmonization of prices of all the three markets would be required to address these costs. In addition, harmonization to achieve a beneficial balance of instruments within each market and among the three of them is necessary to abate costs as much as possible. If we compare these prices to the projected allowance prices, we will see that TGERs tend to be above them, situation that encourages transregional initiatives.

Another strategy to deal with uncertainty has been the creation of institutions that establish harmonized standards among regions, especially in *offset programs* and *secondary markets*. In May 2010, the three markets launched a policy for standardization of processes in offsets programs with the intention of an eventual merge.<sup>24</sup>

The *offset system* was institutionalized by the creation of the Three-Regions Offsets Working Group.<sup>25</sup> In this sense, harmonization is based in mitigation strategies, such as GHG reduction projects of sources not regulated in the cap-and-trade program.<sup>26</sup> The standards established by the three regions stated that compensation projects need to be real, complementary, permanent, verifiable, and enforceable.<sup>27</sup> In other words, it is necessary that they reduce more GHG than the cap established. Harmonization is also present when, within each of the TGERs, standards are developed to cope with external offset projects of the same region and of other initiatives.<sup>28</sup> However, there is a limit to offset projects outside the region. In the RGGI framework, “power plants may use offsets to meet 3.3% of their compliance obligation. Limit on use increases to 5 percent and 10 percent under specified

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<sup>24</sup> Rabe, 2010:24

<sup>25</sup> For the three regions, one allowance equals one CO<sub>2</sub>e ton (CO<sub>2</sub> for RGGI). See Three-Regions Offsets Working Group, 2010

<sup>26</sup> See Three-Regions Offsets Working Group, 2010:6

<sup>27</sup> For detail on the definitions of these characteristics, see Western Climate Initiative, 2009a and 2010b

<sup>28</sup> Western Climate Initiative, 2010i

conditions”.<sup>29</sup> In the WCI, the offset programs cannot exceed the 49% of the reduction commitment of every member.<sup>30</sup> MGGRA also counts with an offset program. The projects would be elected by a newly-designed institution, the Regulation Agency (with the advisory of the Technical and Scientific Committee).<sup>31</sup> This agency is the one which decides if offset projects could be linked in other regional markets. This limits guarantee that the majority of the projects be developed within the region.

Offset systems in the three TGERs allow for the projects to be developed in other markets, in other words, in secondary markets.<sup>32</sup> For example, the Market Committee of the WCI has established three types of harmonization mechanisms with secondary markets. As mentioned before, WCI counts with exchanges, central limit order books (CLOB), and over the counter transactions (OTC).<sup>33</sup> These three formats allow flexibility and homologue standards, but they are far from convergence.

Another example of the way secondary markets operate is the approach that RGGI grants to them. For RGGI, secondary markets can be other TGERs, where there can be common standards. RGGI can use the Chicago Futures Climate Exchange (national institution) as an exchange institution, as well as the Montreal Climate Exchange.

In *infrastructure*, harmonization in transportation and electricity sectors is the goal of the three regions, especially in transportation and electricity sectors. Vehicles standards being developed could at some point become into harmonization of standards in the three TGERs. Another example of the setting of standards could be carbon storage through the building of CO2 trunk lines inter-regions. One of the last examples is the expansion of

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<sup>29</sup> Regional Greenhouse Gas Initiative, 2011b

<sup>30</sup> This percentage translates into a very small amount if total emissions of the region are calculated. See Western Climate Initiative, 2010a: 38

<sup>31</sup> Midwestern Greenhouse Gas Reduction Accord, 2010a

<sup>32</sup> Western Climate Initiative, 2010a:17

<sup>33</sup> Western Climate Initiative, 2010d

electricity lines within the electric regions already established and regulated by NERC. However, when referring to infrastructure, the main form of regionalization deals with linkage.

### 5.3 LINKAGE

The last element of regionalization is linkage. Linkage works in the same sense of convergence in that it can be unilateral, bilateral or multilateral,<sup>34</sup> but it has a different dynamic. For the case of North American TGERs linkage has been unilateral. The three markets

have been working cooperatively to share experiences in the design and implementation of regional cap-and-trade programs, inform federal decision making on climate change policy, and explore the potential for further collaboration among the three regional programs. This work will provide a potential roadmap for developing bilateral and multilateral linkages.<sup>35</sup>

Linkage is a perfect strategy facing global governance failure. As established by several scholars, in case the world does not reach a consensus about a global carbon market resulting from a new Kyoto scheme, national, or regional markets can create linking mechanisms.<sup>36</sup> However, in *policy goals and outcomes*, it is difficult to find linking mechanisms. The logic of TGERs addresses “common, but differentiated responsibilities,”

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<sup>34</sup> World Business Council for Sustainable Development, 2007

<sup>35</sup> Western Climate Initiative, 2010a:23

<sup>36</sup> An interesting proposal for linking carbon markets worldwide is presented by Flachslan et al, 2008. Some other scholars that propose linkage as a strategy for bottom-up construction are Victor, 2007; Pizer, 2007; Tangen and Hasselknippe, 2005

where policy goals and outcomes are defined by each member. Linkage occurs in the area of *policy instruments*. For example, the three initiatives recognize as valid some national or global instruments. RGGI can link the carbon market to the European Climate Exchange, to new national markets, or even the Clean Development Mechanism of the Kyoto Protocol.<sup>37</sup> This situation seems odd due to the fact that the U.S. federal government is not part of the KP. In other words, RGGI allows versatility to its members to link with other levels of climate governance. Nonetheless, this link is far from joint institutional-building or homologation. It is just a precaution or a foreseen advantage in the case that global climate governance recognized LGs as members of it.

This situation implies that the concept of transnational regionalization is indeed driving climate policies in the region. In this same sense, it puts emphasis in the argument that integration in North America is being taking place in two spheres: middle-up-down (regarding other levels of climate governance) and middle-horizontally (regarding LGs and TGERs).<sup>38</sup> This integration has also been differentiated into sectors. In this sense, there is no comprehensive regionalization process in North America, but one of diverse rhythms and forms.

Finally, linkage is the variable where there has been more progress regarding regional integration of *infrastructure*. In the three TGERs, there is a diversity of fuels used to produce energy. When the regions incorporate their sources to the general grid, they are in fact incorporating it into energy portfolios focused in managing GHGs. For example, “in the U.S., the emergence of Renewable Portfolio Standards (RPSs) is creating a greater need for access to Canada’s renewable generation. An RPS requires electricity providers to

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<sup>37</sup> Ellis and Tirpak, 2006:9

<sup>38</sup> For further detail of the concepts of verticality and horizontality in policy integration, see Kern, 2010

obtain a minimum percentage of their power from renewable energy resources by a certain date.”<sup>39</sup> As established in a Canadian report about infrastructure opportunities,

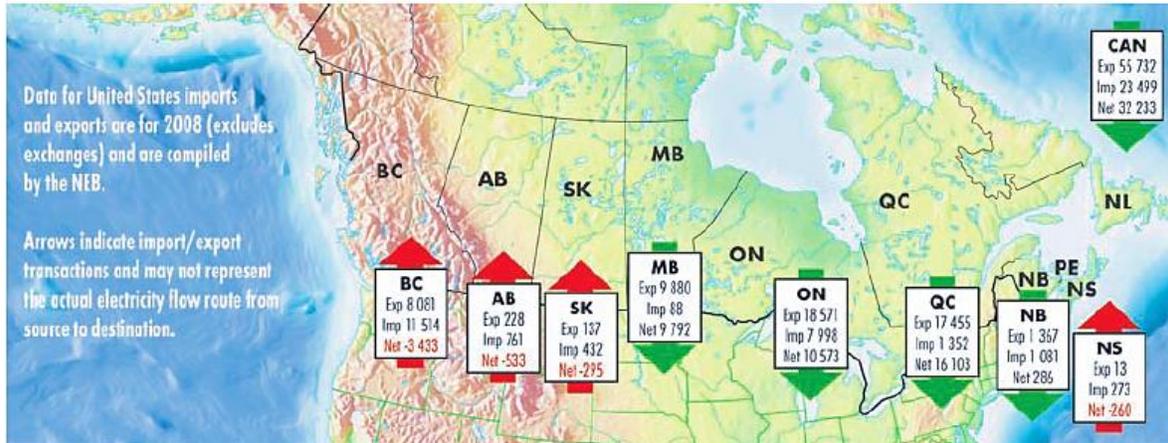
additional transmission will give regions that are currently dependent on fossil fuel generation access to generation sources that emit less GHGs, such as nuclear, hydro and wind power. Wind power in particular benefits from transmission infrastructure. Areas with good wind resources may be located away from load centres, requiring transmission to bring the power to market. Locating wind farms in different regions helps counteract the intermittent nature of wind power. Connections to hydro rich regions also allow for energy banking. In this regard, North American electric transmission infrastructure development could be viewed as a mechanism for some provinces and states to reach their goal of GHG emissions control.<sup>40</sup>

This would mean that linkage in electricity infrastructure is bilateral and in the long run, aimed to standardize GHG strategies. It also recognized the deep energy integration between North American countries. An example of the electric relation between Canada and U.S. is shown in the map below, where there is a balance between importing and exporting of electricity that can be traced regionally and vertically.

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<sup>39</sup> National Energy Board-Canada, 2009

<sup>40</sup> National Energy Board, 2009b:29

**Map 1. International Transfers of Electricity-2008**<sup>41</sup>

This linkage can also be perceived as market expansion. In this sense, the integration under NAFTA has been successful. Nonetheless, this electricity exchange goes beyond markets, and it has started to standardize energy portfolios in a trans-regional scope.

To sum up, facing the fact that no comprehensive climate change legislation has been passed in the U.S., and the Canadian approach is not taking into account local types of economies and needs, LGs had responded with TGER. These regional initiatives represent one strategy of LGs in North America to develop local policies towards climate change. These regions also address the issue of how localities can contribute to produce global public goods.

In this sense, although global public goods tend to be provided by global governance schemes, to date, localities are the ones contributing to this provision. In this sense, global public goods would be partially provided; in other words territorialized and divided vertically in levels of climate governance and horizontally through harmonization of goals, instruments, and policies. Thus, this is not new. What is new is that the leadership

<sup>41</sup> National Energy Board, 2009b:29

in both elements has come from the bottom of the sphere of authority. LGs appear as the last frontier where climate change can be operational. Interesting to note, once climate governance falls under this frontier, some of these jurisdictions have granted authority to a collective administration. The process has gone down and bounced upwards to new regional experiments. This regionalization steps aside NAFTA schemes, and it develops its own logic.

This logic is based in several topics. The specific geographical production of energy sources is vital to develop mitigation strategies. Some of the LGs are decreasing their coal-based energy production and started exploiting their own renewable potential. In this sense, offset projects also portray differentiated types of ecosystems, where LGs can profit of having forests or certain clean energy sources.

Another topic would be the kind of economy of the LGs. This is inevitably related to the amount of energy each member uses. In this sense, the TGERs are a success in incorporating each sector in different ways to GHG reduction. TGERs have also succeeded in letting LGs propose and sometimes distribute allowances. It is soon to tell, but RGGI's allowance auctions have left the members with good amount of profit.

Another issue that tells that TGERs can be a real option for providing global public goods, it is their establishment of linking mechanisms with other levels of climate governance. Secondary markets in the three initiatives would perform as the ladder to involve global and national governance institutions into GHG carbon-markets. Taking the concept of linking into the next level, TGERs are consolidating integration processes. This can be exemplified by infrastructure integration in the electricity sector. Some facilities are now being integrated in cleaner processes due to their participation in TGERs. These regions have gone as far as to ask for exporters of electricity to accomplish certain

percentages of clean energy established in the region. Integration is also present in some of the developed regional policies. Some of them go to the next level, convergence. This element appears to be important in that it encompasses a transnational scope. In TGERs in North America, LGs from the three countries are either members or observers. In other words, their participation in coherent regions speaks of a new way of local relating schemes beyond national ones.

To provide linking, integration, or convergence, each of the TGER presented here has created its own particularities and institutions. However, they appear to share the same approach towards market mechanisms driven by carbon markets, cap-and-trade schemes, and individual complimentary policies.

In spite that the three TGERs have a similar cap-and-trade model, the scope is different. RGGI only covers CO<sub>2</sub> electricity plants that can generate 10% of electricity and that consume 50% of fossils. The scope seems limited, but this market is the only one that has started operations. RGGI has auctioned \$729 millions of CO<sub>2</sub> permits in favor of the member states.<sup>42</sup> WCI and MGGRA have a wider scope because they include all the GHG established by the Kyoto Protocol. WCI covers several sources of production and consumption of energy, for example in electricity, transportation, natural gas, carbon, etc.<sup>43</sup>

Another important issue for TGERs to function is leadership. In this sense, each region has its “paymaster”. As mentioned in the Chapter I, the provision of global public goods needs to have a leader who absorbs most of the costs, but gets most of the profit. Leadership is in the hands of the U.S. LGs, “only the American state participants are likely to have any prior experience with emissions trading under the 1990 Clean Air Act...Neither

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<sup>42</sup> Lagerkvist, 2010

<sup>43</sup> Flashland et al, 2008

Canada nor Mexico have this level of familiarity, at either federal or sub-federal levels.”<sup>44</sup>

The leadership in the other countries’ LGs is not clear yet. California has pushed forward the WCI, along with British Columbia; New York has lead the RGGI process accompanied by Ontario and Quebec; Michigan and Wisconsin have done the same for MGGRA.

At the end, these three initiatives represent an alternative route to the limited approach of global, regional and national climate governance. However, these TGERs face obstacles, uncertainty and challenges. They also offer specific opportunities for clean development and for territorializing the provision of global public goods. These issues will be further addressed in the concluding chapter of this thesis.

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<sup>44</sup> Rabe, 2010:6