# Filling the Gap: The role of sub-national government networks in a multilevel global climate change regime

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A thesis submitted to McGill University in partial fulfillment of the requirements of the degree of Master of Laws (Environment Option)

August 2012

# Abstract

This thesis questions the contemporary perception of climate change governance as a purely international responsibility, to be primarily addressed by multilateral negotiations of nation states. An engagement with the geographic theory of scale demonstrates sub-national governments' (SNG) role in the governance of local causes and effects of climate change. SNG networks are an emerging actor in climate change governance, as SNGs have grouped together to tackle climate change collectively. This thesis considers the value of these SNG networks in influencing the laws and policies of their members, as well as the international regime. More broadly, the membership of SNG networks suggests that the role of these networks in a multilevel governance regime is to "fill the gap" of support for regional and city governments that are undertaking more ambitious climate change action than the national governments in which they reside.

Ce mémoire questionne la perception contemporaine de la primauté des négociations multilatérales, qui ont pour but de lutter contre le changement climatique. La théorie géographique de l'échelle illustre que les villes, les provinces et les régions – les gouvernements sous nationaux – jouent également un rôle dans la gestion des causes et des effets locaux du changement climatique. Les réseaux, créés par les gouvernements sous nationaux, sont en train de devenir des acteurs majeurs dans la gouvernance du changement climatique en raison du regroupement de ces gouvernements afin de traiter de la question collectivement. Ce mémoire étudie l'importance de ces réseaux; en particulier, leurs influences sur les lois et la politique des gouvernements sous-nationaux, ainsi que sur le régime international de l'Organisation des Nations Unis. De plus, l'adhésion des réseaux suggère que le rôle de ces réseaux au sein d'un régime à plusieurs niveaux est de mettre fin aux lacunes qui existent dans le soutien des gouvernements régionaux et des municipalités, qui ont entrepris des projets pour la lutte contre le changement climatique plus ambitieux que les gouvernements nationaux dans lesquels ils se situent.

# Acknowledgements

It is a pleasure to thank the many people who helped me with this thesis. Foremost, I would like to express my sincere gratitude to my supervisor, Professor Jaye Ellis, for her continuous support of my research and guidance throughout the process of writing this thesis. Her clear, structured thinking and wide knowledge have been of immeasurable value.

I would also like express my sincere thanks to my Advisory Committee for their generosity in providing comments on my drafts: Professor Adam Millard-Ball of the Department of Geography, Professor Hoi Kong of the Faculty of Law and Professor Steve Maguire from the Desautels Faculty of Management.

I wish to thank my fellow Graduate Environment students in the McGill School of Environment, whose observations and support in the thesis proposal stage moulded my final research question. I would also like to warmly thank faculty members of the School of Environment for sharing their environmental knowledge and enthusiasm throughout the year: Professor Marilyn Smith, Professor Richard Janda, Professor Madhav Badami, Professor Mark Goldberg, Professor Peter Brown and Professor Tom Naylor.

I would also like to acknowledge the financial assistance I received from McGill University, for which I am very grateful.

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# List of Abbreviations

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| ACCCRN | Asian Cities Climate Change Resilient Network |
| C40 | C40 Initiative |
| CCI | Clinton Climate Initiative |
| CCP | Cities for Climate Protection |
| COP | Conference of the Parties |
| EPA | Environmental Protection Agency |
| ETS | Emissions trading scheme |
| EU | European Union |
| EU ETS | European Union's emissions trading scheme |
| GHG | Greenhouse gas |
| ICLEI | Local Governments for Sustainability |
| IEA | International Energy Agency |
| IGO | Intergovernmental organisation |
| JVETS | Japanese Voluntary emissions trading scheme |
| LGCR | Local Government Climate Roadmap |
| NGO | Non-government organisation |
| NSW | New South Wales |
| RGGI | Regional Greenhouse Gas Initiative |
| SNG | Sub-national government |
| UK | United Kingdom |
| UNFCCC | United Nations Framework Convention on Climate Change |
| USA | United States of America |
| VMT | Vehicle Miles Travelled |
| WCI | Western Climate Initiative |

# Introduction

"It is now urgent and more than ever necessary to mobilize and support the ambitious climate actions of local governments who have been zooming past nations."
*Gino van Begin, Deputy Secretary General of ICLEI - Local Governments for Sustainability, Durban, 2011*

The world has now twice watched as nation states scramble to achieve an outcome from international climate change negotiations. First at the United Nations Framework Convention on Climate Change's (UNFCCC) 2009 Copenhagen conference of the parties (COP15) and again at the 2011 Durban conference of the parties (COP17), nation states produced political documents in the final hours of the negotiations – the Copenhagen Accord[1] and Durban Platform[2] – instead of the global, binding legal text which was expected to follow the Kyoto Protocol and commit the world's nations to stringent, legally-binding greenhouse gas (GHG) emission reductions.[3] The slower than anticipated progress of the UNFCCC negotiations to reach meaningful agreement is due in part to deep divisions among nation states' perceptions of the climate change problem, resulting in broadly different negotiating positions.[4] For instance, some countries, including the European Union (EU), Least-Developed Countries and the Alliance of Small Island States, a group of low-lying countries, negotiate for stringent GHG emission reduction targets, while a number of the largest GHG emitters, including the United States of America (USA), India, China and Brazil, not only negotiate for greater leniency in emission targets, but have been successful in delaying the imposition of these targets until 2020.[5] Given the requirement of international law for unanimous agreement before a treaty can be signed and the

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[1] *Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action,* Dec 1/CP.17, UNFCCC, 17th Sess, UN Doc. FCCC/CP/2011/9/Add.1 (2011) [Durban Platform].
[2] *Copenhagen Accord,* UNFCCC, Dec 2/CP.15, UNFCCC, 15th Sess, UN Doc FCCC/CP/2009/11/Add.1 (2010).
[3] Adrian Macey, "The Road to Durban and Beyond" (2012) 8:2 Policy Quarterly 25 at 26.
[4] Jutta Brunnée, "From Bali to Copenhagen: Towards a Shared Vision for a Post-2012 Climate Regime" (2010) 25 Maryland Journal of International Law 86 at 87.
[5] Fiona Harvey, "Rich nations 'give up' on new climate treaty until 2020" The Guardian online: <www.guardian.co.uk>; Durban Platform, *supra* note 1.

UNFCCC's goal of a legally-binding agreement covering all nations, the UNFCCC process has arguably reached a political impasse.

Although climate change is assumed to be best governed by an international treaty, since it is a global commons problem that requires global cooperation to address, international, or more precisely inter-state, negotiations are only one form of collective global action.[6] Global cooperation to combat climate change may simultaneously be undertaken by actors other than the nation state, such as city or municipal governments[7] and regional governments, such as states or provinces, which are collectively referred to as sub-national governments (SNGs) in this thesis. Given the complexity of climate change as a problem that crosses geographic areas and jurisdictional borders, the need for global cooperation and recognition of the interdependence of regulatory solutions has led SNGs to group together in networks to undertake collective action to address climate change.[8] Networks are posited to allow SNGs to achieve greater results than any one actor could realise on its own, both in terms of more innovative and ambitious policy development and adoption, and in terms of the amount of GHG emission reductions.[9] That being said, this thesis does not look at whether the activities of the networks directly reduce GHG emissions;[10] instead, the subject matter is how networks accelerate the development of successful climate change mitigation and adaptation laws, policies and other measures by SNGs.

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[6] Garrett James Hardin, "The tragedy of the commons" in Garrett James Hardin & John Baden, eds, *Managing the commons* (San Francisco: W.H. Freeman, 1977); Daniel Bodansky, Jutta Brunnée & Ellen Hey, "International Environmental Law: Mapping the Field" in Daniel Bodansky, Jutta Brunnée & Ellen Hey, eds, *The Oxford Handbook of International Environmental Law* (Oxford: Oxford University Press, 2007) at 7-8.

[7] The terms city and municipality are used interchangeably in this thesis to refer to the most local level of government.

[8] Kal Raustiala, "The Architecture of International Cooperation: Transgovernmental Networks and the Future of International Law" (2002) 43:1 Va J Int'l L 1 at 43.

[9] Anne-Marie Slaughter, "Sovereignty and Power in a Networked World Order" (2004) 40:2 Stan J Int'l L 283 at 310; Asher Alkoby, "Global Networks and International Environmental Lawmaking: A Discourse Approach" (2008) 8:2 Chicago J of Int'l L 377 at 385.

[10] For a discussion of this question, see Adam Millard-Ball, "Do city climate plans reduce emissions?" (2012) 71:3 Journal of Urban Economics 289.This article provides an in-depth review of the legal challenges California would face, if it were to link its cap-and-trade scheme to other global schemes; Adam Millard-Ball, "The Limits to Planning: Causal impacts of city climate action plans" Journal of Planning Education and Research [forthcoming in 2012].

Government networks are emerging as significant actors in the global climate change governance regime, defined here as the rules, institutions and practices adopted by society to treat climate change[11] and are particularly suited to the problem of climate change due to the complexity, uncertainty and urgency thereof.[12] Firstly, great technical complexity pervades the contemporary regulation of climate change. Rather than delegating the regulation of climate change to international negotiators with generalised skills, climate change governance is arguably best left to regulators who are specialised in the area of, for example, the monitoring and reporting of GHG emissions.[13] In networks, it is generally specialised SNG officials that work together. Secondly, the long-term consequences of climate change and the results that can be expected from climate change mitigation and adaptation actions remain highly unclear.[14] An uncertain and changeable future renders governments reluctant to ratify and implement a formal, legally-binding agreement, whereas government networks provide a more flexible, non-binding and therefore less risky alternative.[15] Informal and voluntary networks may also be much quicker than formal international negotiations at reaching a decision due to like-mindedness

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[11] Kathryn Sikkink, "The Power of Networks in International Politics" in Miles Kahler, ed, *Networked Politics: Agency, Power and Governance* (Ithaca: Cornell University Press, 2009) at 241.This definition of governance is modified from Kathryn Sikkink's: "the formation and functioning of rules, institutions and practices through which international actors maintain order and achieve collective goals."

[12] Harriet Bulkeley & Michele M. Betsill, *Cities and Climate Change : Urban Sustainability and Global Environmental Governance* (London, UK: Routledge, 2003)at 27."Networks are not a new phenomenon in the international arena, but their rapid emergence in the environmental field is a relatively new phenomenon." Anne-Marie Slaughter & Thomas Hale, "Transgovernmental Networks and Emerging Powers" in Alan S. Alexandroff & Andrew F. Cooper, eds, *Rising States, Rising Institutions* (Waterloo, Ontario: The Centre for International Governance Innovation, 2010) at 48; Raustiala, *supra* note 8 at 51; Anne-Marie Slaughter & David Zaring, "Networking Goes International: An Update" (2006) 2:1 Annual Review of Law and Social Science 211 at 218.

[13] Mette Eilstrup-Sangiovanni, "Varieties of Cooperation: Government Networks in International Security" in Miles Kahler, ed, *Networked politics : agency, power, and governance* (Ithaca: Cornell University Press, 2009) at 203; Slaughter & Hale, *supra* note 12 at 49.

[14] Alan Ingham, Jie Ma & Alistair Ulph, "Climate change, mitigation and adaptation with uncertainty and learning" (Paper delivered at the Symposium NCCR CLIMATE "Interfaces between Climate and Economic Dynamics" Interlaken, 3-4 March 2005) [unpublished]; Andrew Green, "Climate Change, Regulatory Policy and the WTO" (2005) 8:1 J Int'l Econ L 143 at 148.

[15] Eilstrup-Sangiovanni, *supra* note 13 at 205-10.

between members, and can be an attractive option in the time-pressured treatment of climate change impacts and effects.[16]

This thesis, therefore, starts from the assumption that the emergence of climate change networks is appropriate and focuses its analysis on an exploration of the role of SNG networks in influencing the climate change mitigation and adaptation laws and policies of their members, as well as the international regime. The value of SNG networks is investigated from two perspectives: firstly, the internal perspective analyses the processes that networks use to influence their members and the international climate change regime and secondly, the external perspective explores SNG climate change networks' place in a multilevel regime.

Focusing on the internal point of view, the thesis builds upon previous scholarship on networks and local climate change initiatives to fill a critical void in the literature, which so far has focused on analyses of either specific, individual networks or networks generally, but has not undertaken a more holistic analysis of the role and value of multiple specific SNG networks – both city and regional – as examples of an emerging global climate change governance actor. To develop a deeper understanding of the role of networks as climate change governance actors, this thesis explores how networks operate in order to gain an insight into how they influence SNG law and policy development, as well as the international UNFCCC regime. A theoretical investigation of the processes available to networks - collective decision-making, leading by example, information dissemination, improving regulatory capacity, setting network objectives and direction, and political advocacy - is followed by an analysis of their practical use by five existing networks, to determine the effectiveness of these processes to accelerate SNG climate change law and policy development in reality. The five SNG networks on climate change considered in this thesis are the city-based networks of the Cities for Climate Protection campaign, the C40 Initiative and the Asian Cities Climate Change Resilience Network and the regional networks of the Western Climate Initiative and the Regional Greenhouse Gas Initiative. This holistic analysis concludes that these five SNG networks are indeed influencing the

[16] *Ibid*; Slaughter & Hale, *supra* note 12 at 50.

domestic laws and policies adopted by their members in a collaborative and swift manner, and have also emerged as a persuasive force in the international climate change negotiations. Given the range of compositions, aims and methodologies adopted by the five networks, the particular strength of networks is advanced to be the flexibility of the processes at their disposal to undertake their disparate work.

In the latter part of the thesis, the analytical focus is broadened to examine the role of SNG networks within a multilevel climate change governance regime. Multilevel governance is a framework that encompasses the plethora of governance efforts being simultaneously undertaken in climate change across government levels, as well as non-government actors.[17] The dichotomy presented in this thesis between the formal, international UNFCCC regime and the sub-national, voluntary network approach does not reflect the many options available for international climate change governance, which are beyond the scope of this paper to explore.[18] Instead, these two models are presented in this thesis to reflect the primary contemporary method of regulation and one additional governance option. In reality, there are many private and public actors in the global climate change governance arena including non-government organisations (NGOs), intergovernmental organisations (IGOs), and networks, among others. Multilevel governance

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[17] It should be noted that although non-government actors are important in the climate change regime, this thesis will not consider them, but rather will focus on SNGs.

[18] Voluntary agreements at the international scale or formal, binding networks are two options of many for an alternate organisational structure. For scholarship on alternate international agreement options see e.g. Michael Huettner *et al*, "Regaining momentum for international climate policy beyond Copenhagen" (2010) 5:1 Carbon Balance and Management 1; Kevin A. Baumert, "Participation of Developing Countries in the International Climate Change Regime: Lessons for the Future" (2006) 38 Geo Wash Int'l L Rev 365; Jutta Brunnée & Stephen J. Toope, *Legitimacy and legality in international law : an interactional account* (Cambridge: Cambridge University Press, 2010); Jutta Brunnée, "An Agreement in Principle? The Copenhagen Accord and the Post-2012 Climate Regime" in Holger Hestermeyer *et al*, eds, *Law of the Sea in Dialogue* (Berlin: Springer, 2011) 47; Axel Michaelowa, Kristian Tangen & Henrik Hasselknippe, "Issues and Options for the Post-2012 Climate Architecture - An Overview" (2005) 5 International Environmental Agreements 5; Taishi Sugiyama & Jonathon Sinton, "Orchestra of Treaties: A Future Climate Regime Scenario with Multiple Treaties among Like-minded Countries" (2005) 5 International Environmental Agreements 65; Zhongxiang Zhang, "In what format and under what timeframe would China take on climate commitments? A roadmap to 2050" (2011) 11:3 International Environmental Agreements 245; Joseph E. Aldy & Robert N. Stavins, "Climate Policy Architectures for the Post-Kyoto World" (2008) 50:3 Environment 6; Joseph E. Aldy & R. N. Stavins, *Architectures for agreement : addressing global climate change in the post-Kyoto world* (Cambridge: Cambridge University Press, 2007).

embraces the overlap between the variety of actors that are addressing climate change, stressing that their parallel efforts provide a spirit of competition as well as cooperation that raises the ambition of climate change laws and policies. Although multilevel governance is a well-established framework, little analysis has been undertaken on the role of SNG networks in accelerating climate policy and law development within a multilevel governance regime. This thesis contributes to this novel research area by proposing that networks' value within this regime is the provision of support for climate change governance efforts by SNGs that are geographically situated in countries that do not provide them with this support directly. While many individual nation states are taking significant action on climate change and have implemented ambitious national frameworks that support the parallel efforts of their SNGs, others are less ambitious and leave their SNGs to combat climate change alone. Based on a quantitative analysis of SNG climate change network membership, this thesis posits that networks provide support to SNGs in less ambitious countries just as ambitious national governments provide this support to their SNGs.

This thesis progresses in the following manner. Chapter 1 begins with a comprehensive analysis of the appropriateness of SNGs' contribution to the regulation of climate change based on the geographic concept of scale. Although the extent of the climate change problem is global, the adoption of climate-related laws and policies by SNGs is appropriate and desirable, since the actual emissions of GHGs and many of the impacts of climatic changes occur at much smaller jurisdictional levels than the international.[19] Chapter 2 sets forth a theoretical framework of the processes available to networks to influence SNGs' climate change law and policy choices and to enhance the international UNFCCC regime. Chapter 3 tests the veracity of this theory against empirical evidence from the five abovementioned SNG climate change networks. Evidence from reports of the networks and their members is analysed to understand how networks exploit the processes at their disposal to reach their aims. An inquiry into whether any processes are being followed

[19] Benjamin K. Sovacool & Marilyn A. Brown, "Scaling the policy response to climate change" (2009) 27 Policy and Society 317 at 319.

more effectively than others yields implications for the ongoing effectiveness of networks. This chapter also explores why SNGs are influenced by networks' decisions and the extent to which networks are able to enforce their decisions in SNG members, given that networks are voluntary and thus cannot depend upon coercion for enforcement. An analysis of network processes provides insights into how informal and voluntary organisations instil a sense of obligation in their members to follow their decisions, with implications for the study of transnational law. Concluding that networks are a valuable climate change governance actor, chapter 4 highlights the benefits of a multilevel global climate change regime, focusing on how support from higher government levels, as well as from networks, can ensure that SNGs are able to regulate local climate change causes and effects to their full potential. Finally, the conclusion reiterates the importance of mobilising many parallel actors to combat climate change and confirms the place of SNG networks within this mix as a great force for proactive legal and policy action on climate change.

# Chapter 1 – The cross-scale problem of climate change

The focus on international negotiations under the UNFCCC and nation states as the primary actors in the governance of climate change has directed attention away from the climate change mitigation and adaptation opportunities presented by SNGs.[20] Climate change is a phenomenon caused by the enormous amount of GHGs being emitted through discrete actions of innumerable actors: individuals, small businesses, multi-national companies, etc. Although the nation state can be viewed as the collective of these actors and thus responsible for the mitigation of GHGs emitted within its borders, it should not be forgotten that it is local actors that are performing the GHG emitting actions. Unfortunately, the current attention given to negotiations between nation states as the focus of modern climate change governance can lead to just this forgetfulness, and does not allow the multifaceted causes of climate change to be accurately reflected in its solution.[21]

The geographic concepts of scale and level are presented in this chapter as a useful theoretical framework to better understand the complexity of the climate change problem. Scale refers to the scope of a particular dimension of analysis, for example, jurisdictional or geographic, while levels are units of analysis on a scale. These geographic concepts provide lawyers and policy-makers with the tools to systematically identify the many biophysical aspects of and human-environment interactions involved in climate change and, in turn, to identify the most effective regulation of the problem. In particular, a discussion of scale demonstrates that it is entirely appropriate for SNGs to take action on climate change, which can be conducted cooperatively and in parallel to international treaty negotiations.[22]

While it is acknowledged that scale is only one method by which to examine climate change, the concept of scale is distinctive due to its engagement with both the complexity of the connections between the biophysical and social aspects of climate change, as well as the interactions between the different

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[20] Hari M. Osofsky, "Is Climate Change "International"? Litigation's Diagonal Regulatory Role" (2009) 49:3 Va J Int'l L 585 at 588.
[21] David W. Cash *et al*, "Scale and Cross-Scale Dynamics: Governance and Information in a Multi-Level World" (2006) 11:2 Ecology and Society 8 at 9.
[22] Hari M. Osofsky, "Diagonal Federalism and Climate Change: Implications for the Obama Administration" (2011) 62:2 Ala L Rev 237 at 267.

regulatory regimes addressing climate change across different jurisdictions.[23] Both of these aspects are examined in detail in this chapter. Ultimately, this discussion brings into question the current "valorisation of the "international" in the climate change debate" and argues instead that the international should be complemented by parallel efforts at the national, regional and local level to more comprehensively address this complex problem.[24]

This chapter begins by more closely defining the geographic concepts of scale and level and demonstrating that climate change is a cross-scale and cross-level problem. The challenges faced by the international legal regulation of climate change through the UNFCCC are linked to the complexity of the causes thereof. Consequently, alternative options for the regulation of climate change are presented, beginning with the canvassing of common legal and regulatory misunderstandings made when dealing with such cross-scale and cross-level problems, known as 'scale traps'. The presumption that climate change is best regulated exclusively through international agreement at the national level, with SNGs only acting when and if appropriate to achieve the commitments made at the national level is called into question. Specifically, the formal legal authority of SNGs to regulate climate-related areas is explained and the benefits of a multilevel governance regime demonstrated, in which multiple actors work in parallel to combat this complex problem including SNGs. Finally, a consideration of why SNGs ought to address, and indeed are addressing a supposedly global problem such as climate change is elaborated and SNG networks introduced.

### 1.1 The geographic concepts of scale and level

Scale is a foundational concept of geography and of human geographers' study of human-environment interactions.[25] While it should be recognised that there remains a great deal of scholarly debate around the precise definition of scale, some foundational ideas can be discerned.[26] Scale is a socially-constructed

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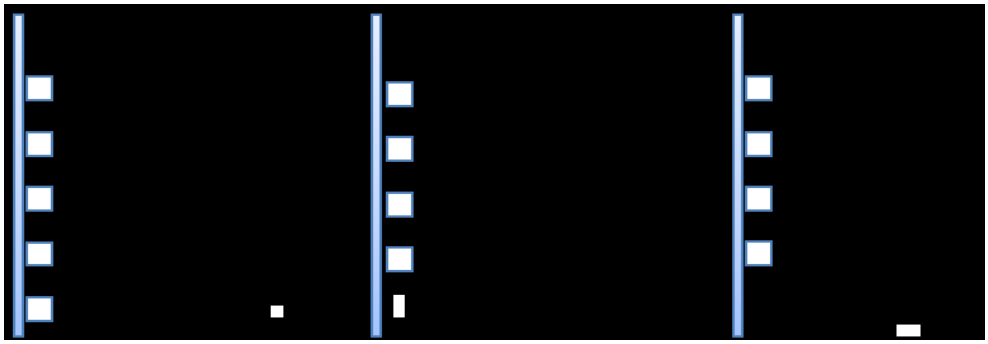
[23] David W. Cash & Susanne C. Moser, "Linking global and local scales: designing dynamic assessment and management processes" (2000) 10 Global Environmental Change 109 at 110.
[24] Osofsky, *supra* note 20 at 587-588.
[25] Roderick P. Neumann, "Political ecology: theorizing scale" (2009) 33:3 Progress in Human Geography 398.
[26] William C. G. Burns & Hari M. Osofsky, *Adjudicating climate change : state, national, and international approaches* (Cambridge: Cambridge University Press, 2009) at 378; James McCarthy, "Scale, Sovereignty, and Strategy in Environmental Governance" (2005) 37:4

concept and refers to the scope of a particular analysis or area of study; in other words, scale is a measurement that is defined differently by each researcher, to fit their particular purpose.[27] Thus, a geographic or spatial scale may refer to an individual tree or an entire forest, a city block or an entire continent, depending on the study in question.[28] A temporal scale may be defined to include climate change impacts that manifest themselves immediately, such as extreme weather events, or alternately the long-term manifestations of climate change, such as increases in temperature leading to the melting of the ice caps, with consequential sea-level rises. On a jurisdictional scale, one of an array of bounded organisational or political units may be chosen as the scale of study, from nations, to regions, to cities. Closely linked to the jurisdictional scale is the institutional scale, which refers to any subset of the many constitutions, laws and regulations of the political units.

A scale can be divided into different levels, or units of analysis on a scale.[29] For example, nations, states or provinces and cities are different levels on a jurisdictional scale and short-, medium-, and long-term durations are levels related to a temporal scale.

**Figure 1: Scales and levels**



Antipode 731; Nathan F. Sayre, "Ecological and geographical scale: parallels and potential for integration" (2005) 29:3 Progress in Human Geography 276; Melinda Harm Benson, "Regional Initiatives: Scaling the Climate Response and Responding to Conceptions of Scale" (2010) 100:4 Annals of the Association of American Geographers 1025.

[27] Cash & Moser, *supra* note 23 at 110; Sayre, *supra* note 26; Clark C. Gibson, Elinor Ostrom & T.K. Ahn, "The concept of scale and the human dimensions of global change: a survey" (2000) 32 Ecological Economics 217.

[28] Cash *et al, supra* note 21 at 9.

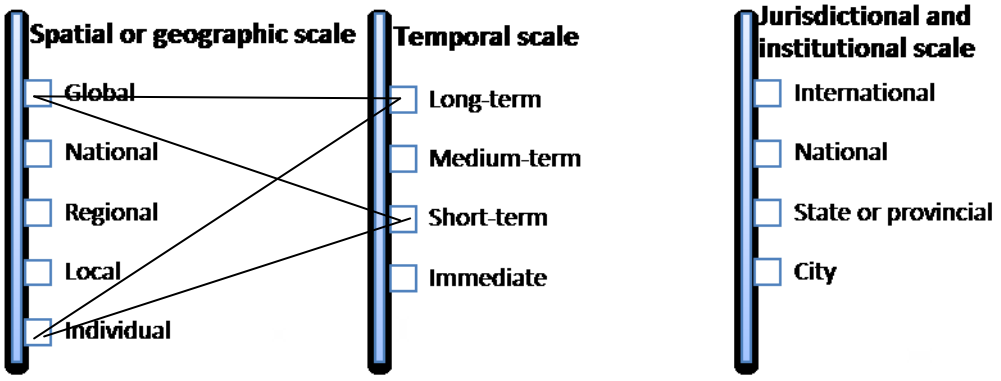
[29] *Ibid* at 10; Gibson, Ostrom & Ahn, *supra* note 27 at 219.

### 1.2 Climate change as a cross-scale and cross-level problem

With globalisation and the emergence of complex problems that span the globe, such as climate change, interactions across scales are becoming more common.[30] These are referred to as cross-scale interactions that Cash *et al* distinguish from cross-level interactions: interactions between levels within a single scale.[31] These two sets of interactions are explored in detail below.

Climate change causes and consequences cross many geographic and temporal scales. GHG emissions from such differing geographic scales as the individual household to a global corporation both contribute, albeit to different extents, to the long-term effects of a high concentration of GHGs in the global atmosphere, as well as to short-term extreme weather events anywhere across the globe.[32] Thus, the causes and consequences of climate change cross multiple spatial and temporal scales, as represented in Figure 2.

**Figure 2: Cross-scale problems**



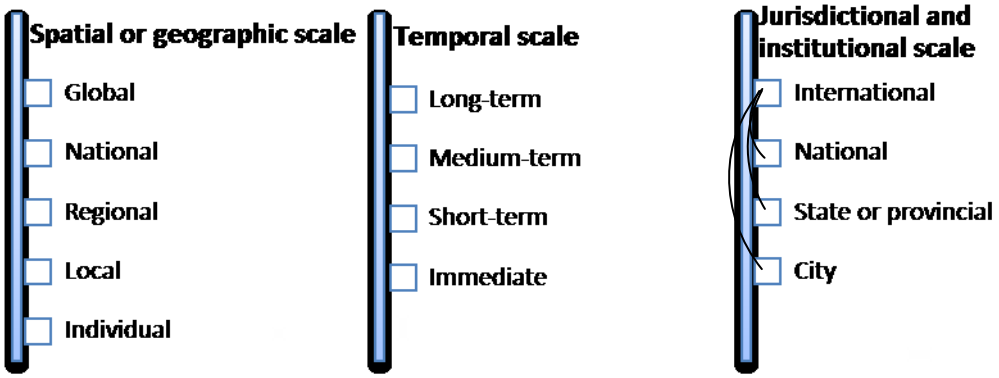

Climate change governance is also undertaken across overlapping geographic and jurisdictional scales.[33] Whereas the jurisdictional scale is neatly divided along political borders, the spatial or geographic scale is more gradational. The two scales do not map onto one another perfectly, particularly as political borders are invisible to both nature and pollutants. GHGs emitted in one political area – a city, for example – do not stop at the border of that city to be

[30] Judith Resnik, Joshua Civin & Joseph Frueh, "Ratifying Kyoto at the Local Level: Sovereigntism, Federalism, and Translocal Organizations of Government Actors (TOGAs)" (2008) 50 Ariz L Rev 709 at 721.
[31] Cash *et al, supra* note 21at 9.
[32] Gibson, Ostrom & Ahn, *supra* note 27 at 217.
[33] Cash & Moser, *supra* note 23 at 111.

mitigated by that jurisdiction's government, but mingle in the atmosphere with GHGs emitted by many other cities around the world.[34] Therefore, although GHGs may be allocated to a particular jurisdictional level for the purpose of regulation[35] - for instance, the UNFCCC negotiations allocate a certain emissions reduction target to a country - in reality local emissions of GHGs have no direct causal link to specific climate change effects in that area. Therefore, many governments will regulate GHGs that cross many geographic scales.

To add extra complexity, climate change regulation also involves cross-level interactions between levels on a jurisdictional scale: for example, national, regional and city governments may all undertake climate change efforts that are influenced by one another and all three are influenced by international efforts.[36] Figure 3 shows a representation of this concept. Similarly, climate change laws and regulations are interlinked across the institutional scale, as one jurisdictional level's regulatory actions impact other levels'.[37]

**Figure 3: Cross-level governance**




## 1.3 The current regulation of climate change

Against this definition of climate change as a cross-scale and cross-level problem, this section explores the appropriateness of current international governance efforts. In particular, this section demonstrates that international

[34] Hugh Saddler, Frank Muller & Clara Cuevas, *Competitiveness and Carbon Pricing: Border adjustments for greenhouse policies* (Canberra: The Australia Institute, 2006) at 3.
[35] Jennifer L. Rice, "Climate, Carbon, and Territory: Greenhouse Gas Mitigation in Seattle, Washington" (2010) 100:4 Annals of the Association of American Geographers 929 at 932.
[36] Cash & Moser, *supra* note 23 at 111.
[37] Burns & Osofsky, *supra* note 26 at 378-79.

law has found the cross-scale and cross-level problem of climate change a challenge to govern.

### *1.3.1 International law*

Global climate change is a cumulative phenomenon caused by many billions of private entities emitting small amounts of GHGs across the world.[38] These gases mix and gather in the atmosphere, such that only a truly global reduction of GHGs will reverse the dangerous atmospheric levels of GHGs. The challenge for international law is to regulate these billions of private, decentralised actors and actions.[39] The problem of regulating harm caused by many decentralised actors across spatial scales and jurisdictional levels is not unique to climate change. The legal regulation of topics such as transboundary air pollution, the ozone layer, international fisheries and human rights also struggle with this issue. Nevertheless, regulating these decentralised actors is a relatively novel challenge for international law, which traditionally focused on relationships between nation states, for example the recognition of states, laws of war and laws of inter-nation trade.[40] In addition, the traditional Westphalian international legal system is based upon the principle that nation states have the exclusive authority to regulate within their territory.[41] The traditional jurisdictional hierarchy of international law therefore asserts that international treaties may only place obligations on the nation state to regulate the behaviour of its citizens. Over time, international law has evolved to impose more directive conditions upon the methods by which governments may regulate their citizens. Whereas international law itself does not have the power to restrict the internal domestic behaviour of companies and individual citizens,[42] it is the modern role of international law to incite national regulatory agencies to implement and enforce the principles and norms of

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[38] Thomas J. Wilbanks & Robert W. Kates, "Global Change in Local Places: How Scale Matters" (1999) 43 Climatic Change 601 at 603; Osofsky, *supra* note 20.
[39] Bodansky, Brunnée & Hey, *supra* note 6 at 6.
[40] Anthony Woodiwiss, "International Law" (2006) 23:2-3 Theory, Culture & Society 524 at 524; Anne-Marie Slaughter & William Burke-White, "The Future of International Law Is Domestic (or, The European Way of Law)" (2006) 47:2 Harvard International Law Journal 327 at 327.
[41] Anthony McGrew, "Globalisation and global politics" in John Baylis & Steve Smith, eds, *The Globalisation of World Politics* (Oxford: Oxford University Press, 2010) at 24.
[42] Bodansky, Brunnée & Hey, *supra* note 6 at 6.

international law domestically.[43] Since nation states do not emit the majority of GHGs, international law must influence nation states to enact climate change mitigation laws in order to meaningfully regulate the emissions of its citizens.[44]

Nevertheless, the complexity and cross-scale problem of climate change has resulted in universal international laws being hard to negotiate. The reasons for this have been widely observed: diverse political situations in different countries have made it difficult for international law to influence all domestic governments to address climate change simultaneously, particularly given the differing intensity of climate change impacts across the globe, the unequal historic and future contributions to climate change of certain countries over others and the political pressure not to act that is placed on governments by emissions-intensive industries.[45] Against this impasse in international legal negotiations, the concept of scale presented in this chapter leads one to ask what other jurisdictional levels might add to the governance of climate change.

### 1.4 Cross-scale and cross-level governance

According to Cash *et al* the concept of scale should be integrated into the design and development of laws and regulations across many levels of government, to exploit the cross-scale nature of climate change for regulatory gain and efficiency.[46] Before describing how this integration may occur, three common misunderstandings of the cross-scale and cross-level nature of problem are elaborated, known as 'scale traps'.[47]

#### *1.4.1 Scale traps*

The term 'scale trap' refers to discordance between scales due to an incorrect combination of cross-scale or cross-level interactions between human regulation and environmental phenomena.[48] To illustrate with a basic example, if the causes of transboundary pollution were only regulated by one of the neighbouring countries involved, this would be an incorrect combination of

[43] Slaughter & Burke-White, *supra* note 40 at 332.
[44] *Ibid* at 330.
[45] See e.g. Brunnée, *supra* note 4; Huettner *et al, supra* note 18; Rafael Leal-Arcas, "Kyoto and the COPs: Lessons Learned and Looking Ahead " (2011) 23 Hague YB of Int'l L 17.
[46] Cash *et al*, *supra* note 21 at 9.
[47] *Ibid*.
[48] *Ibid.*

jurisdictional and geographic scales. Laws and policies typically fail to achieve their goals when they fall into these three 'scale traps', or at the least tend to be inefficient.[49]

The first 'scale trap' is the failure to recognize important scale and level interactions altogether; also referred to as ignorance.[50] For example, national and regional subsidies for fossil fuels may inadvertently constrain municipal governments' efforts to provide effective incentives for local renewable energy use by ignoring the subsidies' impact on these lower-level governments. Equally, scientific research that focuses solely on the national impacts of climate change ignores local governments' desire for information on a local scale.[51] In particular, 'ignorance' about the importance of SNG action on climate change can result in conflict and inefficiencies between sub-national and national government levels, as demonstrated in section 1.5.3.[52]

A second 'scale trap' is the mismatch of human action and biophysical systems, where the legal authority or incentives to regulate an issue do not fit with the biophysical scale of the environmental resource, and could be more effectively handled at a different jurisdictional level.[53] For example, overfishing of the high seas cannot be handled by a single nation but requires all fishing nations to cooperate at the global level.

The final 'scale trap' is the assumption that there is a single, best characterisation of the scale and level at which an issue should be regulated, otherwise known as a misunderstanding of the plurality of scales and levels.[54] For example, the climate change problem has been traditionally defined as a purely global governance issue, due to the fact that GHG emissions have global impacts. However, whereas the extent of the climate change problem may be global and thus requires action from across the world, most GHGs are emitted locally. In particular, cities collectively account for approximately seventy per cent of the world's $CO_2$ emissions.[55] A focus on purely

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[49] *Ibid.*
[50] *Ibid*, at 12.
[51] *Ibid*.
[52] Osofsky, *supra* note 20 at 609.
[53] Sovacool & Brown, *supra* note 19 at 319; Cash *et al.*, *supra* note 21 at 12.
[54] Cash *et al.*, *supra* note 21 at 14.
[55] Bulkeley & Betsill, *supra* note 12; C40 Initiative, *Fact Sheet: Why Cities?*, online: C40 Initiative <http://www.c40cities.org/>.

international governance efforts does not acknowledge this heterogeneity of climate change causes. Local governance actions that target local GHG emissions are able to complement global or national laws, and this multi-level response to climate change would address the plurality of geographic scales at which GHGs are emitted. In addition, Osofsky claims that the demarcation of law into discrete jurisdictional levels also obscures the plurality of ways in which climate change could be regulated, and makes engagement of multiple jurisdictional levels challenging.[56]

These three scale traps can be avoided through a careful response to the following two questions: at which jurisdictional scale should a certain biophysical cause or effect of climate change be regulated? How should the layers of climate change law and regulation interact?[57] Possible answers to these questions are provided below.

### *1.4.2 Regulation of a cross-scale and cross-level problem*

As outlined above, consciously recognising the interactions between the biophysical causes and effects of climate change and human activity is a first step in identifying the most effective legal regulation of climate change.[58] In other words, 'matching' the social and biophysical scales of climate change helps to ensure that society's attempts to tackle climate change occur at the jurisdictional and institutional level that most appropriately match the biophysical phenomenon: international problems should be governed by an international body and local issues by a local body.[59] The simplicity of this 'Matching Principle'[60] is somewhat obscured once one attempts to identify the biophysical scale of climate change. Whereas the problem of climate change impacts the whole world – that is, the extent of the harm is global – the actual emissions of GHGs occur at much smaller jurisdictional levels than the

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[56] Osofsky, *supra* note 20 at 590. Osofsky argues that the judiciary may be an ideal body to regulate climate change across jurisdictional levels.
[57] Burns & Osofsky, *supra* note 26 at 379; Resnik, Civin & Frueh, *supra* note 30 at 712.
[58] Richard Aspinall, "Geographical Perspectives on Climate Change" (2010) 100:4 Annals of the Association of American Geographers 715 at 715.
[59] Cash & Moser, *supra* note 23 at 111.
[60] Katherine A. Trisolini, "All hands on deck: local governments and the potential for bidirectional climate change regulation" (2010) 62:3 Stan L Rev 669 at 683; Benson, *supra* note 26 at 1030.

international level – the scale of the causes of climate change are local.[61] This dualism is explored below.

*1.4.2.1 Matching across biophysical and social scales*

At first glance, the Matching Principle appears to state that the legal regulation of climate change should be approached foremost at the international level, due to the character of the atmosphere, and climate system, as a global common.[62] Following the reasoning from Garrett Hardin's *Tragedy of the Commons*,[63] the atmosphere as a common-pool resource requires international regulation, which trickles down to lower jurisdictional levels, as individual action by smaller jurisdictions is considered to be economically irrational.[64] It is argued that a smaller jurisdiction will not undertake to unilaterally reduce its GHG emissions, as it will bear all of the upfront costs of this reduction, but receive only a fraction of the benefits since these will be diffused across the globe.[65] Moreover, the impact of a single, smaller jurisdiction's action on the overall concentration of GHG emissions in the atmosphere is minimal; for example, California's GHG emissions represent about one per cent of global emissions and even Texas, the state with the largest carbon dioxide emissions in the USA, only represents about 2.8 per cent of global emissions.[66]

However, while the phenomenon of anthropogenic climate change is certainly global, it is caused by many discrete human actions at many different spatial or geographic levels, from individual, local and regional to multinational.[67] Advocates of local action to mitigate climate change argue that defining

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[61] Sovacool & Brown, *supra* note 19 at 319.
[62] Richard B. Stewart, "States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures" (2008) 50 Ariz L Rev 681 at 689.
[63] Hardin, *supra* note 6.
[64] Kirsten H. Engel, "State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?" (2006) 38 Urban Lawyer 1015 at 1022.
[65] Stewart, *supra* note 62 at 689; Katherine Trisolini & Jonathon Zasloff, "Cities, Land Use, and the Global Commons: *Genesis* and the Urban Politics of Climate Change" in William C.G. Burns and Hari M.Osofsky, eds, *Adjudicating Climate Change: State, National and International Approaches* (Cambridge: Cambridge University Press, 2009) 72 at 82; Benjamin K. Sovacool & Marilyn A. Brown, "Addressing Climate Change: Global vs. Local Scales of Jurisdiction?" in Fereidoon Sioshansi, ed, *Generating Electricity in a Carbon-Constrained World* (Burlington: Elsevier, 2010) 109 at 116.
[66] Stewart, *supra* note 62 at 689-90; David E. Adelman & Kirsten H. Engel, "Reorienting State Climate Change Policies to Induce Technological Change" (2008) 50 Ariz L Rev 835 at 838.
[67] Sovacool & Brown, *supra* note 19 at 318.

climate change as an exclusively global problem simplifies it.[68] Individual actions, from driving a car, to leaving the lights on in an office block, to poorly insulating a building, emit GHGs that accumulate in the atmosphere, and no matter where on the planet they are emitted, have the same negative effect.[69] Accordingly, the Matching Principle can also be interpreted to demonstrate that the local causes of climate change should more appropriately be regulated at a local level. This is reminiscent of the 'principle of subsidiarity', which asserts that issues should first be addressed at the jurisdictional level closest to the citizen, i.e. the city, state or provincial level, and that higher jurisdictional levels should only act where an issue cannot effectively be solved by the lower jurisdictions alone.[70]

*1.4.2.2 Political arguments for action at different scales*

In addition to the scale arguments around the Matching Principle, political arguments for local or alternately global action on climate change abound. Advocates of international action reference the problem of carbon leakage, sometimes called the spillover effect: tightening controls in one jurisdiction may lead to an increase in GHG emissions in other jurisdictions with less stringent, or no climate change policies.[71] Carbon leakage can offset emission reductions in ambitious climate change jurisdictions or indeed increase overall GHG emissions by lessening the incentives for conversion to low-emission technologies and shifting polluters to countries in which they can emit GHGs more freely.[72] For example, in response to the Regional Greenhouse Gas Initiative's emissions trading scheme (ETS) that places a price on carbon emissions in certain states of the USA, coal-generated electricity production is asserted to have risen significantly in neighbouring states to meet demand.[73]

In addition to carbon leakage fears, the complexity and cost of the administrative coordination associated with a patchwork of divergent policies

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[68] Osofsky, *supra* note 20 at 632.
[69] Saddler, Muller & Cuevas, *supra* note 34 at 8.
[70] European Parliament, *Subsidiarity*, online: European Union <http://www.europarl.europa.eu>; Harvey Lazar & Christian Leuprecht, *Spheres of governance: comparative studies of cities in multilevel governance systems* (Montréal: McGill-Queen's University Press, 2007) at 5.
[71] Adelman & Engel, *supra* note 66 at 839.
[72] Saddler, Muller & Cuevas, *supra* note 34 at 8.
[73] Benson, *supra* note 26 at 1030; Sovacool & Brown, *supra* note 19 at 323.

across smaller jurisdictions is also presented as an argument in support of a single international or national agreement.[74] A single, uniform climate change policy is arguably more efficient and provides greater certainty to the transnational business community.[75] In addition, international climate change action would benefit from economies of scale; it is generally held that the larger and more inclusive the climate change regime, the more cost-efficient and the greater the flexibility in climate change abatement to achieve the desired GHG emission reduction goal.[76] Finally, it is argued that the far-reaching and fundamental changes required to transform to a low-emission society can only be achieved internationally, with a legally-binding agreement including all countries.[77]

On the other hand, lower-level jurisdictions have the flexibility to tailor their regulations to local environmental conditions, thus optimising the climate change mitigation potential of their regulations through local knowledge.[78] For example, a national solar ordinance - a building code requiring the installation of solar energy systems in new or renovated building developments - may be tailored by municipal or regional governments to reflect their specific solar resources, leading to more or less stringent requirements. Moreover, diversity and competition between lower-level policies can drive innovation in a 'race-to-the-top' for the most effective emission reduction policies.[79] In this sense, a patchwork of policies across a country or region is beneficial and can ensure that many different options are attempted, and no winners prematurely picked.[80] Nevertheless, Shobe and Burtraw warn against the "natural stickiness or inertia" of local experimentation, arguing that once a policy that provides benefits to a particular subset of society is implemented, it can be hard to take

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[74] Sovacool & Brown, *supra* note 65 at 114; Trisolini, *supra* note 60 at 682.
[75] Sovacool & Brown, *supra* note 19 at 322.
[76] Benson, *supra* note 26 at 1030.
[77] Sovacool & Brown, *supra* note 65 at 110-11.
[78] Benson, *supra* note 26 at 1030; Sovacool & Brown, *supra* note 19 at 320.
[79] Sovacool & Brown, *supra* note 19 at 320; Osofsky, *supra* note 22 at 282.
[80] Aynsley Kellow, "Multi-level and multi-arena governance: the limits of integration and the possibilities of forum shopping" International Environmental Agreements [forthcoming in 2012] 1 at 3. "Picking winners" is the argument against investors, in particular governments, funding one option with rigour, before all options have been sufficiently tested.

that benefit away.[81] Nevertheless, uncertainty around which actions or mechanisms may be most effective in reducing GHG emissions also advocates for a pluralistic model in which many diverse lower-level policies are undertaken simultaneously.[82] These lower level jurisdictions may thus act as "laboratories for experimentation" for regulatory design.[83]

In summary, there are benefits and disadvantages to implementing policies at both higher and lower levels on the jurisdictional scale. In line with the duality of the Matching Principle, the conclusion that must be reached is that no one jurisdictional level is sufficient to regulate all causes or effects of climate change, and multiple legal regulatory efforts are required. In particular, sub-national legal regulation should operate autonomously, but in parallel to climate change negotiations at the international level. Nevertheless, a tension exists between the above conclusion that cities, states and provinces are best placed to govern important local or regional causes and effects of climate change and these lower jurisdictions' limited formal legal authority over the subject of climate change. The following section explains the formal legal competencies of SNGs that allow them to play a central legislative role in combatting the local causes and effects of the global problem of climate change.

### 1.5 Legal competencies and jurisdiction over climate change

Defined narrowly, climate change may be viewed solely as a global problem and the subject of international negotiations under the UNFCCC. Consequently, SNGs do not have legal competence to regulate in this area, as only national governments have the legal authority to enter into international agreements.[84] However, climate change is a problem that pervades all sectors of the economy including energy, transport, waste management, and

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[81] William M. Shobe & Dallas Burtraw, *Rethinking environmental federalism in a warming world* (Washington D.C.: Standford Institute for Economic Policy, 2011) at 22.
[82] Stewart, *supra* note 62 at 701-702; Sovacool & Brown, *supra* note 8 at 320.
[83] Trisolini, *supra* note 60 at 682.
[84] Kirsten H. Engel, "Mitigating Global Climate Change in the United States: A Regional Approach" (2005) 14 NYU Envtl LJ 54 at 54; Peter W. Hogg, *Constitutional law of Canada* (Toronto: Carswell, 2010). Although authority over international relations is not explicitly granted to the federal government under any constitutional provision, it is broadly recognized that this power has devolved upon it. See also *Holmes v Jennison* 39 US (14 Pet) 540 at 575–76 (1840); *United States v Belmont*, 301 US 324 at 331 (1937). "The external powers of the United States are to be exercised without regard to state laws or policies…"

construction, among many others. It is therefore not necessary for SNGs to have been granted legislative power over climate change as a specific subject matter in order for them to legislate on this topic. Instead, SNGs can exploit their existing legislative power over climate-related areas to pass laws and implement policies that reduce GHG emissions.

Legislative powers to pass laws on specific subject matters are allocated to different levels of government, with the method depending upon the structure of the country in which they are situated. In a federation such as the United States, Australia and Canada, heads of power, or the power to legislate in an area, are granted by the constitution and are distributed between a central, or national, government and regional governments - provinces or states.[85] This constitutional authority to legislate in a specific area cannot be taken away from either government by the other, as this requires a constitutional amendment.[86] Legislative authority is delegated to municipalities and cities by either the national or regional governments[87] through legislation to that effect, and can be changed or taken back in the same manner.[88]

In a unitary state, such as the United Kingdom, France and New Zealand, government legislative power is vested in one sole central or national authority. Regional, city or municipal governments' legislative power is established by, and thus subordinate to, the national government that can always alter or take the powers away.[89] Therefore, in both unitary states and federations, cities and municipalities enact laws based on delegated authority.[90]

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[85] Patrick J. Monahan, *Constitutional law* (Toronto: Irwin Law, 2006) at 98.
[86] Hogg, *supra* note 84 at 5-2.
[87] Whether the federal or regional governments are competent to delegate powers to municipalities depends upon the constitutional allocation of power to one or the other. See e.g. *Constitution Act, 1867* (UK), 30 & 31 Vict, c 3, s 92(8) reprinted in RSC 1985, App II, No 5 [*Constitution Act, 1867*]: provides the legislature of each province with exclusive responsibility for making laws relating to that province's municipal institutions. *Nova Scotia (AG) v Canada (AG)* [1951] SCR 31 (available on CanLII) (SCC). The federal government in Canada is prevented from delegating authority to municipalities by the doctrine against legislative inter-delegation, which states that one level of government cannot simply delegate its legislative authority to the other:
[88] A. W. Heringa & Philipp Kiiver, *Constitutions compared : an introduction to comparative constitutional law*, 2 ed. (Oxford: Intersentia; Metro, 2009) at 24.
[89] Hogg, *supra* note 84 at 5-2; Monahan, *supra* 85 at 98.
[90] Note that there are other structures of government in which cities and municipalities do not enact laws based on delegated authority, such as city-states and cities that have independent

The constitutional authority granted to states and provinces and the delegated authority of cities and municipalities is further explored in the following sections.

### *1.5.1 State and provincial legal jurisdiction to address climate change*

This section focuses on the heads of power granted to the states of the USA and the provinces of Canada to regulate on the subject of climate change, due to the geographic location of the regional-level networks being studied: the Regional Greenhouse Gas Initiative and the Western Climate Initiative. Canada and the USA are both federations, whose national and regional governments depend on constitutional authority to legislate.[91] The Canadian Constitution distributes legislative power between the national and provincial governments and governments' legislative power is limited to those heads of power squarely assigned to them.[92] The American Constitution allocates specific heads of power to the federal government and the states retain residual legislative power over all other areas. [93]

Historically, the environment was not a head of power granted to a level of government in either the American or the Canadian constitution and thus regulatory power over the environment, including on climate change, is shared between the national and state or provincial governments.[94] In Canada, the constitutional authority to regulate the environment must be based upon the

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constitutional status. Singapore is an example of the former; Brussels is an example of the latter.

[91] Lazar & Leuprecht, *supra* note 70 at 6.

[92] *Constitution Act, 1867*, *supra* note 87 at s 92. "Exclusive Powers of the Provincial Legislatures" provides that the provincial legislature may "exclusively make laws in relation to Matters coming within the Classes of Subjects next hereinafter enumerated". Sixteen classes of subjects are enumerated.

[93] US Const amend X. "The powers not delegated to the United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people." The Tenth Amendment of the American Constitution entails the fundamental principle of American federalism: Ronald K. Vogel, "Multilevel Governance in the United States" in Harvey Lazar & Christian Leuprecht, eds, *Spheres of Governance: Comparative Studies of Cities in Multilevel Governance Systems* (Montreal: McGill-Queen's University Press, 2007) at 258-59. US Const art I, §8 lists the heads of power granted to the Congress including the power to conduct foreign policy, ensure national defence and promote commerce. Although the federal powers have grown from those assigned in the Constitution, in principle, the states were left largely responsible for domestic policy.

[94] Kirk W. Junger, "Conventional Wisdom, De-emption and Uncooperative Federalism in International Environmental Agreements" (2004) 2:1 Loy U Chicago International Law RevLJ 93 at 95-96; Jamie Benidickson, *Environmental Law* (Toronto: Irwin Law, 2009) at 39.

establishment of a link to either a provincial or a national head of power.[95] Based on the broad interpretation given to section 92(13) of the Constitution by the Supreme Court, entitled "Property and Civil Rights in the Province", Canadian provinces have traditionally been able to use this head of power as the basis for their regulatory initiatives relating to climate change, as it allows provinces to regulate on the general legal rights of their citizens.[96] The Canadian federal government also has broad constitutional authority to regulate on the environment, due to its peace, order and good governance power[97] and the criminal law power.[98] It has also been able to use more specific heads of power that touch the area of climate change to enact climate change legislation, such as the fisheries power, as long as a close link to the subject matter of the head of power remains.[99] However, the Canadian courts

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[95] *Friends of the Oldman River Society v Canada (Minister of Transport)*, [1992] 1 SCR 3, 88 DLR (4th) 1.

[96] *Constitution Act 1867*, *supra* note 87 at s 92(13); *Ontario v Canadian Pacific Ltd* [1995] 2 SCR 1031 (available on CanLII) (SCC).

[97] *Constitution Act, 1867*, *supra* note 87 at s 91: the peace, order and good governance (POGG) power is a residual category of constitutional authority that gives the federal government authority over all other heads of power not enumerated in Part IV. In particular, the national concern branch of the POGG power is a possible foundation for federal environmental legislation, although this power can only be used to justify Federal environmental legislation in specific cases. *R v Crown Zellerbach Canada Ltd,* [1988] 1 SCR 401, 48 DLR (4th) 161: to qualify as a 'national concern', the subject matter of a federal statute must have a "singleness, distinctness and indivisibility" that clearly distinguishes it from matters of provincial concern and a scale of impact on provincial jurisdiction that is reconcilable with the fundamental distribution of legislation powers under the Constitution. In determining whether a matter has attained the required degree of singleness, distinctiveness and indivisibility that clearly distinguishes it from matters of provincial concern it is relevant to consider what would be the effect on extra-provincial interests of a provincial failure to deal effectively with the control or regulation of the intra-provincial aspects of the matter.

[98] *Constitution Act, 1867*, *supra* note 87 at s 91(27): the criminal law power is a plenary power that can be used to enact legislation involving a prohibition backed by a legal sanction that is directed at a legitimate public purpose. Whereas "Parliament may validly enact prohibitions under its criminal law power against specific acts for the purpose of preventing pollution or, to put it in other terms, causing the entry into the environment of certain toxic substances", only federal legislation prohibiting blameworthy conduct may be enacted under the criminal law power. Federal environmental legislation of a regulatory nature will not be valid under this power: *R v Hydro-Quebec*, [1997] 3 SCR 213, 151 DLR (4th) 32.

[99] *Constitution Act, 1867*, *supra* note 87 at s 91(12); *R v Northwest Falling Contractors Ltd,* [1980] 2 SCR 292, [1981] 1 WWR 681: the provision of the *Fisheries Act* in question in this case was found by the Supreme Court to be "aimed at the protection and preservation of fisheries" due to the definition of 'deleterious substance,' as one that would render water "deleterious to fish or fish habitat or to the use by man of fish that frequent that water." The federal legislation could thus be upheld under the fisheries power. C.f. *R v Fowler*, [1980] 2 SCR 213, [1980] 5 WWR 511. The Supreme Court found that s 33(3) of the *Fisheries Act* was ultra vires the federal head of power on fisheries because its broad prohibition enjoining the deposit of "ash, stumps or other debris" into water frequented by fish was "a blanket prohibition of certain types of activity, subject to provincial jurisdiction, which does not

have been reluctant to extend the federal government's power to a general legislative authority over the environment.[100] Therefore, unless the object being regulated fits within one of the heads of power squarely within the jurisdiction of the federal Parliament, the provincial governments are generally held to have stronger constitutional authority to regulate climate change causes and impacts.[101] This means that the provinces participating in climate change networks have a solid legal foundation on which to enact laws and policies, following network decisions.

The American Congress derives most of its regulatory power over the environment from the broad interpretation given to the interstate commerce head of power.[102] The interstate commerce clause has been interpreted to allow Congress to regulate almost any activity that "substantially affects" interstate commerce.[103] Thus, Congress may legislate to prevent state environmental regulations from being unnecessarily protectionist to interstate trade and may regulate certain environmental harms in a state, such as air pollution, that can have a detrimental effect on other states.[104] The constitutional authority of the states over the environment finds its origins in the Tenth Amendment, which provides residual power to the states such that a state is able to regulate on any subject matter not directly assigned to the

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delimit the elements of the offence so as to link the prohibition to any likely harm to fisheries."

[100] See e.g. *R v Hydro-Quebec*, [1997] 3 SCR 213, 151 DLR (4th) 32, La Forest J, dissenting: "To allocate the broad subject-matter of environmental control to the federal government under its general [POGG] power would effectively gut provincial legislative jurisdiction."

[101] Monahan, *supra* note 85 at 103; Benidickson, *supra* note 94.

[102] US Const art 1 §8. "[The Congress shall have power] to regulate Commerce with foreign Nations, and among the several States, and with the Indian tribes."

[103] *Houston, East & West Railway Company v United States,* 234 US 342 (1914); *United States v Darby,* 312 US 100 (1941); see also *Gonzales v Raich,* 545 US 1 (2005).

[104] Christine A. Klein, "The Environmental Commerce Clause" (2003) 27 Harv Envtl L Rev 1. Note however the potential narrowing of this interpretation by two recent decisions in which the Supreme Court invalidated federal laws on the ground that they were outside the scope of the commerce clause: *United States* v *Lopez*, 115 S Ct 1624 (1995): the Supreme Court invalidated a provision of the *Gun-Free School Zone Act* that made it a federal crime to possess a gun (even one that never traveled across state lines) within a thousand feet of a school ground; *New York v United States*, 505 US 144 (1992): The Court found that a provision of the *Radioactive Waste Policy Act* that required states failing to develop an adequate plan for disposing of waste generated within their own borders to, "at the request of the owner or generator of the waste, take title to the waste." effectively "commandeered the legislative processes" of states, which the federal government cannot constitutionally do.

Congress.[105] Despite this broad state legislative power, the national Congress has a stronger constitutional authority in America to regulate climate change due to the traditionally broad interpretation of the interstate commerce clause and the states must ensure that they do not overstep their legislative power when acting to implement networks' decisions.

States and provinces generally have legal competence over energy supply, air pollutant emissions, building codes and energy efficiency standards for equipment and for vehicles within their territory.[106] More specifically, they are able to enact renewable energy standards that mandate a certain percentage of energy to be procured from renewable energy resources, fund public transport infrastructure projects, such as high-speed rail links and implement regional ETSs.

### *1.5.2 Municipal legal jurisdiction to address climate change*

Municipalities and cities exercise legislative power on the basis of a direct delegation of authority from the national or regional governments. In unitary governments, the powers of cities and municipalities are delegated from the central, or national government.[107] In most federations, the constitution grants formal legal authority over municipalities to the states and provinces.[108] Municipal laws cannot contradict or exceed the powers delegated to them by specific national or regional legislation.[109] Therefore, municipal governments may be constrained in their ability to address the problem of climate change if the legislative powers granted to them are specific.[110] If municipalities are

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[105] US Const amend X. Lydia B. Hoover, "The Commerce Clause, Federalism and Environmentalism: At Odds After Olin?" (1997) 21 Wm & Mary Envtl L & Pol'y Rev 735.

[106] Benjamin J. Deangelo & L. D. Danny Harvey, "The jurisdictional framework for municipal action to reduce greenhouse gas emissions: Case studies from Canada, the USA and Germany" (1998) 3:2 Local Environment 111 at 117-118.

[107] Heringa & Kiiver, *supra* note 88 at 24.

[108] See e.g. *Constitution Act, 1867, supra* note 87 at s 92(8): provides the legislature of each province with exclusive responsibility for making laws relating to that province's municipal institutions. See e.g. US Const amend X: reserves authority-giving powers to the states.

[109] Benidickson, *supra* note 94.

[110] Heike Schroeder & Harriet Bulkeley, "Global cities and the governance of climate change: what is the role of law in cities?" (2009) 36:2 Fordham Urb LJ 313 at 317. See e.g. *City of Clinton v. Cedar Rapids and Missouri River Railroad Company,* 24 Iowa 455 (1868), Dillon J. stating Dillon's Rule, which affirms that sub-state governments in the USA may engage in an activity only if it is specifically sanctioned by the state government and can exercise only the powers explicitly granted to them; those necessarily or fairly implied in or incident to the powers expressly granted; and those essential to the declared objects and purposes of the corporation, not simply convenient, but indispensable.

delegated open-ended powers, they can regulate in ways that are potentially broader and more expansive than regional legislation.[111]

Cities are generally delegated the formal legal power to regulate on "matters of local concern".[112] In terms of climate change, this means that cities can be described as playing a supplementary role with respect to both national and regional jurisdiction over climate change, enacting laws with a local perspective. Cities and municipalities generally have formal legal jurisdiction to regulate urban planning and zoning, waste collection and disposal within their territory, urban outdoor lighting, urban roads, and municipal buildings and operations, although the exact areas depend upon the terms of the delegation of authority.[113] There is wide scope for municipalities to reduce GHG emissions through policies within these areas, including urban planning to reduce the need to travel by private car, zoning to facilitate the development of renewable energy resources, recovering and using methane from landfills and capturing efficiencies in their in-house municipal building and consumer decisions through the use of renewable energy sources or adherence to energy efficiency standards.[114] It is therefore abundantly clear that municipal legal authority over climate change is sufficient for cities to enact laws and policies in line with their participation in climate change networks.[115]

Through constitutional authority granted to regional governments and the delegated authority of municipalities, SNGs are able to legislate on a wide range of local causes and effects of climate change. Addressing the concept of climate change as a cross-level issue, this distribution of power across government levels is entirely appropriate. Municipal governments should have

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[111] Schroeder & Bulkeley, *supra* note 110. This tends to be the case in "legislative home rule" jurisdictions in the USA, in which states pass legislation guaranteeing non-interference to municipalities to legislate and regulate in certain areas of local affairs.

[112] Deangelo & Harvey, *supra* note 106 at 115.How power is delegated to municipalities differs across countries and political systems, from delegated powers from state and provinces in the US and Canada, to express directives to administer national policies in unitary governments such as France; Pamela J. Robinson & Christopher D. Gore, "Barriers to Canadian Municipal Response to Climate Change" (2005) 14 Canadian Journal of Urban Research 102 at 107.

[113] Vogel, *supra* note 93 at 260; ARUP, *Climate Action in Megacities: C40 Cities Baseline and Opportunities* (2011), online: < <http://www.c40cities.org/> at 5. ARUP lists some of the competencies of city mayors in the C40 initiative.

[114] Schroeder & Bulkeley, *supra* note 110 at 319; Bulkeley & Betsill, *supra* note 12 at 50; Trisolini, *supra* note 60 at 689.

[115] Benidickson, *supra* note 94 at 39.

legal jurisdiction over energy distribution within their city, but regional governments ought to regulate energy supply and the national government should set priorities for national energy sources.

### *1.5.3 Barriers to SNG climate change laws and regulations*

Although climate change governance should be, and to some degree is, being undertaken by multiple jurisdictional levels, including SNGs, a consequence of these parallel regulatory efforts is an inevitable overlap of laws and regulations with subsequent constraints placed upon the various jurisdictions, as well as regulatory gaps.[116] The literature on scale has traditionally discussed the regulation of these overlaps, gaps and constraints with reference to the rigid hierarchy among governant levels, where the actions of one level are constrained by the actions of the level above it, and in turn constrain the actions of the level below it.[117] For example, infrastructure spending on new roads by the national government, rather than public transport modes will limit local governments' ability to provide incentives for low-emission transportation.[118] Additionally, where there is a conflict between different jurisdictional levels' rules over the same subject matter, national laws are generally superior to state or provincial legislation.[119] Equally, municipal governments' subordinate legal position means that national and regional legislation will overrule municipal governments' laws and policies.[120] How interactions between jurisdictional levels can be exploited for the greater effectiveness of all is returned to in section 4.2.

Municipal governments are also skilled at supplementing their legal authority over climate-related areas with informal instruments. Cities can use their substantial purchasing power to order green products, and they can introduce incentive schemes to change community behaviour or transform their internal policies in an area, such as charging private vehicles to drive in the central

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[116] Gibson, Ostrom & Ahn, *supra* note 27.
[117] Cash & Moser, *supra* note 23 at 114.
[118] Schroeder & Bulkeley, *supra* note 110 at 339.
[119] US Const art VI "Constitution and the laws of the United States...shall be the supreme law of the land...anything in the constitutions or laws of any State to the contrary notwithstanding." This article is commonly known as the 'Supremacy Clause' and as the 'doctrine of paramountcy' in Canada: *Canadian Western Bank v Alberta*, 2007 SCC 22, [2007] 2 SCR 3. Although note the reverse paramountcy rule: *Constitution Act, 1867, supra* note 87 at s 94A.
[120] Lazar & Leuprecht, *supra* note 70 at 9.

business district during busy hours.[121] These instruments avoid the abovementioned legislative barriers all together. "Whether the barriers are legal or political, [mayors] are very innovative and imaginative in trying to address their problems, and they often get involved in issues over which their city governments have limited legal authority."[122] Thus, taking renewable energy as an example, whereas SNGs may not have legal authority over the construction of renewable energy power plants, they can increase demand for energy from renewable sources by adopting building codes mandating renewable energy sources or by purchasing power from renewable sources for municipal buildings.[123]

However, SNGs ability to address climate change is also constrained by the fiscal context in which they operate.[124] Although SNGs typically have their own sources of revenue, such as property taxes or land-title offices, they are also reliant on federal grants.[125] The economic reality for legally-subordinate municipalities is that they are, to varying degrees, dependent on financial aid from higher levels of government, which is often tied to particular conditions, to undertake certain local regulatory tasks.[126] Low-emission measures can be expensive and require substantial upfront funds, which may constrain the capacity of SNGs to undertake certain climate change mitigation policies.[127] Therefore, where higher levels of government prioritise climate change as a subject worthy of funding, municipalities will have more support to regulate local climate change causes and consequences; this notion is returned to in chapter 4.[128]

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[121] See e.g.Transport in London, *Congestion Charging*, online: <http://www.tfl.gov.uk/roadusers/congestioncharging/>. Congestion charging will be explored in greater detail in section 3.2.1 and 3.2.2.
[122] Vogel, *supra* note 93 at 259.
[123] See section 3.2.1.4 for examples of these policies.
[124] Bulkeley & Betsill, *supra* note 12 at 51.
[125] Schroeder & Bulkeley, *supra* note 110 at 321; Ajay Sharma, *Multilevel Governance and Climate Change: Are Municipalities Effective 'Partners' in the Canadian Climate-Change Response?* (Carleton University: 2009) at 29; Deangelo & Harvey, *supra* note 106 at 119.
[126] Michael Dewing, William Robert Young & Erin Tolley, *Municipalities, the constitution, and the Canadian federal system*, online: Library of Parliament, Parliamentary Information and Research Service <http://www.parl.gc.ca> at 2. It should be noted that some municipal tasks not require much funding, such as profit-making services, for example a land-titles office.
[127] Sharma, *supra* note 125.
[128] Dewing, Young & Tolley, *supra* note 126 at 3.

### *1.5.4 SNGs entering into global agreements*

In addition to interactions between jurisdictional levels in the same country, interactions between lower-level jurisdictions across the globe are becoming ever more frequent. SNGs are entering into cooperative transnational arrangements with their foreign counterparts by joining networks, in which they are "crafting regional solutions to climate change".[129] At first glance, it would seem as though SNGs are exceeding their legal authority, for linkages between regulators in different countries would normally be formalised in an international treaty, which, as previously determined, only national governments hold the formal legal authority to enter into.[130] However, the voluntary, non-binding network arrangements are not purporting to bind SNG members, nor the countries in which they geographically reside.[131] Even when SNGs make a commitment to reduce their GHG emissions in line with the national targets under the Kyoto Protocol, they are not binding themselves to this international treaty, but are rather expressing their mutual intent to implement the goals on a local level, through domestic legislative and regulatory processes.[132] Scholars have labelled this practice the "domestication" of international law.[133] Although it has none of the formal legal significance of international negotiations, network cooperation is as complex a regulatory process, resulting in informal transnational agreements, backed by the domestic legal authority of its SNG members.[134]

## 1.6 Multilevel governance regime

Accepting the conclusion that climate change can and should be regulated by multiple jurisdictional levels requires a consideration of how the many layers

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[129] Engel, *supra* note 84 at 78-79.

[130] *Vienna Convention on the Law of Treaties,* 26 May 1969, 1155 UNTS 331, art 2, 8 ILM 679 (entered into force 27 January 1980): A "treaty" means an international agreement governed by international law and concluded in written form:

> (i) between one or more States (that is, nation States) and one or more international organizations; or
>
> (ii) between international organizations

[131] Engel, *supra* note 84 at 78-79. It should be noted that the formal declaration that the CCP requires new members to make, affirming that they are committed to addressing climate change declaration, is a political, rather than a legal, declaration. Therefore only political repercussions would ensue from any breach of this affirmation.

[132] Osofsky, *supra* note 20 at 602.

[133] Resnik, Civin & Frueh, *supra* note 30 at 711.

[134] Hari M. Osofsky, "Multiscalar Governance and Climate Change: Reflections on the Role of States and Cities at Copenhagen" (2010) 25 Maryland Journal of International Law 64 at 72.

of climate change governance efforts should interact. A multilevel governance regime captures the plurality of governance efforts, including international negotiations and SNG efforts.[135] Chapter 4 more closely details the structure of a multilevel governance regime which aims to exploit the benefits of both global and local governance of climate change. By way of introduction, however, this chapter has demonstrated that a multilevel regulatory solution is the only solution appropriately matched to the cross-scale and cross-level problem of climate change.[136] A multilevel regime particularly includes dialogue and cooperation between parallel jurisdictional actions, with each level taking the actions of others into account when designing climate change policies.[137] As well as cooperation among the vertical hierarchy of government levels, multilevel governance also includes a horizontal dimension, based upon cooperation between actors, both state and non-state, working across jurisdictional borders.[138] Networks of SNGs form part of this horizontal dimension of a multilevel climate change governance regime. The next sections introduce the role of SNGs in climate change mitigation and adaptation, and the capacity of networks to regulate climate change.

### *1.6.1 Why are SNGs acting on climate change?*

Many SNGs are undertaking policies aimed at reducing GHG emissions in areas such as energy, urban planning and waste management.[139] However, given the character of the global atmospheric resource as a common good, if a single sub-national jurisdiction undertakes unilaterally to reduce its emissions, it will bear all of the costs of its actions but enjoy only a fraction of the benefits.[140] SNGs have somewhat mitigated this 'global commons' problem by grouping together to form networks to mitigate and adapt to climate change on a global scale, via local actions. Grouping government actions together

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[135] Cash & Moser, *supra* note 23 at 116.
[136] Cash *et al, supra* note 21 at 110.
[137] Osofsky, *supra* note 20 at 599.: "…local action must be tied to larger-scale decision making, whereas international action must make room for the nuances of smaller-scale variation."
[138] Jan Corfee-Morlot *et al*, "Cities, Climate Change and Multilevel Governance" (2009) online: OECD Environment Working Papers, No 14 <www.oecd.org/env/workingpapers> at 25; Ibon Galarraga, Mikel Gonzalez-Eguino & Anil Markandya, "The Role of Regional Governments in Climate Change Policy" (2011) 21:3 Environmental Policy & Governance 164 at 166.
[139] Resnik, Civin & Frueh, *supra* note 30 at 720.
[140] Trisolini & Zasloff, *supra* note 65 at 82.

magnifies the amount of GHG emissions being targeted by SNG climate change policies by the number of SNG members. Adding the emissions of all members together, networks of SNGs become major world emitters of GHGs; as previously mentioned, cities account for approximately seventy per cent of the world's $CO_2$ emissions.[141] Cities are also acutely vulnerable to many climate change effects such as rising sea levels, given the large proportion of cities that are situated on the coast, and heat impacts, exacerbated by the 'heat island' effect of large urban centres.[142]

SNG networks are emerging as a novel global climate change governance actor.[143] Networks are defined as groupings of actors that that work towards shared objectives, through the processes of collaborative decision-making, leading by example, capacity building, exchanges of information and political advocacy.[144] Networks of SNGs demonstrate that domestic regulators and law-makers "have recognized that regulatory matters [such as climate change] necessarily cross borders, along with pollution."[145] Chapter 2 delves more deeply into the characteristics of this new climate change governance actor, but their important cross-scale and cross-level role is elucidated below.

### *1.6.2 Scale and networks*

Networks are less strongly correlated to vertical levels on the jurisdictional scale than traditional government actors as SNG network members are all from the same jurisdictional, or horizontal, level across the globe. The network itself can therefore also be placed at the global level, due to the transnational nature of its participants. This horizontal nature of networks complements the traditional vertical, hierarchical interactions between governments. For example, as is further explored in chapter 4, networks can provide support to

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[141] C40 Initiative, *supra* note 55; Bulkeley & Betsill, *supra* note 12; Erica Dingman, *Sovereignty Matters: States, Security and Climate Change in the Arctic* (New York: The World Policy Institute, 2011). Cities house the majority of the world's population and are also the centres of economic activity in a country. Subsequently, they have high energy consumption and it is estimated that cities use approximately sixty to eighty per cent of the world's energy production.

[142] Corfee-Morlot *et al.*, *supra* note 138 at 9.

[143] Harriet Bulkeley & Michele Betsill, "Rethinking Sustainable Cities: Multilevel Governance and the 'Urban' Politics of Climate Change" (2005) 14:1 Environmental Politics 42; Rice, *supra* note 35 at 931.

[144] Miles Kahler, *Networked politics: agency, power and governance* (Ithaca: Cornell University Press, 2009) at 5.

[145] Slaughter & Zaring, *supra* note 12 at 218.

SNGs that do not receive support for their climate change actions from higher jurisdictional levels. The horizontal nature of climate change also brings the strict vertical interactions among governments into question.[146] To the extent permitted by the cross-level interactions between government levels, SNG networks float across traditional vertical jurisdictional hierarchies and bypass the hierarchical approval processes that are the norm: national government policy is set, which trickles down to the states or provinces that may choose to delegate regulatory power to the cities and municipalities. Within networks, the states, provinces and cities work directly together, across jurisdictional borders, essentially cutting out the national level of government and facilitating direct engagement between local and international levels.[147]

The very existence of networks outside strict jurisdictional boundaries makes them more apt at circumventing scale traps than traditional government actors. For example, SNG networks provide information to the international community on the important contributions being made by SNGs to the mitigation and adaptation of climate change. Networks with a broad and on-going mandate to support sub-national climate change abatement efforts should also limit the mismatch of the long-term political, economic and social commitments required to mitigate climate change with short election cycles, as the network continues to exist, despite changes to its membership. Ultimately, global linkages between jurisdictions ought to be enhanced by the emergence of SNG networks.

An understanding of the geographic concepts of scale and level demonstrates that attention should be directed to the parallel governance of climate change by multiple jurisdictional levels, rather than solely to the negotiation of an international treaty. Given that climate change has proven immensely challenging for the international regime to govern, focusing on this as the primary climate change governance model is akin to placing all of one's eggs in the same, worn basket. In the alternative, a multilevel governance framework matches the complexity of the cross-scale and cross-level problem

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[146] Cash & Moser, *supra* note 23 at 111.

[147] Michele M. Betsill & Harriet Bulkeley, "Cities and the Multilevel Governance of Global Climate Change" (2006) 12:2 Global Governance 141 at 146.

of climate change and allows the local and regional causes and effects of climate change to be regulated by local and regional governments, among other actors, ensuring that society continues to combat climate change, despite the impasse in international negotiations. However, to design and implement a multilevel regime is no easy task and is dependent upon close collaboration between many jurisdictions and layers of laws and regulations, as well as playing to the strengths of many different actors. The effective coordination of the different actors in such a multilevel regime is further elaborated in chapter 4, with a focus on how a multilevel regime can be structured to facilitate SNG action and carve a role for SNG networks.

Networks are a novel climate change governance actor, ideally suited to the multilevel governance of climate change. Networks cross both geographic scales and jurisdictional levels and thus, by their very nature, circumvent many of the regulatory 'scale traps' that governments' regulation of cross-scale or cross-level issues tend to fall into. The next chapter focuses on the nature and structure of SNG networks, and in particular how the processes at networks' disposal may permit them to more directly and immediately influence the development of climate change laws and policies in their SNG members, as well as in the international regime.

# Chapter 2 – Networks and global climate change governance

The emergence of networks is one example of the pluralism that shapes the contemporary global climate change governance arena. A multitude of actors, using a multitude of methods, are endeavouring to regulate the emission of GHGs and the impacts from climatic changes. The traditional model of international law and international relations, centred on formal treaties and the unitary nation state as the main actor on the global stage, does not reflect the private and public actors, the different levels of government, and the many inter-, supra- and transnational organisations that are addressing global climate change.[148] Networks of sub-national actors are said to capitalise on the informal, participation-based governance available to SNGs outside formal international negotiations and to work collaboratively towards the shared objective of combatting climate change, motivated by a desire to coordinate actions.[149] The processes, or methods, adopted by networks reflect their informal and flexible nature and allow more immediate and innovative development and implementation of sub-national climate change policies in comparison to the slow negotiation of formal international agreements.[150] However, with no coercive legal force, networks must use other forms of authority to gain the obedience of their members. How networks enforce their soft laws and standards is investigated in section 2.5, using the theoretical propositions of transnational law scholarship. This chapter presents a theoretical framework of the benefits promised by networks, before chapter 3 provides an empirical analysis of five current SNG networks on climate change, to question whether the processes are being effectively undertaken by networks in reality, both to influence laws and policies and to enforce networks' decisions.

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[148] Inger-Johanne Sand, "Polycontextuality as an Alternative to Constitutionalism" in Christian Joerges, Inger-Johanne Sand & Gunther Teubner, eds, *Transnational Governance and Constitutionalism* (Portland, Oregon: Hart Publishing, 2004) at 48.

[149] Miles Kahler, "Networked politics: agency, power, and governance" in Miles Kahler, ed, *Networked politics: agency, power, and governance* (Ithaca: Cornell University Press, 2009) at 5; Ulrika Mörth, "Soft regulation and global democracy" in Marie-Laure Djelic & Kerstin Sahlin-Andersson, eds, *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006).

[150] Anne-Marie Slaughter, *A new world order* (Princeton: Princeton University Press, 2004) at 181.

A useful theoretical approach has been outlined by Kahler to group the processes of networks into those that directly influence its members through the "structure" of the network and those that aim to influence the global climate change regime, based on the network as an "actor" independent of its members.[151] This chapter investigates these two different groups of processes focusing on the "structure" of networks to investigate collective decision-making, leading by example, information exchange and the provision of technical, financial and political resources. The processes of determining network objectives and political advocacy are available to networks as "actors". It is concluded that the informal, voluntary processes of networks, coupled with the ability of SNG members to translate soft laws into domestic hard law,[152] may be a flexible and swift method to regulate the local causes and effects of climate change. Moreover, the clout afforded to networks of SNGs, particularly on the global level, is demonstrated to far outweigh the clout that any one SNG may possess alone. Before delving into the processes of networks, this chapter begins by first defining the concept of governance as it is referred to in this thesis in contrast to government, and describing the applicability of the transnational governance model to the emergence of SNG networks on climate change.

**2.1 Governance and government**

Government and governance are both systems of authority and regulation;[153] however beyond this similar role, the actors involved and methods used are disparate. Whereas governments are solely public actors, governance actions can be undertaken by both public and private actors. Governance is a legally non-binding system of regulation, which gains its authority and power from influence, trust and reciprocity, rather than the coercive, binding power that governments possess once a decision of government is codified in a law or regulation.[154] It would be prudent to briefly define the term governance power.

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[151] Kahler, *supra* note 149.
[152] Slaughter, *supra* note 150 at 168.
[153] Jochen Von Bernstorff, "The Structural Limitations of Network Governance: ICANN as a Case in Point" in Christian Joerges, Inger-Johanne Sand & Gunther Teubner, eds, *Transnational Governance and Constitutionalism* (Portland, Oregon: Hart Publishing, 2004) at 257.
[154] Mörth, *supra* note 149 at 127.

Governance power, as it is referred in this thesis, is the ability to impose the decisions of a governance organisation upon other actors with the aim of changing their behaviour, generally based upon persuasion and shared commitment to a cause.[155] Governance actors' authority to regulate stems from their process of public participation and their continued promotion of the collective values and objectives of the actors being governed.[156] Regulations in a governance system are developed through an informal, deliberative and collaborative process, without the constraints of the formal constitutional or legislative processes that governments are obliged to follow.[157]

The formal system of government places the nation state at the top of a hierarchy, as the sole actor legitimately permitted to wield authority based on formally negotiated international agreements.[158] Bulkeley and Betsill refer to this as a "cascade": a top-down approach which flows from the nation state down to the state and city level.[159] As elaborated in chapter 1, this model does not account for a good portion of the immensely important activity being undertaken on climate change operating outside this cascade. Today, global environmental problems are addressed simultaneously by private actors, by a variety of different levels of government, and by many different global organisations.[160] Domestic regulators and law-makers have recognised the necessity of forging global links to more effectively regulate cross-scale and cross-level global environmental problems such as climate change.[161] Given this diffusion of regulatory authority, actors are neither asking nor waiting for national governments' permission to interact with others in the global arena; nor are they baulking at jurisdictional borders.[162] This process is blurring the traditional distinction between domestic and international areas of

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[155] John Kenneth Galbraith, *The anatomy of power* (Boston: Houghton Mifflin, 1983).
[156] See e.g.Sikkink, *supra* note 11; Alkoby, *supra* note 9; Sander Happaerts, Karoline Van den Brande & Hans Bruyninckx, "Subnational governments in transnational networks for sustainable development" (2011) 11:4 International Environmental Agreements 321at 324.
[157] Mörth, *supra* note 149 at 124.
[158] Michele M. Betsill & Harriet Bulkeley, "Transnational Networks and Global Environmental Governance: The Cities for Climate Protection Program" (2004) 48:2 International Studies Quarterly 471 at 473.
[159] *Ibid*.
[160] Sand, *supra* note 148.
[161] Slaughter & Hale, *supra* note 12 at 48.
[162] Bengt Jacobsson & Kerstin Sahlin-Andersson, "Dynamics of soft regulations" in Marie-Laure Djelic & Kerstin Sahlin-Andersson, eds, *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006) at 247.

environmental regulation and the actors undertaking each.[163] Moreover, the increasing activity of non-nation-state actors marks a shift away from traditional international relations theories that concentrate on the nation state towards a greater acknowledgement of horizontal forms of global governance.[164] Arguably, therefore, a governance lens is appropriate to analyse contemporary environmental regulation.[165]

### *2.1.2 Transnational governance*

Legal and political scholars have proposed various new models of global environmental governance to reflect the immensely important activity being undertaken by actors other than the nation state, with one such model being transnational governance.[166] Within the transnational governance model, the nation state retains its central place in global environmental governance,[167] but the notion of the nation state itself is reinterpreted. Rather than describing nation states as unitary actors, and ignoring all internal divisions as has traditionally been the case in realist international relations theories,[168] nation states are characterised as "disaggregated" in the transnational governance model: they are collections of "distinct institutions with separate roles and capacities".[169] From this foundation, transnational governance focuses on the cooperation and coordination of activities between the actors inside the nation state, across jurisdictional borders.[170] Central to the transnational governance model is the phenomenon of domestic regulatory agents, from all levels of government, working directly with their foreign counterparts on environmental

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[163] Raustiala, *supra* note 8 at 4.
[164] Betsill & Bulkeley, *supra* note 158 at 476.
[165] Joseph Murphy & Helen Yanacopulos, "Understanding governance and networks: EU-US interactions and the regulation of genetically modified organisms" (2005) 36:5 Geoforum 593 at 594; Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 324.
[166] Bulkeley & Betsill, *supra* note 12; Sand, *supra* note 148; Raustiala *supra* note 8; Slaughter, *supra* note 150: some other theories which also concentrate on non-state actors include research into global civil society, epistemic communities and transnational advocacy coalitions.
[167] Raustiala, *supra* note 8 at 19.
[168] Chukwumerije Okereke, Harriet Bulkeley & Heike Schroeder, "Conceptualizing Climate Governance Beyond the International Regime" (2009) 9:1 Global Environmental Politics 58 at 59. Neo-realism or structural realism in particular do not acknowledge the internal divisions within states, as distinct from classical realism.
[169] Slaughter, *supra* note 150 at 13.
[170] *Ibid*; Raustiala, *supra* note 8 at 10; Rice, *supra* note 35 at 931.

governance and regulation.[171] Thus, instead of global environmental governance being perceived as a cascade, transnational governance is better depicted as also including a horizontal aspect, in which SNGs organically group together in networks to undertake cooperative efforts to solve global problems.[172] Networks are emerging as global environmental governance actors in their own right and support their members' environmental actions through governance processes, such as norm formation, law and policy development, information provision and capacity building.[173] They may also seek to shape the international regime through political advocacy.[174] These processes are explored in section 2.4.

In summary, transnational governance demonstrates that formal international agreements, such as the UNFCCC and Kyoto Protocol, and corresponding international organisations are not the sole method of global environmental governance, and that more informal, horizontal arrangements such as networks are able to operate in parallel.[175] "[Transnational networks] challenge our accepted models of global environmental governance, and demand that we take an approach to analysis which accounts for the interactions between formal territorial structures of government, international regimes, state and non-state actors and networks, which act at multiple levels crossing over scales and boundaries."[176]

**2.2 Networks**

While the above discussion has briefly described the place of networks in the transnational governance model, it would be prudent to also undertake a brief examination of the key features of the network as a governance actor. Networks are voluntary, inclusive groupings of actors that cooperate to achieve a common goal that no one participant could achieve on its own.[177] For example, whereas individual state, provincial and city government efforts

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[171] Raustiala *supra* note 8; Slaughter, *supra* note 150; Eilstrup-Sangiovanni, *supra* note 13 at 194.
[172] Slaughter & Hale, *supra* note 12 at 48.
[173] Betsill & Bulkeley, *supra* note 158 at 474.
[174] *Ibid* at 473.
[175] Slaughter & Zaring, *supra* note 12 at 217; Okereke, Bulkeley & Schroeder, *supra* note 168 at 60.
[176] Bulkeley & Betsill, *supra* note 12 at 31.
[177] Sikkink, *supra* note 11 at 230; Murphy & Yanacopulos, *supra* note 165 at 594-595; Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 324.

to reduce GHG emissions will make only a modest impact on atmospheric concentrations of GHGs, grouping all of these efforts together represents a significant contribution to climate change abatement.[178] Decisions made in networks are based on consensus, achieved through deliberation and debate among members. However, such decisions hold no coercive force and are not legally binding on members.[179] Authority within networks is exercised through voluntary compliance, which is returned to in section 2.5.

To better understand the character of networks, it is useful to compare their structure and methods to formal international organisations, such as IGOs. Eilstrup-Sangiovanni neatly groups the differences between networks and IGOs into three areas: membership, structure and formality.[180] IGOs are comprised of nation states, whereas the participants of networks can be any governance actor, including the SNGs studied in this thesis.[181] IGOs are also hierarchical in structure, based on the rigid vertical hierarchy among governance levels discussed previously in section 1.5.3, whereas networks' structure is horizontal and power decentralised.[182] Linked to this flat, decentralised structure, networks are said to be able to communicate and come to decisions with greater ease and speed;[183] in particular, communication can flow between members unconstrained by formal processes such as the requirement for decisions to be cleared through a centralised body.[184] On the other hand, this decentralised structure may encourage all members to contribute, which can make coming to a final decision slow and complicated, especially for networks with many participants.[185] Finally, networks are more informal than IGOs, which are often established by an international treaty that dictates their membership and functions, and renders their decisions binding. Networks' functions, norms and objectives are determined by a consensus of

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[178] Trisolini, *supra* note 60 at 672.
[179] Mörth, *supra* note 149 at 124.
[180] Eilstrup-Sangiovanni, *supra* note 13.
[181] *Ibid* at 199.
[182] *Ibid*. Although some members with greater resources or those holding secretariat positions may, in fact, hold more influence and power.
[183] Sikkink, *supra* note 11 at 230; Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 324.
[184] Eilstrup-Sangiovanni, *supra* note 13 at 201-202.
[185] *Ibid* at 203.

their members,[186] and their success depends upon the "willingness of individual members to implement agreements in accordance with national laws and practices".[187] Networks' advantage also comes from the flexibility of their processes, which members are able to adapt to their specific country circumstances, rendering them more likely to be adhered to.[188]

### *2.2.1 Government networks*

Government networks are comprised of domestic regulatory agents working directly with their foreign counterparts on a particular area of government regulation.[189] The SNG regulators that join networks have recognised the necessity to forge global links in order to do so more effectively than any single government would be able to alone.[190] Consequently, it is unsurprising that climate change networks' memberships are generally made up of SNGs that already give political prominence to this issue. Government networks are thus often presented as organisations for leaders on climate change, with the role of demonstrating how to actively address climate change causes and impacts and convincing the rest of the world to follow suit.[191]

Government networks are both government bodies, due to their members, and governance bodies, due to the authority of these networks existing outside the traditional coercive power of their government members.[192] The governance approach of these networks has been compared both to the style normally associated with NGOs,[193] if one focuses on the political advocacy and 'leading by example' roles of networks, and to the style of IGOs, if focusing on their policy development, information exchange and human, financial and political resource provision processes.[194] These processes are further explored in section 2.4. The main attraction of government networks, according to

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[186] Murphy & Yanacopulos, *supra* note 165 at 595.
[187] Eilstrup-Sangiovanni, *supra* note 13 at 201.
[188] Jacobsson & Sahlin-Andersson, *supra* note 162 at 253-254.
[189] Slaughter, *supra* note 150. Slaughter also includes networks of judges and legislators in her definition of 'government networks'. For the purposes of this thesis, however, government network will relate exclusively to networks of regualtors.
[190] *Ibid* at 31.
[191] Kristine Kern & Harriet Bulkeley, "Cities, Europeanization and Multi-level Governance: Governing Climate Change through Transnational Municipal Networks" (2009) 47:2 Journal of Common Market Studies 309.
[192] Benson, *supra* note 26 at 1032; Anna R. Davies, "Local Action for Climate Change: Transnational Networks and the Irish Experience" (2005) 10:1 Local Environment 21 at 29.
[193] Kahler, *supra* note 149 at 17; Resnik, Civin & Frueh, *supra* note 30 at 729.
[194] Davies, *supra* note 192 at 29.

Slaughter, is that the SNG members are able to legislate to transform the decisions made by members, soft laws, into hard laws, through their pre-existing government processes.[195]

'Soft law', as the term is employed here, refers to non-legal, facilitative mechanisms of governance such as standards, codes of conduct, model legislation and best practice guidelines that are developed by non-state actors – in this case networks – that have no binding international law-making authority.[196] The obligation to comply with soft laws is therefore based solely upon voluntary adherence.[197] Despite the lack of legal means of enforcement, network members are still said to be under some normative compulsion to comply with soft laws, a topic that is returned to in section 2.5.[198]

**2.3 Network as 'structure' and as 'actor'**

It is important to reiterate that this paper continues on the assumption, based on the transnational governance model, that SNG networks can and should operate in parallel with formal international organisations. An international treaty to legally bind all countries to emission reductions remains an important goal to strive for, and the nation state still holds significant political and jurisdictional power to regulate on climate change. Therefore, this paper focuses on how networks relate to and influence not only their SNG members, but the nation state and international organisations as well.

Kahler presents two different approaches to analysing networks - the network as a 'structure' and the network as an 'actor'.[199] The network as a 'structure' focuses analysis on the characteristics of networks' governance structures and how these influence the cooperation of its members. Collective decision-

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[195] Slaughter, *supra* note 9 at 291; Slaughter, *supra* note 150 at 178-79.

[196] Mörth, *supra* note 149 at 121-122; Christine Chinkin, "Normative Development in the International Legal System" in Dinah Shelton, ed., *Commitment and Compliance: The Role of Non-Binding Norms in the International System* (Oxford: Oxford University Press, 2000) 21 at 28. This type of soft law has also been termed 'non-legal soft law'; Jaye Ellis, "Shades of Grey: Soft Law and the Validity of Public International Law" (2012) 25:2 Leiden Journal of International Law 313 at 315; John J. Kirton & M. J. Trebilcock, *Hard choices, soft law: voluntary standards in global trade, environment, and social governance* (Brookfield, USA: Ashgate, 2004) at 3.

[197] Chinkin, *supra* note 196 at 30; Ellis, *supra* note 196 at 317. Hard and soft law have been referred to in a binary, with hard law described as enforceable rules backed by sanction and soft law premised upon legally unenforceability.

[198] Jacobsson & Sahlin-Andersson, *supra* note 162 at 259-261; Anna Di Robilant, "Genealogies of Soft Law" (2006) 54 American Journal of Comparative Law 499 at 499.

[199] Kahler, *supra* note 149.

making, leading by example, information exchange, and the provision of human, financial and political resources are all network governance processes that stem from their structure, and are further outlined in sections 2.4.1 to 2.4.4 below. Secondly, networks can be analysed as 'actors', as specific organisational bodies distinct from their members, but which act on the collective will of these members.[200] Analyses of advocacy networks "in which actors come together explicitly to shape the ways in which policies are conceived and implemented" guide the network as 'actor' approach.[201] This paper focuses its analysis of SNG networks as an 'actor' in sections 2.4.5 and 2.4.6 that explore how these networks develop objectives and how they advocate in the international arena, to influence international climate change law. Sikkink usefully explains that the network as a 'structure' and 'actor' approaches should be viewed along a spectrum, rather than as a dichotomy.[202] Often, these approaches will overlap and the same network will utilise processes from both functions.

**2.4 Network governance processes and advocacy methods**

Based on a review of the literature on networks,[203] this section outlines how networks influence cities' and regions' climate change actions. It should be noted that while the discussion below splits the processes of the network between an analysis of their structure and the network as an actor, the distinction is meant only as a helpful way to structure discussion, and should not be taken as a portrayal of different types of networks. Finally, to conclude the theoretical discussion of the possible contributions of networks to the governance of climate change, section 2.5 investigates the theory behind the enforcement of voluntary, non-binding decisions of networks, and how networks influence their members to adopt their soft laws and other measures.

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[200] *Ibid* at 4.
[201] Zachary Elkins, "Constitutional Networks" in Miles Kahler, ed, *Networked Politics: Agency, Power and Governance* (Ithica: Cornell University Press, 2009) at 47.
[202] Sikkink, *supra* note 11 at 229.
[203] Slaughter, *supra* note 150; Bulkeley & Betsill, *supra* note 143; Davies, *supra* note 192; Bulkeley & Betsill, *supra* note 12; Hari M. Osofsky, "The Scale of Networks?: Local Climate Change Coalitions" (2008) 8:2 Chicago J Int'l L 409; Slaughter & Hale, *supra* note 12; Resnik, Civin & Frueh, *supra* note 30; Raustiala, *supra* note 8.

### *2.4.1 Collective decision-making*

Networks are structured as forums for deliberation and for collective decision-making, motivated by the need for coordination to most effectively address climate change.[204] SNG regulators with years of experience accumulated collectively between them converge in a network setting, each holding certain ideas as to the best policy options for climate change mitigation. These ideas are said to be articulated, promoted, formulated, discussed, debated and often transformed inside the network.[205] Following the well-known maxim that many heads are better than one, the process of debate to reach a reasoned consensus is portrayed as a method of horizontal governance that results in "buy-in" from members involved in the discussion.[206] By allowing members to be convinced by one another of the benefits and appropriateness of the negotiated outcome, it is proposed that the resulting regulations are likely to be far more attractive to SNGs than hierarchical commands.[207] While it is unlikely that all members will agree unreservedly with an outcome, in theory the outcome should at least satisfy the fundamental requirements of the group as a whole.[208] Debate and discussion may also improve SNGs' understanding of an issue and can re-frame the issue.[209] For example, from a question of whether to regulate an issue at all, the debate can be moved to how it can best be regulated.

However, a limitation of this theoretical description of collective decision-making became apparent on an attempt to apply it to the actions of the five networks explored in chapter 3: large networks demonstrated themselves too unwieldy to reach unanimous negotiated decisions and developing country members seemed to lack the information to formulate soft laws themselves. Instead, large networks, or those with predominantly developing country members were found to rely more heavily on a centralised structure built around the network as an actor, or its external partner organisations. Rather than all members debating together, decisions were made based on discussion

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[204] Slaughter, *supra* note 9.
[205] Slaughter & Hale, *supra* note 12 at 55.
[206] Slaughter, *supra* note 9 at 309-10 and 319.
[207] *Ibid* at 304.
[208] *Ibid* at 318-19.
[209] Resnik, Civin & Frueh, *supra* note 30 at 732.

and other interactions, such as reporting, between member SNGs and these central bodies. This dialogue is an effective means of undertaking participatory and collective decision-making in a network with a large or less informed membership. Thus, to build on the existing scholarship on the process of collective decision-making in voluntary networks, a distinction should be made between networks with large or broad memberships that result in only shallow engagement between members and networks with narrower membership that maintain deep cooperation between all members. For ease of reference, these networks are described as 'broad and shallow' and 'narrow and deep' respectively.

In addition, it is argued that the theory of decisions being reached by 'reasoned consensus' is viewing this process through rose-coloured glasses.[210] Instead, options for legal or regulatory action are said to be presented and decisions influenced by the more powerful members of a network, for example those in positions of influence, such as secretariat or managerial roles, or those with greater knowledge and resources.[211] In particular, information power in networks is generally held by developed states, and therefore decisions on desirable legal and regulatory options could be more accurately described as "regulatory export" from developed to developing states.[212]

However they are reached, networks' outcomes are likely to often be in the form of soft law rules.[213] Once convinced of the appropriateness of the soft laws, the SNG officials participating in networks may take steps to convert them into domestic laws and regulations with the backing of the network – the particular theoretical benefit of government networks identified by Slaughter.[214] Once translated into domestic law, SNGs may use coercive government authority to enforce the 'soft' decisions and agreements of the network.[215] Depending on their subject matter, the 'soft laws' developed by SNG networks could even be adopted at the international level; for example,

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[210] Raustiala, *supra* note 8 at 52; Elkins, *supra* note 201 at 57-58; Alkoby, *supra* note 9 at 8.
[211] Raustiala, *supra* note 8 at 52.
[212] *Ibid.*
[213] Jacobsson & Sahlin-Andersson, *supra* note 162 at 253-254; Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 327; Slaughter, *supra* note 9 at 320.
[214] Slaughter & Hale, *supra* note 12 at 54; Slaughter, *supra* note 150 at 178.
[215] Slaughter, *supra* note 150 at 185; Roger Cotterrell, "What is Transnational Law" (2012) 37:2 Law and Social Inquiry 500.

state and provincial governments that have implemented successful cap-and-trade ETSs may well be able to provide national or international governments with a template to follow, as section 3.2.2.1 illustrates.[216]

The adoption of soft laws into the formal domestic legal systems of SNG members is suggested to be able to lead to regulatory convergence.[217] Network members' collective 'buy in' to the soft laws facilitates the adoption of harmonised laws, policies and measures by geographically-diffuse SNG members on a global scale. Convergence helps the aim of coordination as similar laws and regulations that complement one another facilitate more meaningful cooperation from a purely functional standpoint.[218] It should be noted that convergence does not denote identical laws and regulations; a degree of "informed divergence" is appropriate in order to tailor the soft laws to domestic social, economic and political circumstances.[219]

Thus, it is proposed that networks aid policy development through their structure as forums for deliberation, debate and collective decision-making. Networks' encouragement of discussion and debate is said to impact members' framing of a problem and may lead to members acting in accordance with this reframing, as these become a shared norm of the network.[220] Soft laws, codifying members' collective ideas of effective laws and regulations, may be accepted and internalised by network members, which may be demonstrated by the transformation of soft laws into formal hard laws by SNG members.

### *2.4.2 Leading by example*

SNGs regulators are claimed to not only enter a network with pre-conceived ideas on certain regulatory options, but may also have had considerable experience with the development and implementation of a diverse range of laws and policies. First mover jurisdictions may emerge that, through the forum of the network, promote their successful emission reduction and adaptation policies, laws and regulations and influence other governments to

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[216] Resnik, Civin & Frueh, *supra* note 30 at 764.
[217] Slaughter, s*upra* note 150 at ch 5.
[218] Raustiala, *supra* note 8 at 56; Slaughter & Zaring, *supra* note 12 at 219; Slaughter, *supra* note 150 at 11.
[219] Slaughter & Hale, *supra* note 12 at 54.
[220] Resnik, Civin & Frueh, *supra* note 30 at 731-32.

follow their example.[221] Once they become members of a network, a mix of competition and collaboration between SNGs is alleged to drive innovative ideas to be attempted, which, through a 'race-to-the-top' mentality, may increase the collective effectiveness of SNGs' emission reduction and adaptation policies.[222] The more governments that participate in a network, the greater the benefit to members, as more policy options can be attempted, exchanged and made available for replication into members' domestic policy.[223]

Leading by example refers also to the lead taken by SNG networks themselves. It is proposed that SNG network actions prompt more ambitious climate change agendas at the national level and the international level, as these jurisdictional levels are pressured to act with greater ambition to save face, known as the "snowball effect".[224] This mirrors the arguments of scholars who advocate for regional agreements on climate change among smaller groups of like-minded countries to demonstrate that ambitious cooperative action is possible.[225] Through demonstration of the viability of certain emission reduction policies by SNGs, industry and the public may take up the advocacy banner to transition to a lower-emission economy.[226]

### *2.4.3 Information exchange and dissemination*

Information dissemination and exchange is often emphasised as a key role and benefit of networks to members.[227] Given their structure as a gathering point for subject-specific regulators from governments around the world, networks are said to have access to a vast amount of information, personal experience and knowledge of local climate change impacts and abatement methods, on a global scale.[228] Therefore, government networks may become producers and

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[221] Stewart, *supra* note 62 at 700-701.
[222] Sovacool & Brown, *supra* note 19 at 320; Osofsky, *supra* note 22 at 282.
[223] Slaughter, *supra* note 150; Raustiala, *supra* note 8 at 64.
[224] Resnik, Civin & Frueh, *supra* note 30 at 764.
[225] Joseph E. Aldy *et al*, "Beyond Kyoto: Advancing the international effort against climate change" (2003) online: PEW Centre for Climate Change <http://www.c2es.org/docUploads/Beyond%20Kyoto.pdf>; Ross Garnaut, *The Garnaut Review 2011: Australia in the Global Response to Climate Change* (New York: Cambridge University Press, 2011) at ch 8.
[226] Stewart, *supra* note 62 at 700-701.
[227] Slaughter, *supra* note 9 at 300; Davies, *supra* note 192, at 35; Alkoby, *supra* note 9, at 10; Betsill & Bulkeley, *supra* note 158 at 479.
[228] Alkoby, *supra* note 9 at 10.

disseminators of credible information, as Slaughter succinctly states: "[w]hat better source on how to protect the environment than networks of government officials from around the world charged with precisely those functions?"[229] Thus, government networks may wield influence precisely because of this ability to distil and disseminate credible information.[230] This aspect of network theory is premised to some degree on the assumption that member governments, as rational actors, will adopt new laws and policies through exposure to new information.[231]

The outcomes of an in-depth study of the CCP network by Betsill and Bulkeley bring into question the importance of the dissemination of information to law and policy development. These scholars conclude that more dynamic connections and active demonstration of best practice policies between members, as well as political and financial resources, are likely to have a greater influence on the laws and policies developed and implemented by members than the passive provision of information. To reach this conclusion, Betsill and Bulkeley undertook case studies of six local authorities that participate in the Cities for Climate Protection (CCP) network: Newcastle, Cambridgeshire, and Leicester in the UK; Denver and Milwaukee in the U.S.; and Newcastle, New South Wales (NSW), Australia.[232] These cities have different levels of involvement in the CCP campaign, which allowed the two academics to question what led to the greater involvement of Newcastle, NSW and Denver, USA in the network than the other four cities. Their research rebutted the assumption that law and policy developments are the outcome of the provision of additional information on the nature of climate change as an appropriate subject for local action or the options for local mitigation and adaptation laws and policies.[233] Instead, the cities participating in the network were generally already cognisant of their role in the climate change solution and joined the network because they sought support for actions that they

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[229] Slaughter, *supra* note 9 at 298.
[230] *Ibid.*
[231] Betsill & Bulkeley, *supra* note 158 at 474.
[232] *Ibid* at 472."These case-studies were developed during 1998–2002 through three different research projects. While the methods used in each project varied to some extent, they all involved conducting semi-structured interviews with key actors at local, national, and international levels, as well as the analysis of policy documents and grey literature."
[233] *Ibid* at 485.

already planned to undertake.[234] Exchanging and disseminating information about climate protection was found instead to be a means to an end; "a vehicle through which connections have been forged, norms reinforced, and access to material resources provided".[235] The personal connections and member-to-member discussions on the replication of specific policies were determined to be more effective for policy change than passive information.

Despite these results, the process of information dissemination is closely linked to the methods of collective decision-making and leading by example, with the former a more passive and the latter a more active, dynamic variation on the same law and policy development process. For example, networks may collate exemplary policy successes into soft laws, such as best practice guidelines, standards and codes of conduct, which offer a condensed and accessible summary of a network's information base.[236]

### *2.4.4 Expert, financial and political resources*

Networks may also provide members with expert and financial assistance and grant them political gravitas. First, networks generally employ experts on the technical aspects of climate change mitigation and adaptation, such as emission monitoring and reporting, that build the capacity of member governments to develop and implement laws and policies.[237] A lack of capacity may be paralysing to policy development, and joining a network can help SNGs overcome this hurdle.[238]

Secondly, the financial barriers to SNG action on climate change cannot be ignored and climate change will have to compete with other areas of regulation for scarce financial resources.[239] While networks are often not in the position to offer direct financial assistance to SNG members, government members are suggested to be able to gain access to funds otherwise unavailable. This could be due to additional information or to minimum

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[234] *Ibid*.
[235] *Ibid* at 484.
[236] Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 327.
[237] Elkins, *supra* note 201 at 50-51.
[238] Slaughter, *supra* note 9 at 303.
[239] Davies, *supra* note 192 at 27.

requirements for funding eligibility, such as the need for a group of governments to apply for the funds.[240]

Finally, SNGs that adopt policies and implement laws that are endorsed by a well-regarded network gain immediate legitimacy for their actions.[241] Endorsement by a respected network provides authority, which SNG members may use to justify the new laws to their superiors and also to heighten the profile of the issue they wish to champion in the domestic political agenda.[242] Climate change is a topic of great contemporary political salience that can generate a lot of position attention from the public.[243] Membership in a network may, therefore, provide reputational benefits: actions can be legitimised by a network's approval and SNGs may gain prestige or status as a "climate change advocate".[244] Nevertheless, doubt is cast over whether SNGs actually undertake the meaningful actions presumed to accompany the reputation stemming from membership in a climate change network; instead, some scholars question whether participating SNGs only adopt small, easy measures.[245] As further elaborated in section 3.2.1, low-cost and short payback measures are in fact popular among city network members, lending credit to this view.

Collective decision-making, leading by example, information exchange and the technical, financial and political resources of networks are all governance processes of networks that stem from their structure as a gathering point for information and resources and a forum for collaborative discussion and debate. These processes primarily influence the members of a network, although the soft laws generated by a network can also be beneficial to non-members if made publically available. The next two sections analyse networks as 'actors', independent of the members that comprise them.

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[240] Betsill & Bulkeley, *supra* note 158 at 483. For example, within the European Community, certain financial resources are only available through the formation of partnerships with likeminded cities.
[241] *Ibid* at 471.
[242] Jacobsson & Sahlin-Andersson, *supra* note 161 at 259-61; Slaughter, *supra* note 9 at 300; Davies, *supra* note 192 at 35.
[243] Rice, *supra* note 35 at 931.
[244] Elkins, *supra* note 201 at 49.
[245] Trisolini & Zasloff, *supra* note 65 at 88-89.

### *2.4.5 Network objectives and policies*

Networks, as governance bodies, generally have their own aims, objectives and methodologies that all members must adhere to once they join the network. Primarily, it is those SNG members that join the network first that establish these aims, objectives and methodologies, with partner organisations taking this role in 'broad and shallow' networks. The formality of these objectives and standards differs substantially between networks, as does the structure of the network; networks with a larger membership generally have a more centralised structure, for example. In addition, whereas 'broad and shallow' networks often develop concrete programs for members to adopt or require compliance to certain standards, 'narrow and deep' networks more closely resemble informal "talking shops", where SNGs to come together to develop their collaborative policy directions.[246]

### *2.4.6 Political advocacy*

Political advocacy is a primary undertaking for networks comprised of like-minded SNGs that gain a voice and influence in numbers to reform the behaviour of higher-level jurisdictions, either at the national or international level.[247] In the current case of climate change governance, SNGs with shared ambitions about global climate change mitigation and adaptation may have found themselves disappointed by the lack of action at the international level in the UNFCCC and at the national level in some countries. It may be that the SNGs have turned away from this traditional response and have formed climate change advocacy networks with the aim of accelerating the pace of international action on climate change.[248] By partaking in discussions and debates at international conferences, a network, speaking on the collective behalf of its members, can help to re-frame or re-define the debate and to steer the choices made by nation state actors by contributing credible information to the discussion, including the GHG reduction efforts and climate resilience successes of SNGs.[249] With SNGs already working to reduce their GHG

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[246] Schroeder & Bulkeley, *supra* note 110 at 317.
[247] Stewart, *supra* note 62; Murphy & Yanacopulos, *supra* note 165 at 595; Happaerts, Van den Brande & Bruyninckx, *supra* note 156 at 335.
[248] Betsill & Bulkeley, *supra* note 158 at 475.
[249] Murphy & Yanacopulos, *supra* note 165 at 595; Resnik, Civin & Frueh, *supra* note 30 at 731-32.

emissions, nation states may perceive suggested emission reduction targets as more achievable, as the pressure to regulate emissions is divided among government levels. Thus, it is asserted that the network, independent of its member governments, but acting on their collective behalf, has an important advocacy role to play at the international level, with a level of influence far above that of individual SNGs.

**2.5 Networks' enforcement of soft laws and norms**

According to the theory presented so far, networks are established when actors, SNGs in this case, group together based on a joint need for cooperative regulation and governance of a transboundary issue, in this case climate change. By grouping together, SNGs move from being solely domestic actors into the global realm, as their interactions cross national borders and seek to influence international law. It is proposed that these networks facilitate connections between SNG regulators, promulgate soft laws, promote their members' regulatory successes, undertake capacity building and provide other important technical information and tools that allow their members to go home and implement these soft laws, or demonstration examples, domestically. A certain level of convergence may be seen to occur as many SNGs implement the same laws, policies and measures, leading to uniformity across the globe, which is argued to facilitate cooperation between SNGs. Networks are also proclaimed to be able to advocate at the international level to promote greater GHG emission cuts through a commitment to collaborate with national governments in order to achieve more stringent emission reduction targets.

Networks may therefore be described as a player in the development of transnational law.[250] The term 'transnational law' was initially coined by the late Judge Philip Jessup of the International Court of Justice to describe "all law which regulates actions or events that transcend national frontiers".[251] The term transnational suggests a more complex and multilevel global legal system than the neat opposition between 'international' and 'national' law, and can

[250] Marie-Laure Djelic & Kerstin Sahlin-Andersson, *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006) at 3-4; Benedict Kingsbury, Nico Krisch & Richard B. Stewart, "The Emergence of Global Administrative Law" (2005) 68:3 Law and contemporary problems 15 at 16.

[251] Philip C. Jessup, *Transnational law* (New Haven: Yale University Press, 1956).

more naturally include the interactions of SNG regulators.[252] A broad definition of transnational law includes regulations established by nation states, as well as by corporations, private agencies and public or private organisations acting transnationally across borders.[253] It can also include the soft laws established by transnational groups, as well as the convergence of substantive regulations and policy efforts from the bottom-up.[254]

This broad definition of transnational law sits outside the traditional definition of law: binding regulations based on state consent and authority.[255] In fact, despite its name, the soft laws and norms of transnational law are considered by many to be distinct from formal law and legal norms, due to the non-state actors, among others, that promulgate it and its non-coercive nature.[256] The informal soft laws, policies and measures of transnational law are nevertheless useful and important to global governance and should be seen to operate in parallel to law. Indeed, non-legal forms of governance have arguably become more influential and effective in some areas than inter-state regulation. For example, given that the ability of traditional inter-state negotiation has failed to reach agreement on the regulation of climate change, the innovative and novel mechanisms of global governance stemming from networks may be seen as filling an important governance gap left by law.[257]

The theory of transnational law can also tell us a great deal about the potential motivations for actors to engage in the global realm and to obey transnational laws. Public bodies historically acted in the international arena as part of a nation, as detailed in section 1.3.1. Today, actors often engage with their foreign government counterparts expressly because of a divergence from the position of the nation in which they geographically reside and their corresponding sympathy with the goals and aims of transnational networks, described by Cotterell as "networks of community" or "overlapping

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[252] Djelic & Sahlin-Andersson, *supra* note 250 at 4.
[253] Cotterrell, *supra* note 215 at 501.
[254] *Ibid* at 503.
[255] *Ibid* at 523.
[256] *Ibid*. For further discussion on the distinctions made between hard law and soft law, see; Andrew T. Guzman & Timothy L. Meyer, "International Soft Law" (2010) 2:1 Journal of Legal Analysis 171; Di Robilant, s*upra* note 198; Chinkin, *supra* note 196 at 23.
[257] Laura Kosloff & Mark Trexler, "State Climate Change Initiatives: Think Locally, Act Globally" (2004) 18:Winter Natural Resources and Environment 46 at 47; Raustiala, *supra* note 8 at 6.

communities of fate".[258] However, Cotterrell's definition of community is expressly distinct to the altruistic and romanticised vision of a community as a family, and is rather based on interpersonal, or intergovernmental, relations based on shared interests and a degree of mutual trust, gained through cooperative action on climate change, for instance.[259] Therefore, although no coercive legal authority exists for members to adopt the networks' soft laws, a moral authority is said to exist, based upon resonance with the networks' values and norms for members.[260] These norms are developed into shared norms through the socialisation process. Socialisation theory asserts that members of networks are persuaded to accept and internalise shared norms and understandings through their involvement in the debate and discussion that leads to their acceptance.[261] In addition, each member creates and safeguards its good reputation within the network by adhering to these shared norms, and members that act in contravention can be called to account by the network membership as a whole.[262] Although formal sanctions are unlikely, particularly between governments, rogue members may be sidelined, denied positions of influence within the network or deprived of access to certain information or resources.[263] Thus, members are said to obey a network's shared norms to avoid social and professional discredit and shame rather than any direct sanction.[264] An important assumption behind the socialisation theory and the social pressure to conform is group solidarity and trust: members are assumed to hold similar objectives with respect to the problem being tackled and be in long-term cooperative relationships, in which reciprocity between members is established.[265]

Concerns of self-interest are likely to also play a role in the ability of a network to command the obedience of its members.[266] From an economic point of view, when a member views the gains – be they financial, social or

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[258] Cotterrell, *supra* note 215.
[259] *Ibid* at 517.
[260] *Ibid*; Nico Krisch, "Who is Afraid of Radical Pluralism? Legal Order and Political Stability in the Postnational Space" (2011) 24:4 Ratio Juris 386.
[261] Alkoby, *supra* note 9 at 12; Slaughter, *supra* note 150 at 198.
[262] Slaughter, *supra* note 9 at 312.
[263] *Ibid* at 318-319.
[264] Slaughter, *supra* note 150 at 196.
[265] Slaughter, *supra* note 9 at 314-15.
[266] Cotterrell, *supra* note 215.

reputational – of staying in a network as greater than the costs of exiting, they will remain a member.[267] Where a member determines that they will gain more from disobeying a network norm, despite the reputational loss or social sanction, they may well disobey or leave the network.[268] Taking this theory further, networks must maintain their ability to achieve the objectives for which members joined, be it political advocacy, policy development or financial resources, to remain legitimate and effective.[269] Realistically, if the network no longer provides the expected benefits, members may exit the network, which the non-binding and informal structure of networks permits.[270] Networks are, therefore, the ultimate source of their own relevance and effectiveness.

This chapter has presented a theory of SNG networks as a very attractive option for modern global climate change governance, due to the close collaboration they are said to facilitate among members and the global influence they are said to wield. The analysis also distinguishes between two different forms of network: a network of narrow membership engaged in deep collaboration and another with broad membership, but more shallow cooperation directly between members. The view of regulators coming together across borders to intricately cooperate to reach a shared consensus on network aims, objectives and programmes is not representative of all networks and any study of networks as a climate change governance actor requires a more nuanced analytical framework. Thus, in larger networks, this horizontal, decentralised decision-making is replaced by a more centralised structure, where the network, or its partner organisation, acts on behalf of its members. This distinction is important for an understanding of how networks engage effectively with the processes at their disposal.

SNGs bring their experiences with climate change laws and policies to the network, with leaders emerging that lead the development of best practice laws and policies by example. The successful implementation of legal and

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[267] Anthony D'Amato, "Softness in International Law: A Self-Serving Quest for New Legal Materials: A Reply to Jean d'Aspremont" (2009) 20 EJIL 897 at 899.
[268] *Ibid.*
[269] Kahler, *supra* note 149 at 14.
[270] Sikkink, *supra* note 11 at 230-231; Kern & Bulkeley, *supra* note 191 at 309-10.

regulatory instruments in SNGs is said to build confidence both in other SNGs, as well as in nation states to adopt similar climate change mitigation options. By building capacity and providing political and financial support, as well as disseminating best practice information and shared norms around the globe, government networks are "likely to strengthen the rule of international law in ways long demanded and expected of traditional international institutions."[271] Adherence to these network processes by members is voluntary, which begs the question how networks are able to enforce their objectives and standards in members. The theory of transnational law has been demonstrated to shed light on networks' ability to undertake effective global governance: networks use the shared values, mutual trust and reciprocity that emerge between members to build a moral authority, which provides the foundation for their capacity to influence members to follow their soft laws and decisions. At the same time, networks must continue to provide the gains expected by their members, to ensure the self-interest in participation remains. Thus, in theory, networks offer a flexible but collaborative means to influence both domestic and international climate change law and policy. Chapter 3 provides an empirical analysis of several SNG networks on climate change, to question whether they achieve these theoretical benefits in reality and to analyse what networks contribute to the contemporary governance of climate change. The network methods and processes identified in section 2.4 are the focus of this evaluation, across both networks of cities and of states and provinces.

[271] Slaughter, *supra* note 9 at 304.

# Chapter 3 – An evaluation of SNG networks

This thesis has so far discussed the processes and methods that SNG networks may use to influence the domestic climate change laws and policies of members in a collaborative, flexible and swift manner, as well as to impact the international climate change regime. The question that now presents itself is whether the potential of these networks is being realised in practice, which will be answered by referring to the practices of five SNG networks on climate change. In addition, some initial reflections are offered on how network processes instil a sense of obligation in members to act in accordance with the networks' voluntary and non-binding decisions and measures. Although networks' influence on the domestic laws of its members is highlighted, the role of networks in the broader climate-related actions of SNGs, such as policies and programmes, is also addressed. Limiting this analysis to laws would present only a portion of the worth of SNG networks that use more flexible and innovative means to transform their jurisdictions into low-emission economies than exclusively formal legal processes.

The analysis includes five existing SNG networks on climate change: the CCP campaign, the C40 Initiative (C40), the Asian Cities Climate Change Resilience Network (ACCCRN), the WCI and the RGGI. These five networks are quite different in composition, aim and methodology. Notably, however, all five adopt overlapping network processes to reach their different aims, including collective decision-making, leading by example and direct advocacy. The fact that all five networks are using these same processes to reach different climate change aims and to suit different types of networks affirms that the strength of networks is in the flexibility of their processes.

Empirical information on the influence of these networks from SNG regulators is lacking and, given the essentially global reach of the thesis, is beyond the scope of this research to undertake. In particular, information about the influence on the laws and policies of the city members of the C40 and CCP was particularly opaque, given the larger size of these networks. However, some insights into the types of laws and policies being implemented by these cities in response to their participation in networks can be gleaned from the information provided by networks themselves and their SNG members.

Specifically, an analysis of a recent C40 progress report and six CCP chapters' progress reports, based on voluntary questionnaires and surveys completed by member cities, was undertaken.[272] The C40 report grouped members' laws, policies and measures in climate change-related areas together, to enable a network-wide analysis of the types of actions being undertaken by C40 cities. A compilation of the CCP's progress reports allowed the C40 analysis to be replicated for the CCP. While these reports provided an excellent summary of the actions being undertaken by city governments, it must be acknowledged that they are based upon voluntary self-reporting by city governments, and are therefore not representative of all city members, and no quality-control investigations were performed.[273] That being said, this information provides a good deal of insight into the influence of the networks on domestic climate change regimes. The measures reported are likely only the 'tip of the iceberg', with many unreported actions also being implemented. This methodology presumes some causal relationship between cities' membership in a climate change network and their adoption of new policy, legal and regulatory measures. The C40 Initiative asserts the majority of climate actions - policies, programmes, and incentive schemes - have been implemented by member cities since they joined the network in 2005: eleven per cent of actions reported by C40 cities were taken in 2005, 38 per cent of actions were taken in 2008 and 51 per cent taken in 2009.[274] These figures certainly point to some connection between the increased efforts of cities and their membership in the C40 network. More information on the types of initiatives being undertaken by the ACCCRN and CCP is presented in this chapter and provides similar evidence of the causal connection for these networks.

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[272] The CCP chapters analysed in this investigation were the USA, Australia, New Zealand, Japan and Canada. Reports for the other Latin American, Asian and African chapters were not available.

[273] ARUP *supra* note 113 at 4.

[274] *Ibid.* Climate change 'actions' are classified in three ways – policies, projects/programmes, and incentives/ disincentives; whose scale is measured along three tiers: pilot, significant or transformative (i.e. city-wide). An example of a policy could be a broad policy vision or strategy, such as New York's PlaNYC, or a specific law or regulation enacted, such as New York's law mandating the benchmarking of energy efficiency. A Project/ Programme denotes delivery, for example Sao Paulo's landfill gas capture project. An Incentive/ Disincentive represents the ability to influence constituent behaviour; an example could be the London Congestion Charge.

The analysis undertaken in this chapter leads to several conclusions. At a minimum, this research demonstrates that sub-national domestic regulators are actively engaging with their foreign counterparts on climate change, as well as with the global climate change regime through networks. Moreover, this engagement demonstrates that climate change is clearly recognised as a salient issue for sub-national policy- and law-makers.[275] At a maximum, this research illustrates that SNGs are prepared to lead global climate change mitigation and adaptation efforts and that these networks are already positively influencing the development of domestic climate change regimes, illustrated by the magnitude of climate change laws and policies adopted by SNGs that are likely to have been facilitated, at least in part, by a network. In addition, these networks are influencing the development of the international climate change regime, by motivating nation states to acknowledge the work of SNGs in their national GHG emission reduction targets.

This section begins with a brief description of the SNG networks that are the subjects of this thesis. Thereafter, an in-depth analysis of the five existing SNG networks is provided in section 3.2, based upon the processes presented in chapter 2. Finally, a discussion of why SNG members are voluntarily joining and undertaking actions in pursuance of networks' non-binding decisions and actions seeks to contribute to the transnational law scholarship.

### 3.1 Existing climate change networks

The CCP, C40, ACCCRN, WCI and RGGI are not an exhaustive list of SNG climate change networks, and there are many other groupings of SNGs which may also be important, but are not considered here.[276] However, the five networks chosen meet a number of criteria. Primarily, all the networks are transnational, apart from the RGGI, which nonetheless covers multiple states of the USA. The inclusion of the RGGI was considered important as a point of comparison for the WCI, as the latter would otherwise have been the sole regional network analysed. Moreover, the networks chosen are all relatively new and active, which should be taken into account when considering the

[275] Trisolini, *supra* note 60 at 676-77.

[276] For example: Energie-Cités, ENCORE (Environmental Conference of the European Regions) and nrg4SD (Network of Regional Governments for Sustainable Development) in Europe, the Midwest Greenhouse Gas Reduction Accord and US Mayors Climate Protection Agreement in the US.

conclusions reached, particularly regarding the question of compliance. Finally, each of the five networks explicitly states as its core aim the mitigation of climate change or adaptation to its effects. Beyond this core aim, each of the networks has a slightly different methodology for contributing to climate change mitigation and adaptation efforts and each has a different governance and decision-making structure, which are elaborated below. However, one clear pattern does emerge that splits the networks into two: the regional networks of states and provinces, the WCI and the RGGI, are centred on the implementation of a cap-and-trade scheme, whereas the city networks aim to build the capacity and knowledge of cities to adopt laws and policies on climate change. A brief description of the networks is presented below, with further information available in Appendix 1.

### *3.1.1 The Cities for Climate Protection (CCP) campaign*

Following the adoption of the UNFCCC in 1992, the CCP campaign was launched in 1993 at the First Municipal Leaders' Summit on Climate Change, hosted by ICLEI (Local Governments for Sustainability, formerly known as the International Council for Local Environmental Initiatives). To date, the CCP campaign includes more than 1000 cities, which represent over fifteen per cent of global GHG emissions.[277] The aim of the CCP campaign is to assist cities and municipalities to design and adopt policies to reduce their GHG emissions.[278] Each city that joins the CCP campaign must pass a formal declaration affirming that it is committed to addressing climate change.[279] The CCP campaign has an established 'five milestone' process for cities to follow, in order to act on this commitment.[280] The decision-making structure of the CCP is centred on ICLEI, which acts as the central hub of the CCP, providing technical resources, developing programmes for its members to follow and aiding member governments to proceed through the five milestone process.

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[277] Osofsky, *supra* note 20 at 608; ICLEI, *The Cities for Climate Protection (CCP) Campaign*, online: <http://www.iclei.org/index.php?id=10829>.
[278] *Ibid*.
[279] Michele M. Betsill, "Mitigating Climate Change in US Cities: opportunities and obstacles" (2001) 6:4 Local Environment 393 at 394.
[280] ICLEI, *supra* note 277. The 'five milestone' process includes measuring the city's emissions, committing to a quantifiable emissions reduction target, planning actions to achieve that target, implementing that action plan and finally monitoring and reporting on the emissions reductions achieved by their mitigation actions.

Moreover, ICLEI is also one of the most active organisations advocating for a larger role for cities and municipalities in the international arena.

### *3.1.2 The C40 Initiative (C40)*

The C40 was launched in 2005 by eighteen cities under the leadership of the former Mayor of London, Ken Livingston, and in 2006, it partnered with the Clinton Climate Initiative (CCI).[281] The C40 has forty 'mega city' members, and eighteen affiliated smaller cities, which collectively form eight per cent of the global population and twelve per cent of global GHG emissions.[282] The CCI is the "delivery partner" of the C40 and provides significant resources to the C40, as well as working collaboratively with the C40 to develop programmes to transform city policies and improve the energy efficiency of city infrastructure.[283] This is primarily achieved through meetings of members and the facilitation of opportunities for bilateral cooperation and purchasing on city-specific issues, including the sharing of best practice examples.[284] The decision-making structure of the C40 Initiative is centred on the C40 Steering Committee, made up of ten cities, that guides the work of the C40 and determines its aims and objectives.[285]

### *3.1.3 Asian Cities Climate Change Resilience Network (ACCCRN)*

The ACCCRN was launched in 2008 and its members are ten cities in India, Indonesia, Thailand and Vietnam.[286] It is essentially a five-year programme, designed and funded by the Rockefeller Foundation that also gains support from ICLEI. Similarly to the CCP and C40, the ACCCRN has a centralised structure, with programmes and methodology determined by the network. In contrast to the other four networks in this thesis, the ACCCRN is focused

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[281] Schroeder & Bulkeley, *supra* note 110 at 316.
[282] ARUP, *supra* note 113 at 2.
[283] Clinton Climate Initiative, *CCI - C40 Cities,* online: <http://www.clintonfoundation.org/main/our-work/by-initiative/clinton-climate-initiative/programs/c40-cci-cities.html>.
[284] Matthew J. Hoffmann, "Experimenting with Climate Governance" (Paper prepared for Amsterdam Human Dimensions of Environmental Change meeting (Agency Stream), December 2009) [unpublished].
[285] C40 Initiative, *About Us,* online: <http://live.c40cities.org/about-us/>. New York, Los Angeles, London, Berlin, Sao Paulo, Tokyo, Jakarta, Johannesburg, Seoul and Hong Kong are the current Steering Committee members of the C40.
[286] Asian Cities Climate Change Resilience Network, *Asian Cities Climate Change Resilience Network: Brochure*, online: <http://www.acccrn.org/>. The cities involved in ACCCRN are Indore, Gorakhpur and Surat in India, Bandar Lampung and Semarang in Indonesia, Chiang Rai and Hat Yai in Thailand and Can Tho, Da Nang and Quy Nhon in Vietnam.

exclusively on adaptation to climate change in developing countries and aims to strengthen climate resilience in cities. The ACCCRN's methodology follows four phases: it seeks to identify its member cities, analyse city-specific vulnerabilities, implement policies to address these and finally, to share best practice examples beyond the membership of the network, to encourage the replication of effective strategies and activities in non-member cities.[287] To date, its efforts have focused mainly on completing the first two phases of capacity building and vulnerability analyses in its elected member cities; however, in 2011, it began to implement replicable laws and policies in the ten cities, in line with phase 3, which it will monitor and report upon by the end of 2012.[288] The ACCCRN also aims to attract both national and international attention to the opportunity of reducing developing cities' climate vulnerability.

### *3.1.4 Western Climate Initiative (WCI)*

The WCI began in 2007 as an agreement between five American states to launch a joint effort to reduce their collective GHG emissions.[289] It expanded to include seven American states and four Canadian provinces, but in 2011, six states left the network, due to a change in their governments' commitment to mitigating climate change.[290] The remaining regional governments remain committed to reducing their GHG emissions to fifteen per cent below 2005 levels by 2020 and aim to implement a cap-and-trade ETS to achieve this target. Contrary to the city networks, the WCI has a decentralised structure and best resembles a forum where members meet to collaborate without the aid of any central organisational body. In January 2012, California and Quebec launched their individual ETSs, which will be linked together in 2013, to form the beginnings of the regional scheme.[291] In order to coordinate their

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[287] *Ibid.*
[288] *Ibid.*
[289] Center for Climate and Energy Solutions, *Climate Change 101: State Action*, (2009) online: Center for Climate and Energy Solutions (C2ES) <http://www.c2es.org/docUploads/climate101-state.pdf>.
[290] Sindya N. Bhanoo, "Arizona Quits Western Cap-and-Trade Program" *The New York Times* (12 February 2010) A20, online: <http://www.nytimes.com >. Arizona, Montana, New Mexico, Oregon, Utah and Washington pulled out of the WCI in November 2011, leaving California, Quebec, British Columbia, Manitoba and Ontario.
[291] Western Climate Initiative, *Western Climate Initiative*, online: <http://www.westernclimateinitiative.org>.

individual legislation, the WCI members have agreed to a 'Detailed Design': an outline of the basic design elements required of each regional cap-and-trade system.[292] The WCI members have also approved a suite of 'complementary policies' to be implemented alongside the cap-and-trade scheme.

#### *3.1.5 The Regional Greenhouse Gas Initiative (RGGI)*

The RGGI was launched in 2005 as an agreement between seven states of the USA.[293] Today, it consists of nine north-eastern and mid-Atlantic states.[294] The RGGI aims to reduce GHG emissions from the power sector in these member states by ten per cent by 2018.[295] The decision-making structure of the RGGI is very similar to the WCI: a decentralised forum that facilitates collaboration directly between members. Like the WCI, the primary method by which the RGGI will reach this target is a cap-and-trade ETS, which commenced in 2009. To become a member of the RGGI's ETS, states must pass legislation substantially in adherence to the 'Model Rule' of the RGGI, which sets out the design framework for the cap-and-trade program. As the first regional cap-and-trade scheme in the USA, the RGGI has actively sought to influence federal American climate change policy by laying the foundation for this market-based mechanism in North America.[296]

### 3.2 Evaluation of SNG networks on climate change

This section explores how the five abovementioned SNG networks utilise network governance and advocacy processes to seek to influence the climate change laws and policies of their members, as well as the international UNFCCC negotiations. The evaluation of SNG networks on climate change is undertaken by process, rather than by network, following the categories presented in chapter 2: collective decision-making, leading by example, information dissemination, building regulatory capacity, developing network aims and programmes and undertaking political advocacy. This structure does

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[292] *Ibid.* Western Climate Initiative, *Design Summary* (2010) online: <http://www.westernclimateinitiative.org/designing-the-program>;
[293] Regional Greenhouse Gas Initiative, *Memorandum of Understanding*, online: <http://www.rggi.org/docs/mou_final_12_20_05.pdf>.
[294] Regional Greenhouse Gas Initiative, *About the Regional Greenhouse Gas Initiative* (2010), online: <http://www.rggi.org/docs/RGGI_Fact_Sheet.pdf>.Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont
[295] Regional Greenhouse Gas Initiative, *Welcome*, online: < http://www.rggi.org>.
[296] Center for Climate and Energy Solutions, *supra* note 289.

not mean to imply that one network will not undertake several processes at once; in fact, all five networks utilise several processes simultaneously. Instead, this structure of analysis seeks to determine whether certain processes are being used more effectively than others, in order to extract the primary value of networks in the global climate change regime. The effectiveness of a process is measured by whether it influences sub-national or national governments. The decision-making structure of the five different networks and whether they more closely resemble a 'broad and shallow' or 'narrow and deep' network are seen to make a difference to how the processes are adapted to suit different types of networks. This not only leads to policy implications for the most effective processes for each type of network, but also affirms that the flexibility of their processes is a key strength of networks.

### *3.2.1 Collective decision-making*

In chapter 2, networks were described as a forum for deliberation, where active debate between members or between the network and its members leads to a decision, which may be the confirmation of a shared norm or network aim, or alternately a model piece of legislation or best practice guideline. The theory also suggested that a certain level of law and policy convergence may occur when SNGs adopt these soft laws into their domestic regimes. Results show that all five networks facilitate some form of collective decision-making to reach varying aims: the reframing of the role of cities in climate change mitigation, collective learning via network meetings and the formal adoption of model legislation. An initial investigation into the types of laws and policies being adopted by SNGs reveals an emerging convergence of measures. These influences are explored in turn below.

#### *3.2.1.1 Reframing the role of cities in climate change mitigation*

The CCP program provides a notable example of how networks can reframe the accepted discourse and norms surrounding climate change governance, to create a new, shared understanding between members, as well as the broader global climate change governance arena. The CCP campaign has been fundamental in challenging the prevailing assumption that climate change should be regulated purely on the global stage and in transforming the debate about which levels of government should be implicated in the national,

regional and local causes and effects of climate change.[297] Through discussion and demonstration that local aspects of climate change mitigation and adaptation can effectively be addressed by cities, ICLEI has continuously expanded the membership of the CCP campaign to new cities – the list of members is now greater than 1000 cities worldwide – with each new member embracing the new norm.[298] Through strength in numbers, member cities have demonstrated the opportunities for local mitigation and adaptation and thus the broader global society has also begun to accept this role for municipalities and cities. In fact, this norm is even reaching acceptance by the UNFCCC, through their acknowledgment of SNGs as important stakeholders in the climate regime dialogue, as explored in section 3.2.6.

Secondly, by demonstrating that the control of GHG emissions can be linked to policies already on city governments' agendas, the CCP has been instrumental in demonstrating to its member cities how to present GHG reduction as a co-benefit for policies in areas such as waste management, urban and land-use planning, traffic and city buildings.[299] For example, reducing waste can lead to a reduction in methane emissions from landfills, as well as reducing the size of unsightly landfills. These co-benefits may be significant in convincing both the public and top government decision-makers to adopt climate-related policies. Using climate change as validation, cities gain a 'hook' on which to justify a wide variety of actions that may otherwise have been unpalatable to city government decision-makers, who, low on financial and human resources, may have other policy priorities.[300]

Jennifer Rice has developed a three-stage model to demonstrate how the CCP campaign has led to the reframing of other policy initiatives into climate change initiatives.[301] Firstly, by formally pledging to reduce local GHG emissions, a step that cities must make as a condition of joining the CCP,[302] a city "climatises" its environmental policy by making climate change a key

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[297] Betsill & Bulkeley, *supra* note 158 at 485-86; Harriet Bulkeley, "Reconfiguring environmental governance: Towards a politics of scales and networks" (2005) 24:8 Political Geography 875.
[298] Rice, *supra* note 35 at 931.
[299] Betsill, *supra* note 279; Bulkeley & Betsill, *supra* note 9.
[300] Rice, *supra* note 35 at 931; Betsill, *supra* note 279 at 398.
[301] Rice, *supra* note 35.
[302] ICLEI, *supra* note 277.

consideration in the development and implementation of all environmental policies.[303] Secondly, the broader regulatory competences of a city are "carbonised" so that all areas within the regulatory competence of city governments are related to causes of climate change, such as the unsustainable growth of suburbanisation and exhaust emissions from traffic.[304] Finally, through the process of calculating a city's emissions, the first step in CCP's 'five milestone' process, Rice believes that the problem of climate change finally becomes localised through the "territorialisation of carbon", as a certain number of carbon emissions become "assigned" to the city.[305] In other words, the CCP's 'five milestone' process is "localising climate change in a way that makes it meaningful to local decision-makers" and citizens.[306] Although city governments continue to implement initiatives within the same areas they always have, once their actions are linked to the cities' carbon emissions, they can describe them as climate initiatives. Due to the prominence of climate change abatement as an important and worthy goal, these initiatives will be more likely to gain an environmentally friendly public's acceptance. For example, building a new bike path now not only adds to the city's recreational services, but is capable of being extolled as reducing the cities' GHG emissions from car exhaust fumes as well.

Cities can also exploit climate change to gain financial resources, as the benefits of climate change policies can be linked directly to additional cost savings.[307] Economic co-benefits can offset the costs of climate change mitigation actions to a large degree, as the example of energy efficiency measures can demonstrate.[308] Reducing the energy consumption of existing buildings is vital to reducing GHG emissions from cities, as more than half of today's buildings will still be in use in 2050 and it is less energy intensive to undertake cost-effective energy savings retrofits, than to demolish and construct new buildings.[309] Cities that have undertaken such energy efficiency

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[303] Rice, *supra* note 35 at 932.
[304] *Ibid.*
[305] *Ibid* at 934.
[306] Bulkeley & Betsill, *supra* note 12 at 188.
[307] Betsill, *supra* note 279.
[308] Engel, *supra* note 84 at 62; Stewart, *supra* note 62 at 690.
[309] ARUP, *supra* note 113 at 35.

measures have illustrated that, although energy efficiency policies may require up-front funding, this money will ultimately be repaid in energy cost savings, which can then be used to fund other climate change actions.[310] Rather than being seen as taking finances away from other efforts, cities exploring climate change mitigation options are "investing in their communities".[311]

In fact, this reframing of climate change as providing economic benefit has been so successful that, from an analysis of the laws and policies currently being adopted by SNGs one can extract an emerging pattern of convergence around measures that will provide cost savings and have short payback periods[312]: upgrading streetlights, energy efficiency retrofits in buildings, landfill gas recovery systems and congestion charges all fit this category. To take landfills as an example, landfill gas recovery systems capture the methane gas generated by decomposing waste and pipe it to facilities to produce heat and electricity.[313] Vancouver has developed a landfill gas recovery system exemplary of the co-benefit principle, as it not only reduces methane emissions from the landfill, but also generates revenue for the city through the sale of the methane gas.[314] Another popular action undertaken by city network members is the upgrade of streetlights to efficient Light-Emitting Diodes (LED) or Compact Fluorescent Lighting (CFL) bulbs and even solar-powered streetlights.[315] For example, twenty C40 cities have undertaken to replace inefficient street lights, with Los Angeles dedicated to replacing 140,000 street lights to LEDs over a five year process.[316] As of April 2011, Los Angeles had already installed 40,000 LEDs, achieved a 58 per cent energy reduction for

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[310] Betsill & Bulkeley, *supra* note 158 at 482.

[311] Megan Meaney, Director, Canada Office, ICLEI in Partners for Climate Protection, *National Measures Report 2010*, online: <http://www.iclei.org/fileadmin/user_upload/documents/Global/Progams/CCP/CCP_Reports/ICLEI_Canadian_National_Measures_Report_2010_English.pdf> at 1.

[312] Kirsten H. Engel, "Whither Subnational Climate Change Initiatives in the Wake of Federal Climate Legislation?" (2009) 39:3 Publius: The Journal of Federalism 432 at 443. See also Table 1 below, for more details on this convergence.

[313] ARUP, *supra* note 113 at 56.

[314] Partners for Climate Protection, *supra* note 313 at 21.

[315] *Ibid;* Cities for Climate Protection New Zealand, *Actions Profile*, (2009) online: <http://www.iclei.org/index.php?id=10829>; CCP Australia, *Local Government Action on Climate Change*, online: <http://www.iclei.org/index.php?id=10829>. Seven cities in Canada, numerous municipalities in Australia and twelve C40 cities in New Zealand have also committed to upgrading their streetlights.

[316] ARUP, *supra* note 113 at 74.

street lighting, and saved over US$1.4 million annually.[317] Momentum needs to continue for cities to find these co-benefits in more financially and politically difficult climate change policies, once this low hanging, low-cost fruit has all been picked.

Another example of the effective diffusion of the co-benefits of climate change policies can be seen by the recent backlash against the CCP in the USA by the Tea Party due to ICLEI's association with the United Nation's Agenda 21, a comprehensive plan for global, national and local environmental action.[318] Because cities of the CCP have been adopting climate change-focused laws and policies in areas such as urban planning, traffic and waste management, the Tea Party is targeting these as UN-intervention in the domestic regulation of American cities, via the CCP campaign.[319] Paradoxically, were cities adopting these same laws and policies without reference to their climate change benefits, they may not have been targeted. However, US city members have been leaving the CCP campaign and reversing policies that 'hook' onto climate change as a policy rationale.[320]

*3.2.1.2 Collective learning via network meetings*

Collective learning is a concept promoted by Slaughter, which refers to the production of new information or knowledge through dialogue and working closely together.[321] Meetings, events and workshops[322] are one primary way in

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[317] *Ibid.*

[318] United Nations Department of Economic and Social Affairs, *Agenda 21: The United Nations Programme of of Action from Rio,* online: <http://www.un.org/esa/dsd/agenda21/>. The 'Tea Party' is a conservative populist political movement that emerged in 2009 in the USA. *What is the Tea Party?,* online: <http://www.teaparty.org/about.php>. According to its website, "The Tea Party is a grassroots movement that calls awareness to any issue that challenges the security, sovereignty, or domestic tranquillity of our beloved nation, the United States of America."

[319] Boyd Cohen, *Tea Party Opposes ICLEI and Sustainable Development in Cities*, online: <http://www.triplepundit.com/2011/07/tea-party-opposes-iclei-sustainable-development-cities/>.

[320] For example, Fayetteville, Arkansas and Carroll County, Maryland are not renewing their membership in ICLEI: Virginia Right, *Tea Party Report: Fayetteville (AR) says no to ICLEI renewal! Victory!,* online: <http://www.varight.com/news/tea-party-report-fayetteville-ar-says-no-to-iclei-renewal-victory/>; Christian Alexandersen, "Commissioners sever ties with environmental group over policy differences" *Carroll County Times* (21 January 2011) online: <http://swvateapartyab.org/?p=738>.

[321] Slaughter, *supra* note 150 at 192; Slaughter, *supra* note 9 at 308.

[322] ICLEI, *supra* note 277. ICLEI hosts a variety of meetings for the world's cities, including the Municipal Leaders' Summit, the World Mayors' Council on Cliamte Climate and the ICLEI World Congress; C40 Initiative, *C40 Events*, online: <http://live.c40cities.org/c40-events/>.The C40 Initiative organises internal workshops for C40 member cities, such as the

which all five networks facilitate discussion and debate between SNG regulator peers, leading to problem solving, new insights and shared understandings, both of potential solutions and also the similar challenges faced by SNGs across the world.[323] Consequently, SNGs gain peace of mind that they are not alone in their climate change efforts. Direct links between SNG regulators, governors and mayors are forged, leading to on-going partnerships and these personal connections reinforce the overall effectiveness and value of the network to its members.[324] The transfer of ideas and best practice experiences between SNGs has led members to find inspiration in the success stories of other SNGs and to implement similar policies at home. For example, the catalyst for Sao Paulo's disaster risk management and climate change adaptation plan was an idea the mayor brought back from a C40 meeting.[325] This phenomenon of leading by example is the focus of section 3.2.2.

Just as the CCP and C40 networks are utilising collective decision-making to enable close links between individual member cities to emerge, the ACCCRN's methodology is facilitating collective decision-making among a

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annual C40 Leadership Summit and C40 Sustainable Communities workshop, held in March 2012 in Melbourne, Australia. Its members also have a presence at a variety of external meetings, such as the OECD Roundtable of Mayors and Ministers, the Transit Leadership Summit, and the Global Energy Summit; Cristina Rumbaitis del Rip, "Asian Cities Climate Change Resilience Network", (Presentation delivered at the Proceedings of the Cities and Resilience Dialogue: Progress and Challenges in Addressing Urban Adaptation in Asia, Bangkok, 2009) [unpublished]. The ACCCRN hosts city exchanges and sectoral meetings to bring city members together. The ACCCRN Knowledge Forum regularly convenes city members to share learning and provides an online resource for continued dialogue; Asian Cities Climate Change Resilience Network, *supra* note 287; Cities for Climate Protection New Zealand, *supra* note 315 at 5. The New Zealand chapter of the CCP campaign provides information on more local meetings that take place between the New Zealand city members, the Oceania members, as well as local workshops and forums.

[323] Engel, *supra* note 312 at 444; C40 Initiative, *Fact Sheet: C40 Cities Climate Leadership Group* (2011) online: <http://c40citieslive.squarespace.com/storage/Fact%20Sheet%20C40%20Cities%20Climate%20Leadership%20Group%204.26.12.pdf>. For example, the C40 network has as one of its goals to "bring the world's megacities together in meaningful exchanges to speed up the global adoption of climate policies and programs that have been demonstrated to work in one or more member cities".

[324] Betsill & Bulkeley, *supra* note 158 at 490; Bulkeley & Betsill, *supra* note 11 at 187.

[325] D. Hoornweg *et al*, *Cities and Climate Change: Responding to an Urgent Agenda* (Washington D.C.: World Bank, 2011) at 203-05. Judy L. Baker, *Climate Change, Disaster Risk and the Urban Poor: Cities Building Resilience for a Changing World: Sao Paulo Case Study Overview* (Washington D.C.: World Bank, 2012). In Sao Paulo, climatic changes are expected to produce heavy rainfalls, which are predicted to flooding and landslides within the city. Emergency disaster plans are developed to address these climate hazards.

broader group of stakeholders than network members exclusively. Through Shared Learning Dialogues, in which a range of relevant stakeholders such as local governments, civil society, donors, private sector, academic institutions and other technical partners, participate to mutually identify and solve key climate change resilience problems, the ACCCRN facilitates collective learning beyond its city government membership.[326] The ACCCRN seeks to improve the climate resilience actions and to achieve stakeholder "buy in" by including all affected people in decision-making, from the very beginning.[327] The C40 Initiative also seeks to influence industry stakeholders beyond its city government members, by inviting businesses, industry and academics to its meetings, to contribute to collective decision-making.[328]

Within the CCP, as a 'broad and shallow' network, the 'five milestone' process has facilitated a dialogue between individual city members and the network itself, through the process of codifying the experience and knowledge gained from the successes and failures of actions undertaken by member cities. In the spirit of true reciprocity, those cities that have benefitted the most from the network are those that have engaged most actively in the 'five milestone' process through monitoring and reporting on GHG emission reductions to the CCP and regular participation in CCP workshops and events.[329] These frequent interactions are found to lead to shared learning for the CCP itself and the cities, with the CCP campaign able to use the reported experiences of the cities to develop programmes for its members and improve the 'five milestone' process and the cities able to exploit the financial, technical and political resources offered by the CCP more effectively than others.[330] Yet, Betsill and Bulkeley acknowledge that this open dialogue with the CCP is not the norm, and in particular in cities where there is only weak environmental

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[326] Asian Cities Climate Change Resilience Network, *Shared Learning Dialogues*, online: <http://www.acccrn.org/about-acccrn/acccrn-methodology/shared-learning-dialogues>.
[327] Asian Cities Climate Change Resilience Network, *Asian Cities Climate Change Resilience Network*, online: <www.acccrn.org>; Marcus Moench, Stephen Tyler & Jessica Lage, *Catalyzing Urban Climate Resilience: Applying Resilient Concept to Planning Practice in the ACCCRN Program (2009-2011*), online: <http://www.acccrn.org/sites/default/files/documents/ISET_Report_CatalyzingUrbanClimateResilience.pdf>.
[328] C40 Initiative, *supra* note 323.
[329] Bulkeley & Betsill, *supra* note 12 at 188.
[330] *Ibid;* Betsill & Bulkeley, *supra* note 158 at 482-483.

sentiment, interaction with the CCP is far less advanced.[331] Nevertheless, this interaction between the network and its city members is vital to the ongoing relevance and effectiveness of the network, as reciprocity of information and resources ensures that both the network and the city gain the most out of their membership. This is returned to in section 3.3, during the discussion of the enforcement of voluntary network decisions.

*3.2.1.3 Development and adoption of model legislation*

Reflecting the theory of unanimous collective decision-making within 'narrow and deep' networks, the WCI and the RGGI have facilitated direct collaboration between members to design and adopt model legislation by their members in order to reach their goal of implementing a regional cap-and-trade scheme. Despite their relatively formal contractual relationship, formed with a Memorandum of Understanding between the States and Provinces,[332] the work of the WCI and RGGI most closely resembles a decentralised forum for discussion, in which members meet to work directly together towards a common goal.

State and provincial members of the WCI and RGGI spent many years collaboratively designing the detailed structure and elements of their cap-and-trade schemes.[333] Once agreed upon, these design features were formalised in model legislation, known as a 'Model Rule' in the RGGI and the 'Detailed Design' in the WCI.[334] Each member state or province has adopted, or will adopt in the case of the WCI, the model legislation into their domestic laws, leading to convergence of individual state and provincial laws. This convergence permits the linking of the domestic laws and the mutual

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[331] Betsill & Bulkeley, *supra* note 158 at 483.

[332] Western Climate Initiative, *WCI Governors' Agreement*, online: <http://www.westernclimateinitiative.org/component/remository/general/orderby,1/page,2/>; Regional Greenhouse Gas Initiative, *supra* note 293.

[333] Western Climate Initiative, *supra* note 292; Western Climate Initiative, Media Release, "The WCI Partners Release Their Comprehensive Strategy to Address Climate Change and Spur a Clean-Energy Economy" (2010) online: Western Climate Initiative <http://www.westernclimateinitiative.org/the-wci-cap-and-trade-program/program-design>. The elements of a cap-and-trade scheme include setting the emissions cap, the scope of the scheme, the allowance allocation method and the compliance procedures.

[334] Regional Greenhouse Gas Initiative, *Regional Greenhouse Gas Initiative Model Rule*, online: <http://www.rggi.org/docs/Model%20Rule%20Revised%2012.31.08.pdf>; Western Climate Initiative, "*Detailed Design*", online: <http://www.westernclimateinitiative.org/component/remository/general/program-design/Detailed-Design/>.

recognition of one another's carbon allowances to run the regional cap-and-trade scheme.[335] The Model Rule and Detailed Design set the core structural features of the cap-and-trade scheme, but the process of transforming this model legislation into domestic law allows for some divergence in the final legislation adopted, since "variations in jurisdictional authorities, regulatory procedures, and administrative requirements inevitably lead to differences in the manner in which program rules are written".[336] The WCI and RGGI are exemplars of the strength of government networks whose members are able to transform the model legislation developed collaboratively by members into individual domestic legislation.

The WCI has continued this collaborative policy design process to develop 'complementary policies' to its cap-and-trade scheme. These complementary policies will be agreed upon by members and subsequently provided to all as a suite of measures aimed at further reducing GHG emissions and removing market barriers to the effective operation of the ETS.[337]

*3.2.1.4 Convergence of laws and policies*

The implementation of networks' soft laws into the formal domestic legal systems of SNG members, as well as the influence of policy and law examples from 'leader' members is proposed to be one reason for the emergence of regulatory uniformity in member SNGs across the issue area of climate change. As discussed above, the WCI and RGGI have already led to a harmonisation of ETS legislation between member states and provinces. This section focuses on an emerging convergence or harmonisation of laws and policies across city members of the C40 and CCP.

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[335] Western Climate Initiative, *supra* note 292; Regional Greenhouse Gas Initiative, *Program Design*, online: <http://www.rggi.org/design>; Regional Greenhouse Gas Initiative, *State Statutes and Regulations*, online: <http://www.rggi.org/design/regulations>.

[336] Western Climate Initiative, *supra* note 292 at 6.

[337] Western Climate Initiative, *Final Complementary Policies White Paper*, online: (2010) <http://www.westernclimateinitiative.org/dmdocuments/Complementary%20Polcies%20-%20Final%20White%20Paper%20052010.255.pdf>. For, some cost-effective emission reduction actions do not respond to the price signal created by a carbon market, for example, "in commercial buildings, the cost of improvements is typically borne by the owners, however, the benefits are enjoyed by the tenants through lower energy bills. The complementary policies of the WCI will address this market barrier by providing a model design for a commercial energy efficiency program, which member states and provinces can translate into domestic laws.

This investigation of potential convergence between city laws, policies and other measures was based on these networks' reports described in the introduction to this chapter: the C40 report and a collation of CCP chapters' progress reports.[338] The climate-related areas that demonstrated the most convergence were those of public transport improvements, cycling infrastructure, energy efficiency measures, urban planning, green building codes, congestion planning, landfill gas recovery systems and streetlight upgrades. Across these areas, the diversity of different measures being utilised was recorded to demonstrate how cities are supplementing their legal authority over climate-related areas with informal instruments, such as using their purchasing power to order green products, introducing incentive schemes to change community behaviour or transforming their internal policies in an area. Direct policies are those that can be implemented when cities have direct power over the asset, such as urban roads and municipal buildings.[339] The results of the analysis are presented below in Table 1.

[338] The CCP chapters analysed in this investigation were the USA, Australia, New Zealand, Japan and Canada. Reports for the other Latin American, Asian and African chapters were not available.
[339] ARUP, *supra* note 113.

**Table 1: Convergence among networked city policies and measures**

| Type of mechanism / Climate-related area | Emissions trading scheme | Public transport improvements | Cycling infrastructure[340] | Energy efficiency measures[341] (residential housing) | Energy efficiency measures (municipal buildings) | Urban planning for compact cities | Green building codes[342] | Congestion planning[343] | Landfill gas recovery systems[344] | Streetlight upgrades[345] |
|---|---|---|---|---|---|---|---|---|---|---|
| **Laws and regulations** | **11** states and provinces have adopted ETSs via the WCI and RGGI | | | **> 40** cities have performed energy audits and energy efficiency retrofits[346] | | **> 15** cities are rezoning city land to enable the development of compact cities[347] | **> 35** cities are enacting green building codes[348] | | | |
| **Direct policies** | | **> 30** cities have improved their public transport infrastructure, including the fuel efficiency of vehicles[349] | **> 40** cities have improved cycling infrastructure[350] | | | | | | **> 50** cities have adopted landfill gas recovery schemes[351] | |

[340] Bicycle infrastructure includes dedicated cycle lanes, signage and bicycle parking.
[341] Energy efficiency measures include changing to more efficient light bulbs, appliances and equipment, better insulating the buildings and adopting heating and cooling efficiencies, such as more combined heat and power (CHP) systems.
[342] Requiring new buildings to adhere to green standards is vital, as buildings constructed today will shape the energy use of cities for many decades to come.
[343] Congestion planning policies are implemented due to a city's ownership of its roads.
[344] Landfill gas recovery plants capture the methane gas generated by decomposing waste, and pipe it to facilities to produce heat and electricity.
[345] This measure includes the upgrade of streetlights to Light-Emitting Diodes (LED) and/or Compact Fluorescent Lighting (CFL) bulbs and even solar-powered streetlights.
[346] Cities for Climate Protection New Zealand, *supra* note 315. In New Zealand, councils are providing support to households through energy audits, the Warm and Healthy Homes retrofit programme, insulation retrofits, subsidies for solar hot water heaters and provision of energy saving products, such as LED light bulbs. ICLEI USA, *Measuring Up*, online: <http://www.iclei.org/index.php?id=10829>. Energy audits, with suggested follow-up energy efficiency actions, have also been undertaken in residential homes, as well as in businesses, in such CCP US cities as Babylon, NY, Berkeley, CA, Sonoma County, CA, and Boulder County, CO. ARUP, *supra* note 113. Chicago has retrofitting 13,341 housing units to be more energy efficient, and Houston provided free energy efficiency retrofits to 5,300 low income homes between 2006 and 2009.
[347] ARUP, *supra* note 113. Cities are required to adopt laws or regulations to build compact cities by undertaking such actions as the rezoning of city land for public transport purposes.
[348] *Ibid.* Most of these green building codes only cover large buildings or residential developments, rather than individual houses. In New York, the mayor has gone one step further and also mandated energy efficiency upgrades for any renovation and alteration projects.
[349] *Ibid,* at 32. Switching the fuel used in public transport vehicles to low or no-emission fuels is also a popular action for cities, with sixteen out of 25 reporting C40 cities developing high efficiency, ultra-low emission buses, mainly through direct projects, enabled by their ownership of road and city public transport modes

| Type of mechanism / Climate-related area | Emissions trading scheme | Public transport improvements | Cycling infrastruc-ture[340] | Energy efficiency measures[341] (residential housing) | Energy efficiency measures (municipal buildings) | Urban planning for compact cities | Green building codes[342] | Congestion planning[343] | Landfill gas recovery systems[344] | Streetlight upgrades[345] |
|---|---|---|---|---|---|---|---|---|---|---|
| **Purchasing power** | | | | | **> 30%** of CCP cities have taken action to reduce the energy consumption of municipal buildings[352] | | | | | **> 40** cities have updated their streetlights to more efficient bulbs.[353] |
| **Incentive structure** | | | | **> 6** Japanese cities provide subsidies for households to adopt solar hot water systems[354] | | | | Drivers in **10** megacities must pay to enter the central business district | | |
| **TOTAL ACTIONS:** | **More than 300** | | | | | | | | | |

[350] ICLEI USA, *supra* note 346 at 44-45.In the American CCP chapter, Salt Lake City and Chicago have both undertaken programmes encouraging the adoption of cycling, and investing in cycling infrastructure; Cities for Climate Protection New Zealand, *supra* note 317. In New Zealand, the cities of Hamilton, Christchurch, Canterbury, Palmerston North, Dunedin, Waitakere and New Plymouth have all developed comprehensive new bike paths and bike racks, to encourage cycling; CCP Australia, *supra* note 315 at 15 online. Numerous councils in Australia have also extended bicycle infrastructure, and the CCP Australia cities of Hobart, Clarence, Glenorchy, Brighton and Kingborough in Tasmania have notably gained funding to develop a Regional Bicycle Network.

[351] Cities for Climate Protection New Zealand, *supra* note 315; CCP Australia, *supra* note 315. At least thirty per cent of Australian CCP cities and twelve New Zealand CCP members have adopted such a programme.

[352] ICLEI USA, *supra* note 346; Cities for Climate Protection New Zealand, *supra* note 315; CCP Australia, *supra* note 315; Partners for Climate Protection, *supra* note 315. Measures to reduce the energy consumption of municipal buildings, including changing to more efficient light bulbs, appliances and equipment, better insulating the buildings and adopting heating and cooling efficiencies, such as more combined heat and power (CHP) systems have been undertaken by at least six New Zealand councils and numerous Australian and American cities. In the Canadian CCP chapter, called 'Partners for Climate Protection', reducing the energy consumption of municipal buildings made up 36 per cent of all city actions.

[353] Cities for Climate Protection New Zealand, *supra* note 315; CCP Australia, *supra* note 315; Partners for Climate Protection, *supra* note 315. Seven cities in Canada, numerous municipalities in Australia and twelve C40 cities in New Zealand have also committed to upgrading their streetlights.

[354] ICLEI Japan Office, *CCP Japan Campaign Report 2009*, online: <http://www.iclei.org/index.php?id=10829>.

This preliminary investigation into the actions of cities of the CCP and C40 indicates that convergence of climate change measures is emerging, which may be partly influenced by cities participation in networks. Despite the small number of converging policies compared to the number of participating cities in the networks, it should be remembered that this sample is only based upon the voluntary reporting of those cities that had the resources to do so, and the CCP chapters that produced a progress report. This would imply that this investigation only touches the tip of the iceberg. This preliminary level of convergence leads to a tentative conclusion that the collaborative nature of networks leads to close links between cities that implement similar laws and policies to one another, based upon best practice examples of leader jurisdictions and programmes developed by the network itself. Alternately, the convergence could also be explained by a general growing awareness of climate change policies among cities or the political salience of climate change, as discussed in section 2.4.4. Given the co-benefits of many climate change policies that also regulate other environmental and social areas, it is hard to reach any firm conclusion without further empirical research as to why this convergence is occurring.

In summary, all five SNG climate change networks are performing a collective decision-making function, which is leading to the development and adoption of model legislation, the forging of personal connections between foreign regulators, and the reframing of global norms. Discussions between members have inspired members to enact laws and policies based on the successes of their foreign colleagues, and may be contributing to a convergence of policies. Moreover, the ACCCRN and C40 networks are expanding their collaborative learning beyond their membership, to include industry, business, civil society groups and academics in the development of innovative solutions. The model legislation developed in the WCI and the RGGI are most representative of the particular benefit of government networks identified by Anne-Marie Slaughter – these networks' state and provincial members have transformed network 'soft law' into domestic legislation that have been linked together to form the first regional ETSs in North America.

### *3.2.2 Leading by example*

A notable example of how first movers can motivate a 'follow the leader' mentality is that of Barcelona, a CCP member and a leader in the design of the solar ordinance law.[355] Since 1999, the city of Barcelona has required all new buildings to have solar thermal water systems to cover sixty per cent of the buildings' sanitary water heating needs.[356] Since 1999, other Spanish cities, including Sevilla, Valladolid, and Madrid, and the state of Catalonia have adopted similar policies.[357] In 2006, the Spanish Government adopted the Codigo Tecnico de la Edificacion – Technical Building Code – legally obliging thirty to seventy per cent of the domestic hot water demand in all new buildings, and all buildings being substantially renovated, to be generated using solar thermal energy.[358] This is an excellent example of how an individual city's laws can lead by example to influence fellow cities, states and national governments to adopt similar laws.

As mentioned above, the C40 Initiative and CCP campaign have both benefitted from the demonstration of successful GHG emission reduction policies carried out by first mover cities that have been replicated by other network members. For example, a trend is emerging among C40 and CCP city members of investing in bicycle infrastructure and promoting cycling over private vehicle use. Exposure to the cycling policies of the C40 cities of Copenhagen and Amsterdam, in which bicycles are given dedicated cycle lanes and bicycle parking throughout the city, has motivated other cities to follow suit.[359] Cities are an ideal platform for shifting the transport habits of citizens from private vehicles to lower emission options, such as public transport and cycling, since their higher population density

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[355] A solar ordinance law is a building code requiring the installation of solar energy systems in new or renovated building developments.

[356] ICLEI, *ICLEI International Progress Report: Cities for Climate Protection*, online: <http://www.iclei.org/fileadmin/user_upload/documents/Global/Progams/CCP/CCP_Reports/ICLEI_CCP_Internat_2006.pdf> at 9,

[357] European Solar Thermal Industry Federation, *Solar Ordinances*, online: <http://www.estif.org/policies/solar_ordinances>.

[358] *Ibid.*

[359] ARUP, *supra* note 113 at 28. In Copenhagen, 36 per cent of trips to work or education are made by bicycle, and this number is 22 per cent in Amsterdam.

warrants the investment in alternative transport infrastructure.[360] Consequently, 'compact cities' are another emerging trend that concentrates new developments around areas accessible by public transport, or vice versa, extends public transit options strategically to existing areas of development.[361] 'Compact city' policies aim to reverse the trend of urbanisation, as the design of sprawling suburbs locks in unsustainable development patterns for decades, in particular regarding private transport use.[362] Therefore, in Buenos Aires, for example, urban expansions are limited to areas of existing major mass transit infrastructure and New York has rezoned areas to direct development and growth towards those areas with existing strong public transit access. Hong Kong has prioritised expansion to areas where local railways already exist.[363]

Another example from the field of public transport is the rapid bus transit programme, the Bogotá Transmilenio, in Bogotá, Columbia implemented in 1998. It has become the inspiration for similar high-speed bus services from suburbs into the central business district (CBD).[364] To reduce traffic congestion further, the Central London Congestion Charging Scheme, introduced in 2003, has been the inspiration for many other cities in the C40 Initiative to adopt some form of urban access restriction for private vehicles. Stockholm and Milan have adopted similar schemes to London, where drivers are required to pay a £10 daily Congestion Charge between 7am and 6pm in inner-city London.[365] Beijing, Rome and Seoul have implemented restrictions on cars entering the CBD based on time or day.[366] Berlin, London, Rome and Paris have also adopted Low Emission Zones, based upon Stockholm's model, which restrict the most polluting vehicles from the CBD, including trucks and vans.[367]

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[360] *Ibid* at 76.
[361] *Ibid* at 78.
[362] Corfee-Morlot *et al.*, *supra* note 138 at 18; Trisolini & Zasloff, *supra* note 65 at 80.
[363] ARUP, *supra* note 113.
[364] *Ibid* at 32.
[365] Transport in London, *supra* note 121.
[366] ARUP, *supra* note 113 at 28.
[367] *Ibid* at 34.

Therefore, it is clear that network members' demonstration of successful low-emission or climate resilient laws and policies can provide a template for other SNG members to follow.

*3.2.2.1 Influencing national governments*

Networks themselves are also leading by example, exemplified by the RGGI and WCI's aim to influence the design of future national ETSs in the US and Canada and to prompt the adoption of market-based climate change action by these higher jurisdictions.[368] While a detailed discussion of the design of the two ETSs is outside the scope of this thesis, some insights into the way in which these two networks are seeking to influence national legislators and decision-makers through the successful design and implementation of an ETS are provided.

The RGGI has been regulating carbon emissions from 209 power plants across participating states for three years.[369] The WCI will commence operation in 2013, with California and Quebec expected to link their individual cap-and-trade systems during 2012.[370] The RGGI and WCI are both providing valuable experience with the tangible infrastructure and mechanisms of an effective ETS, such as an online emissions-tracking system and an emission allowance auction process to their member states and are seeking to extend this learning to national

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[368] Regional Greenhouse Gas Initiative, *supra* note 294; Western Climate Initiative, Media Release "Stakeholder Update: WCI Unveils Steps To Develop North American Greenhouse Gas Emissions Trading Program", online: <http://www.westernclimateinitiative.org/news-and-updates>; Engel, *supra* note 846 at 66.

[369] Regional Greenhouse Gas Initiative, Media Release, "Ten States Mark Second Anniversary of Regional Program to Reduce Greenhouse Gas Emissions", online: (2010) <http://www.rggi.org/docs/Auction_9_News_Release_MM_Report.pdf>.

[370] Western Climate Initiative, *WCI Emissions Trading Program Update*, online: <http://www.westernclimateinitiative.org/document-archives/Partner-Meeting-Materials/Jan-12-Stakeholder-Update-Presentation/%20>; Carl Fink, Dirk Michels & Mariah R. Kennedy, "California Proposes Revised Cap-and-Trade Regulations Providing for Linkage with International Cap-and Trade Market" (18 May 2012) online: Legal Insights <http://www.jdsupra.com >. RSQ 2009, c Q-2, ss 31, 46.1, 46.5, 46.6, 46.8 to 46.16 and 115.34 [Bill 42]. The Quebec cap-and-trade program will cover approximately 75 companies (mainly aluminum and mining companies), with restrictions applying to large covered emitters in 2013 and restrictions applying to all other covered emitters beginning in 2015. US, AB 32, *Global Warming Solutions Act,* 2005-06, Reg Sess, Cal, 2006 [AB32]. The cap-and-trade program emissions limitations will cover 360 businesses representing 600 facilities that are collectively responsible for 85 percent of California's GHG emissions.

governments.[371] In addition, the very process of designing the schemes in a manner acceptable to all members will have produced a great deal of learning that ought to increase the political confidence in a federal scheme.[372] In particular, the first three years of the RGGI have demonstrated the importance of setting a strict cap on emissions, to ensure emission reductions, and the benefits of auctioning emissions. The emissions cap set by the RGGI from 2009-2011 was too high to require much deviation from business as usual and thus the ETS has yet to meaningfully reduce GHG emissions from the 209 power plants.[373] However, it can be expected that, with the trading and auction infrastructure now in place and if the emission reduction cap is lowered, the RGGI will result in carbon emission reductions. In fact, the RGGI has an impressive auctioning system in place, in which almost 100 per cent of its allowances are auctioned, raising revenue that is invested in low-emission technologies and energy efficiency measures.[374] As the WCI has yet to commence, it is unable to claim any emission reductions to date. However, Quebec's emission cap is an admirable target of twenty per cent below 1990 levels by 2020, and California has capped emissions to reach 1990 levels by the year 2020, with the ultimate aim of reducing emissions to eighty per cent of 1990 level by 2050.[375]

Moreover, the oft-held argument against the adoption of an ETS based upon the view that such a scheme is detrimental to the regional economy[376] is being

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[371] Regional Greenhouse Gas Initiative, *supra* note 294.
[372] Jill Duggan, *Synchronized Swimming: The Regional Greenhouse Gas Initiative* (2010) online: World Resources Institute <http://www.wri.org/stories/2010/02/synchronized-swimming-regional-greenhouse-gas-initiative>.
[373] Regional Greenhouse Gas Initiative, *The RGGI CO2 Cap*, online: <http://www.rggi.org/design/overview/cap>. 188 million short tons of CO2 per year, approximately 25 million short tons higher than the 2006-2008 average, noting that this was approximately 20 million less than previous three-year averages, due to the circumstances of economic decline described above. However, from 2012-2014, the cap is 165 million short tons of CO2 per year and thereafter will decrease by 2.5 per cent annually, to reach the overall emission reduction aim of 10 per cent by 2018.
[374] Regional Greenhouse Gas Initiative, *supra* note 294.
[375] Bill 42, *supra* note 370; AB32, *supra* note 370.
[376] See e.g. Barrie Cassidy, "The world is abandoning emissions trading: Abbott" The Australian Broadcasting Corporation (ABC) online: ABC <http://www.abc.net.au/insiders/content/2012/s3541262.htm>; International Emissions Trading Association, "Pacific Rim Climate Workshop - Summary Report" in International Emissions

quashed by the RGGI and WCI's publication of real economic data to the contrary. An economic analysis undertaken by the WCI indicates that if the WCI members reach their goal of reducing emissions to fifteen per cent below 2005 levels by 2020, they will realise a net cost saving of approximately US$100 billion.[377] In addition, the cap-and-trade scheme implemented by the RGGI only raised electricity bills by an average of 0.24 to 0.61 per cent, or 46 cents a month.[378] It should be noted that this was in part due to the relatively unambitious cap on GHG emissions and the particularly favourable circumstances of the global economic downturn lowering electricity use and thus prices, as well as moderate temperatures in the north-east USA lessening demand for heating and cooling.[379] In addition, the proceeds from the carbon allowance auctions raised US$993 million between 1 January 2009 and March 2012, eighty per cent of which was re-invested in low-emission and energy efficiency programs, which will result in cost savings across the RGGI economy.[380]

Unfortunately, member states from both the WCI and RGGI have left the networks, reducing the membership of the RGGI to nine states and the WCI to California and four Canadian provinces.[381] Arguably, this is less important if one argues that a major aim of the two networks is experimentation with various policy options, in order to influence the design of a future national scheme. Although the RGGI and WCI are yet to lead to the adoption of similar ETSs in the USA and Canada – which given their relative infancy, is unsurprising – both networks are designing their schemes with an eventual national cap-and-trade

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Trading Association, ed., *Pacific Rim Climate Workshop - Summary Report: Proceedings of the Pacific Rim Climate Workshop, Vancouver, 2012*.

[377] Western Climate Initiative, *supra* note 333 at 2; Western Climate Initiative, *WCI Releases Updated Economic Analysis,* online: <http://www.westernclimateinitiative.org/news-and-updates/119-wci-releases-updated-economic-analysis>.

[378] Regional Greenhouse Gas Initiative, *supra* note 294.

[379] Robert Stavins, *Low Prices a Problem? Making Sense of Misleading Talk about Cap-and-Trade in Europe and the USA*, (2012) online: <http://www.robertstavinsblog.org/>.

[380] Regional Greenhouse Gas Initiative, *supra* note 296; Paul J. Hibbard *et al*, *The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States: Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period* (The Analysis Group, 2011).

[381] New Jersey left the RGGI in May 2011 and Arizona, Montana, New Mexico, Oregon, Utah and Washington pulled out of the WCI in November 2011.

system in mind. For example, the Canadian provincial members of the WCI are developing a unified GHG emissions reporting template with Environment Canada, the federal environmental ministry, to avoid duplication of reporting requirements.[382]

Leading by example has proven itself to be one of the most effective processes in influencing development and adoption of climate change laws and policies both in network members and in other levels of government. The active processes of demonstrating the effectiveness of certain legal instruments and policy measures in individual SNGs, as well as the discussion of the successes and failures of diverse policies in different SNGs, have been powerful means of creating legal change and action. The C40 and CCP have benefitted from first mover cities acting as demonstration examples for other cities, and the RGGI and WCI have also taken the lead to influence the design of future national ETSs in the US and Canada.

### *3.2.3 Information dissemination*

Although chapter 2 questioned the effectiveness of information dissemination as too passive a method of influencing law and policy, in reality all three city networks continue to place a great deal of emphasis on the provision of information to their members. The CCP campaign, C40 Initiative and the ACCCRN all collate best practice guidelines, assembled from city members into guidebooks that both city members and non-members can use to inform themselves of the policy possibilities.[383] However, unlike the CCP and C40 that have been demonstrated to complement information dissemination with more active learning processes, such as the personal connections and member-to-member discussions on the replication of specific policies, as well as the provision of tangible financial and political resources, the ACCCRN's methodology remains focused on information provision. One of the main goals of the ACCCRN is to broaden its influence through the demonstration of a range of replicable

[382] Western Climate Initiative, *supra* note 292 at 7.
[383] ICLEI, *supra* note 355; ARUP, *supra* note 113.

policies and laws.[384] Through the ACCCRN's work in its ten member cities in India, Indonesia, Thailand and Vietnam, it is experimenting with various measures to improve the cities' climate resilience. Once the results from these demonstration laws and policies are known, the ACCCRN will capture both the successes and difficulties experienced by its member cities in publications, in order to 'scale up' its efforts to other cities, regions and countries around the globe.[385] Through targeted dissemination of this information to other cities in the south-east Asian region, and ultimately throughout the globe, the ACCCRN hopes to demonstrate the types of climate resilience measures that cities can undertake.[386]

Currently, the ACCCRN network is in its penultimate 'phase', in which it is implementing the urban resilience demonstration projects.[387] It has therefore not yet lead to the adoption of similar policies and laws in other countries. Betsill and Bulkeley's research has demonstrated that the ACCCRN should complement this information dissemination process with more active processes, such as inviting more cities to participate actively in the network, for example, in order to initiate the replication of the ACCCRN's successful laws and policies in other cities.[388]

### *3.2.4 Improved regulatory capacity*

In chapter 2, the lack of capacity of SNG networks, due to technical and financial limitations or limited political support was highlighted as a barrier to climate change law and policy development. Consequently, the provision of direct and tangible expert and financial aid and political support by SNG networks was heralded in the abovementioned analysis as one of the most beneficial processes,

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[384] Asian Cities Climate Change Resilience Network, *supra* note 286.
[385] *Ibid.*
[386] Asian Cities Climate Change Resilience Network, *ACCCRN: Methodology*, online: <http://www.acccrn.org/about-acccrn/acccrn-methodology>.
[387] *Ibid*. The ACCCRN operates in four phases: the first was the scoping and selection of cities, which was completed in 2010. The second phase was engagement in Shared Learning Dialogues to understand city-level vulnerablilities. The third phase was the implementation of policies and laws to adapt to climate change impacts and the final phase is the replication of such efforts around the world.
[388] Betsill & Bulkeley, *supra* note 158 at 488.

both directly for members, as well as for the maintenance and continued relevance of the network itself, as is discussed in more detail in section 3.3.

*3.2.4.1 Political reputation*

Participation in a network has provided legitimacy and public acceptance for the climate change actions of city governments. Working on climate change actions within a network, SNGs have enhanced their reputation as environmental leaders and brought political kudos to the local authorities involved in the networks. For example, Engel illustrates that a climate change reputation was used to help politicians run for a higher office in California.[389] SNG networks can therefore be presented as networks for leaders.[390] The challenge is now to continue the momentum of these leaders, to encourage them to adopt more ambitious climate change laws and policies and for laggard SNGs to also participate in networks' climate change actions. Whether networks' processes are effective enough to undertake these challenges is yet to be seen. In section 3.3, the continued participation of members in networks is demonstrated to be linked to the gains they receive from the financial and expert aid. With growing awareness that climate change is affecting local areas and is caused by an accumulation of local emissions, it is likely that networks will attract more members as cities realise the necessity to act and the gains available from participation in a network. Until then, networks as leaders should continue to show what is possible and use their advocacy skills to press for greater climate change action by the rest of the world, as explored in section 3.2.6.

*3.2.4.2 Financial resources*

Cities involved in networks find that they are better able to leverage funding to support the development of climate change laws and policies, particularly with the support of their partner organisations. It should be remembered that funding can be a substantial barrier to the adoption of climate-related policies by SNGs, due to their dependence upon funding sources from higher levels of government. The

[389] Engel, *supra* note 312 at 441. Engel argues that an ambitious climate change reputation was used to help politicians run for a higher office.
[390] Kern & Bulkeley, *supra* note 191.

ACCCRN aims to expand financing opportunities for its work in its ten member cities, as well as any cities seeking to replicate its vulnerability strategies, by increasing awareness of the work of the ACCCRN among donors and financing bodies.[391] Moreover, as mentioned in section 3.2.1.2, both the ACCCRN and C40 Initiative aim to forge on-going partnerships between SNGs and the broader community to gain financial assistance and support from industry.[392] In particular, the CCI has made their worldwide purchasing cooperative available to C40 Initiative members, in which cities gain access to volume discounts on energy-saving products and technologies, such as hybrid vehicles and more efficient streetlights.[393] Moreover, in 2011, the C40 entered into an agreement with the World Bank, a step which the C40 hopes will open the resources of the World Bank to C40 members, helping them to obtain financing for climate-related projects.[394]

*3.2.4.3 Expert aid*

In addition, city networks focus on the provision of direct expert support to city officials to help them gain technical proficiency in GHG mitigation options across the many sectors impacted by climate change. The 'five milestone' approach of the CCP provides members with various technical tools for the development, design and implementation of climate change laws. For example, in order to calculate city GHG emissions and to perform the on-going task of tracking emission reductions, CCP members are provided with access to standardised GHG monitoring and reporting software tools to build a GHG emission inventory

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[391] Asian Cities Climate Change Resilience Network, *supra* note 286; Asian Cities Climate Change Resilience Network, *supra* note 327.
[392] C40 Initiative, *C40 Initiative*, online: <http://live.c40cities.org/>; Gail Whiteman *et al*, "Business strategies and the transition to low-carbon cities" (2011) 20:4 Business Strategy and the Environment 251 at 252-253; Asian Cities Climate Change Resilience Network, *supra* note 286.
[393] California Green Solutions, *Cities Benefit from Bulk Purchases of Green Supplies by Clinton Foundation,* online, California Green Solutions: <http://www.californiagreensolutions.com/cgi-bin/gt/tpl.h,content=1342>; Trisolini & Zasloff, *supra* note 65 at 94-95.
[394] C40 Initiative, *C40 and World Bank Form Groundbreaking Climate Change Action Partnership*, online: <http://live.c40cities.org/blog/2011/6/1/c40-and-world-bank-form-groundbreaking-climate-change-action.html>.

and forecast.[395] Similarly, the ACCCRN designed a set of methodologies that it offers cities to assess their risk and vulnerability to climate change.[396] The C40 also runs training programs based on developing a baseline of city GHG emissions, for example, its Climate Positive Development Program.[397]

Networks are improving the financial and human capacity and improving the political feasibility for cities to develop and adopt meaningful climate change mitigation and adaptation laws and policies through the provision of political sway, financial resources and technological know-how that would not available to them without the network.[398] Moreover, these political, financial and expert resources provide the incentive for many city members to join and to remain active members of the networks, which maintain the relevancy and effectiveness of the network as a forum for shared learning support, as will be returned to in section 3.3. [399]

### *3.2.5 Development of network programmes and objectives*

The processes undertaken to design network programmes and set objectives follow the distinction between 'broad and shallow' and 'narrow and deep' networks and are very similar to the processes for collective decision-making. The small number of members of the WCI and RGGI determine their objectives through consensus.[400] In contrast, the three city networks, as actors, and their partner organisations take the lead in setting the policy direction of these networks. For example, the Steering Committee of the C40 Initiative guides the work of the C40 and determines their goals and objectives.[401] The strategic direction and future work of the CCP and C40 is presented to and voted upon by

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[395] For e.g. ICLEI, *HEAT+ Harmonised Emission Analysis Tool*, online: <http://heat.iclei.org/heatplus/downloads/HEATplus_brochure.pdf>.
[396] Rumbaitis del Rip, *supra* note 323.
[397] C40 Initiative, *Climate Positive Development Program*, online: <http://www.clintonfoundation.org/what-we-do/clinton-climate-initiative/c40-cci-cities/climate-positive-development-program>.
[398] Robert W. Kates & Thomas J. Wilbanks, "Making the Global Local" (2003) 45:3 Environment 12 at 21.
[399] Betsill & Bulkeley, *supra* note 158 at 482-83.
[400] See section 3.2.1.3.
[401] C40 Initiative, *supra* note 322.

members at large meetings of the networks, such as the ICLEI World Congress or the C40 Cities Mayors Summit.[402] All three city networks also develop pre-made programmes in areas such as building retrofit, lighting, waste management, transportation and urban planning for city members to implement.[403] For example, the ACCCRN is premised upon the adoption by its ten member cities of the climate resilience projects developed and funded through the ACCCRN and the Rockefeller Foundation.[404] The 'five milestone' process of the CCP campaign was developed by ICLEI. A more specific example comes from the USA chapter of the CCP campaign that has developed a sustainability toolkit to allow cities to replicate New York City's PlaNYC, a long-term, sustainability plan.[405] The toolkit includes guidelines, templates, best practice examples, and other tips, as well as a PlaNYC case study.[406]

### *3.2.6 Advancement of an international climate change treaty*

The five SNG networks are leaders in climate change and campaign for the adoption of similarly stringent climate change mitigation and adaptation actions in governments across the world. The international negotiations that take place within the UNFCCC framework set a vision for climate change abatement, in which SNGs have not been included to date.[407] Including SNG actions in the international negotiations could provide a much-needed boost to the momentum of the climate talks, as SNGs are "zooming past" many nation states in their climate change actions.[408] However, it is important that this inclusion does not overwhelm the negotiations with even more members.[409] Networks provide

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[402] C40 Initiative, *supra* note 322; ICLEI, *ICLEI Climate Program*, online: <http://www.iclei.org/index.php?id=800>.
[403] ICLEI, *supra* note 277; C40 Initiative, *supra* note 392; Asian Cities Climate Change Resilience Network, *supra* note 327.
[404] Asian Cities Climate Change Resilience Network, *supra* note 286.
[405] ICLEI USA, *supra* note 346 at 15-16.
[406] ICLEI USA, *Sustainability Toolkit*, online: <www.icleiusa.org/sustainabilitytoolkit>.
[407] ICLEI, *Submission of ICLEI - Local Governments for Sustainability on Options and Ways for Further Increasing Level of Ambition FCCC/CP/2011/L.10, para.8*, (2012) online: <http://unfccc.int/resource/docs/2012/smsn/ngo/136.pdf>.
[408] ICLEI, *ICLEI Global - Cities' next steps after COP17*, online: <http://www.iclei.org/index.php?id=1487&tx_ttnews%5Btt_news%5D=4764&tx_ttnews%5BbackPid%5D=983&cHash=572ebdb8b7>.
[409] Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 181.

lower-level regulators with a representative voice and strength in numbers to advocate for greater ambition from the international level without being overwhelming. Nevertheless, only the CCP, through their partner organisation ICLEI, has undertaken serious climate advocacy efforts at an international level.

ICLEI seeks to influence the international climate change legal regime by acting as the unified voice of its more than 1000 member governments.[410] Through ICLEI, cities can take a distinct and potentially different stance to the official negotiating position of the nation states in which they geographically reside.[411] ICLEI holds Special Observer status at the UNFCCC's annual COPs, a role that gives it the responsibility to represent the actions and achievements of local governments in official policy inputs to the climate negotiations.[412] It does not, however, provide any decision-making power to ICLEI or to SNGs, which remains reserved for nation states. Nevertheless, ICLEI lobbies for global recognition of the efforts of local governments and a comprehensive post-2012 agreement through the Local Government Climate Roadmap (LGCR) which is facilitated by ICLEI, the C40 Initiative, United Cities and Local Governments and the World Mayors Council on Climate Change.[413]

The LGCR aims to persuade nation states to factor the emission reductions being undertaken by SNGs into their calculations when negotiating GHG reduction targets and thereby commit themselves to more stringent goals.[414] In the same vein, the LGCR seeks to motivate nation states to include city and regional emission reductions in their national GHG inventories, which is not generally done currently.[415] "Our message to national governments is simple: agree on ambitious targets and start reducing now and be confident that if cities are

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[410] ICLEI, *supra* note 355.
[411] Bulkeley & Betsill, *supra* note 12 at 190; Betsill & Bulkeley, *supra* 147 at 147.
[412] Bulkeley & Betsill, *supra* note 12 at 190; ICLEI, *supra* note 355.
[413] ICLEI, *Local Government Climate Roadmap*, online: <http://www.iclei.org/index.php?id=7694>; ICLEI, *supra* note 409.
[414] Bulkeley & Betsill, *supra* note 12 at 190.
[415] Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 168.

engaged, empowered and given the right resources we will deliver on our commitments".[416]

To date, the LGCR has directly influenced the negotiating texts at UNFCCC COPs, focusing on ensuring the recognition of SNG actions on climate change mitigation. The LGCR achieved recognition of the need to engage with subnational and local governments as 'governmental stakeholders' in the UNFCCC negotiations at the Cancun COP 16 in 2010.[417] While a real achievement and the culmination of many years of work, this direct legal advocacy only indirectly urges the international community to commit to greater emission reduction targets, through an acknowledgement that action is occurring at sub-national levels of government. The LGCR ought now to focus on how to advance nation states' commitment to more ambitious emission reduction targets that take SNGs' measures into account, through greater collaboration between all levels of government. Accordingly, the LGCR is seeking to codify the interactions between local, regional and national governments to ensure effective multi-level governance. Through formal inclusion in the UNFCCC framework, ICLEI argues that SNGs' actions will gain greater legitimacy and they will benefit from greater access to finances to continue their climate change efforts.[418] In particular, national governments are urged to actively support the actions of SNGs, by providing them with the legal competence to act and greater access to funding and resources.[419]

Section 3.2 confirms the effectiveness of the processes open to networks to reframe group norms, provide best practice options and increase regulatory capacity and political acceptance, in order to ultimately lead to the development

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[416] Osofsky, *supra* note 134 at 68.
[417] *Agreement of the Ad Hoc Working Group on Long-term Cooperative Action*, Dec. 1/CP16 UNFCCC, 16th Sess, UN Doc FCCC/CP/2010/7/Add.1 (2010) at para 7, para 46(h), para. 93(b), para 100, para 105, and para 135(c). Local and subnational governments are recognised as "governmental stakeholders". See also *Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention,* Decision 2/CP.17, 17th Sess, UN Doc FCCC/CP/2011/9/Add.1 (2011) at para 100 and 105.
[418] ICLEI, *supra* note 407.
[419] ICLEI, *supra* note 413.

and adoption by SNG members of climate change policies, laws and other actions. Networks' political advocacy also demonstrates a growing influence over the international climate change regime. The different types of networks – 'broad and shallow' and 'narrow and deep' – have been found to utilise network processes in different manners, with consequences for the actions they should concentrate on to maintain their relevance and on-going utility to members. For instance, it was illustrated that whereas resources such as technical tools and personal connections between members are primary incentives for members to join 'broad and shallow' networks, collective, unanimous decision-making remains important to 'narrow and deep' networks. However, it also demonstrates that the strength of networks is in the flexibility of their processes. Therefore, the effectiveness of a network depends upon the appropriate adoption of the processes available to them, adapted to their composition and size.

Moreover, the effectiveness and success of a network also depends vitally upon the network's ability to instil a sense of moral obligation in its members to follow its decisions and act in voluntary accordance with the shared values and objectives of the network. More precisely, it should be clarified that the actors which networks seek to influence are the SNG regulators that directly participate in the networks, be they government officers, or mayors in the case of the C40. In the RGGI and WCI, government officers are acting in line with their regional governments' commitment to adopting an ETS. In the case of the CCP, individual regulators present the work of the network to their city governments, in order to gain broad acceptance by the polity of network-inspired actions.[420] The following section seeks to provide some preliminary views on how network processes motivate network members to follow the decisions of the network, outside any coercive legal authority.

**3.3 Developing networks' 'moral authority'**

The theory articulated in chapter 2 presented a hypothesis that networks' effectiveness or capacity to motivate their members to follow their decisions may

[420] Betsill & Bulkeley, *supra* note 158.

be linked to a sense of community, developed through the building of shared norms and mutual trust among members, which leads to a subsequent moral obligation. Social sanction and concerns of financial and reputational self-interest were also presented as possible reasons for members to adhere to the work of the networks in which they participate. Whether the SNG networks on climate change are symptomatic of these "networks of community" is an interesting question that is touched upon here and which reveals a good deal about the authority wielded by soft laws. Direct empirical evidence from member SNGs about why they are participating and complying with networks' decisions is lacking; however, some insights are offered, based upon the structure of networks and their retention of members.

It is proposed that the WCI and RGGI may gain a moral authority from the sense of community that emerges from the shared commitment of member governments to develop and implement an ETS. Member governments that continue to implement an ETS find continued value in participation. In part, this value can be put down to self-interest; as previously mentioned a regional cap-and-trade system is more cost-effective, produces more overall GHG emission reductions and provides greater flexibility for emission reduction opportunities the more sources that are covered. California, for example, has been eager to implement an ETS for a long time,[421] and was an initial and continually active participant in the WCI in order to reap the advantages of a regional program.[422] Moreover, it is conjectured that mutual trust is built in the network through reciprocity: other regional governments have also introduced an ETS, providing assurance to members that they are not alone. This mutual trust and reciprocity may heighten the sense of moral obligation that members hold to implement an ETS. Somewhat paradoxically, this can be evidenced by the fact that member governments have left both the WCI and RGGI when no longer willing to adhere to this

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[421] Fink, Michels & Kennedy, *supra* note 370. AB32, *supra* note 370.

[422] California Environmental Protection Agency, *Notice of Public Hearing to Consider Amendments to the Cap and Trade Regulation: Initial Statement of Reasons: Appendix B: Western Climate Initiative Development and Stakeholder Process* (2012) online: <http://www.arb.ca.gov/regact/2012/capandtrade12/appendixb.pdf>.

obligation.[423] Arguably, if no sense of moral obligation to comply with the decisions of the network existed, member governments would not have felt compelled to leave when their political views no longer corresponded to the shared network objective of climate change mitigation. In the RGGI and WCI, therefore, the shared desire to implement an ETS ought to be strong within most member governments. However, it will remain to be seen whether Ontario, British Columbia and Manitoba enact provincial cap-and-trade schemes and join California and Quebec in the WCI.

The C40 Initiative styles itself as a network of "global leaders in climate action"[424] and indeed the membership of the C40 does include most mayors of the megacities that are generally accepted to be climate change leaders.[425] Thus, the C40 is presented as an exclusive club that mayors seeking a "green" image for their city want to participate in. It is proposed that city mayors may be more likely to adhere to the C40 Initiative because they wish to remain within this exclusive circle and fear social sanction if they do not comply, although greater empirical evidence is required to confirm this proposition. The C40 Initiative also delivers real, tangible benefits to member cities, including the worldwide purchasing cooperative of the CCI and the agreement to open the resources of the World Bank to C40 members. A report by the Carbon Disclosure Project on activities, challenges and opportunities facing cities determined that 84 per cent of C40 cities expect economic benefits as a result of their climate change action.[426] As

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[423] Bhanoo, *supra* note 290; Edith Honan, "New Jersey sued for pulling out of climate initiative" Reuters (6 June 2012) online: <http://in.reuters.com/>. Former members of the WCI and RGGI left these networks due to a change in the political persuasion of the state government after an election. The new governments' political position no longer resonated with the climate change mitigation goal. For example "New Jersey's Democrat-controlled state legislature voted earlier this year to continue New Jersey participating in the RGGI. Last year, Christie, a Republican, vetoed a similar measure."

[424] See e.g.: C40, *supra* note 392. The home page of the C40 that styles this network as "Global Leadership in Climate Change"

[425] New York, Los Angeles, London, Berlin, Sao Paulo, Tokyo and Hong Kong are all Steering Committee members of the C40.

[426] Carbon Disclosure Project, *Measure for Management: CDP Cities 2012 Global Report including special report on C40 cities* (2012) online: <https://www.cdproject.net/CDPResults/CDP-Cities-2012-Global-Report.pdf>.

long as members continue benefitting from the C40, self-interest is a likely factor in their continued adherence to network goals and objectives.

Similarly, the ACCCRN member cities have been chosen to expressly benefit from the expertise, funding and attention of this programme and therefore have only to gain from involvement with the ACCCRN. The ACCCRN is not a typical network in this sense, as members did not group together by their own efforts. Therefore, it is likely to be less a sense of "community" that leads to compliance with the programme than self-interest in gaining from the resources presented.

The CCP is a 'broad and shallow' network in comparison to the RGGI, WCI and even the C40. Similarly to the ACCCRN, it can been said to act more like an NGO, developing best practice guidelines, programmes and technical tools for member cities to benefit from. Beyond the shared norm that cities commit to undertake local climate change mitigation actions, members are not tied to a particular policy aim, such as an ETS. Self-interest is therefore likely to be a central factor in most members' engagement with the CCP campaign, and members that progress through the 'five milestone' process are likely to do so to gain from the technical GHG monitoring and reporting standards and the GHG emission inventory software tools provided by the network. Once this technical knowledge has been gained, however, retaining a membership may no longer serve city governments' needs.

As previous research has shown, there are very varied levels of participation among members of the CCP campaign.[427] Although many cities scarcely change their behaviour once they become a participant of the network, it is proposed that a core group of cities is acting with moral obligation towards this "network of community" based upon the shared goal of tackling climate change. This core group is also gaining more from the privileges afforded to those with a close engagement with the network, as demonstrated in section 3.2.1.2.[428] This differentiation of action points towards two different types of members: those that treat the CCP campaign as an NGO, and those that have joined to become part of

[427] Kern & Bulkeley, *supra* note 191; Betsill & Bulkeley, *supra* note 158.
[428] Kern & Bulkeley, *supra* note 191 at 329; Betsill & Bulkeley, *supra* note 158.

this "network of community" and thus benefit from it. The former may feel no dependency or link to the network, whereas the latter may gain such dependency, and perhaps a sense of moral obligation, through its frequent interactions.[429] Which category a particular city fits into may well come down to the individual city regulators tasked with engagement with the CCP. Individual city officers have been shown to be vital to the initial engagement and ongoing involvement of a city in the CCP campaign.[430] If the SNG regulator in charge of a city's membership of the CCP is enthusiastic and able to wield influence within the government to adopt climate change laws and policies, it is more likely that a sense of reciprocity and thus participation in the "network of community" will lead to a moral obligation to obey.[431] The shallow connection between the network and its members may well mean that any moral authority to adhere really does come down to individuals.

In summary, it is speculated that the development of strong, shared norms within a network and resonance with the aims of the network for members may be vital to the capacity of networks to wield moral authority over their members to adhere to programmes and policies. This sense of community is particularly apparent in networks with a narrower membership, and reflects the deep engagement between the members of the RGGI, WCI and even the C40. Networks with a broad membership are likely to have a shallower engagement with their members in general. Therefore, a self-interested desire to gain the benefits offered by the network is likely to influence the majority of CCP members to progress through the 'five milestone' process and the ACCCRN members to progress through its four phases. However, it is also suggested that a core of engaged cities with a sense of moral authority may exist within the CCP campaign.

Overall, the empirical analysis of five existing SNG networks on climate change suggests that networks are positively influencing climate change laws, policies

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[429] Kern & Bulkeley, *supra* note 191 at 327."A negative spiral can be established whereby passive membership leads to few rewards which in turn leads to greater political marginalization."
[430] Betsill & Bulkeley, *supra* note 158 at 482-483; Kern & Bulkeley, *supra* note 191 at 326.
[431] Betsill & Bulkeley, *supra* note 158.

and other measures, both domestically and internationally. The fact that all five networks, different in composition, aim and methodology, are using the same processes to reach their aims suggests that the strength of networks is in their ability to adapt their processes to specific situations. Firstly, collaborative decision-making in networks, particularly in 'narrow and deep' networks, is enabling the development of model legislation that is implemented into the domestic legislation of the SNG members. At the same time, collaborative decision-making is adapted in 'broad and shallow' networks to be directed by the network itself, as a centralised body responsible for collecting best practice examples through engagement with its members in order to design programmes, and methodologies for its members to implement. Although less intimate than the direct collaboration of smaller networks, this adaptation of the collective decision-making process is nonetheless organic and participatory. Secondly, the active process of leading by example has proven to be very effective across all five networks, in particular in the city networks in which members are replicating the best practice examples of first mover cities. Thirdly, information on the opportunities for SNGs to contribute to the global governance of climate change is not considered to influence domestic SNG members, as this information is generally already known by the SNGs that join the networks, with more active processes leading to greater results. Fourthly, many SNG members are presumed to have joined the city networks for their financial and expert aid and the political support they facilitate, and the regional networks due to the greater cost-effectiveness of a regional ETS. Fifthly, the influence of networks on the international climate change regime has been particularly successful in gaining formal recognition for the work of SNGs in climate change governance.

The size and structure of SNG networks has been found to not only impact the way in which they utilise the processes available to them, but also the ability for these networks to gain the voluntary obedience of their members. A sense of moral obligation to the decisions of the network has been proposed to rely to some degree on a shared commitment to the norms or aims of the network and is therefore more readily apparent in 'narrow and deep' networks. This moral

obligation is complemented by reciprocity of actions and self-interest that are particularly important to the continued effectiveness of 'broad and shallow' networks.

Building on the conclusion that networks are a valuable and effective actor in the transnational governance of climate change, the final chapter of this thesis investigates the role of networks in a multilevel regime. In particular, how a multilevel regime can improve the ability of SNGs to regulate local climate change and the importance of networks to SNGs whose national or regional governments do not share their ambition to regulate climate change is highlighted.

# Chapter 4 – Multilevel climate change governance regime

This thesis began by demonstrating that the regulation of climate change is best suited to a multilevel governance regime, encompassing both top-down, formal international negotiations and bottom-up, local approaches. It concludes by investigating how these local and global scales may be integrated into a single multilevel regime, to maximize the efficacy of climate mitigation and adaptation efforts at all levels of government.[432] Despite increasing research into the role of SNGs in climate change mitigation and adaptation, little analysis has been undertaken on the complementary roles of different government levels and in particular the role of SNG networks in accelerating climate policy and law development within a multilevel governance regime.[433]

To date, the majority of the scholarly literature on the coordination of government efforts has focused on the coordination of national government laws and policies via international negotiations.[434] However, an equally important research question is how to coordinate the many overlapping domestic actors involved in the contemporary governance of climate change and a multilevel regime is a useful concept with which to frame this discussion.[435] This thesis has focused on government actors, although the important and growing role of non-state organisations should be acknowledged. In this chapter, the hitherto narrow focus on how networks function as an effective climate change governance actor is broadened to explore the role of SNG networks in a multilevel regime. Firstly, the potential for domestic vertical coordination to support and maximise the work of SNGs is illustrated. Secondly, the value of networks to "fill the gap" left when support from the domestic and international levels is lacking is highlighted as a primary contribution of SNG networks to an effective multilevel regime. Evidence for this claim is provided through an investigation of the link between

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[432] Betsill & Bulkeley, *supra* note 143 at 149; Simona Piattoni, *The theory of multi-level governance : conceptual, empirical, and normative challenges* (Oxford: Oxford University Press, 2010).
[433] Corfee-Morlot *et al*, *supra* note 138 at 25.
[434] Shobe & Burtraw, *supra* note 81 at 10.
[435] Corfee-Morlot *et al*, *supra* note 138 at 3; Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 3; Betsill & Bulkeley, *supra* note 147 at 141.

the climate change policies of national governments and the membership of their SNGs in networks. This methodology provides a useful insight into the importance of networks to SNGs geographically situated in less ambitious climate change nation states. To place this discussion in context, the concept of multilevel governance is defined, concentrating on its ability to address the 'scale traps' described in chapter 1.

**4.1 The concept of multilevel governance**

The adoption of a multilevel governance framework acknowledges the different actors in the climate change arena and seeks to determine how their myriad of policy, legal and regulatory actions can interact, to exploit the strengths and maximise the effectiveness of all.[436] The concept of multilevel governance captures two different sets of relationships in climate change governance: the vertical relationships between the different levels of government and the horizontal relationships formed between different actors, both state and non-state, cooperating across borders.[437] Under the multilevel governance concept, there is no need to strictly allocate climate change regulatory authority to different actors; multilevel governance broadens the debate to suggest that multiple levels of government and numerous actors can cooperatively interact to work on the same climate-related area.[438] Thus, top-down approaches, in which national governments or an international organisation set an agenda that is implemented by lower levels of government, and bottom-up approaches, where initiatives emerge from SNGs, are presented as able to operate alongside one another in parallel, exploiting the strengths of both. In the same vein, non-state actors such as networks can supplement formal government action. However, one should recall

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[436] César de Prado, *Global multi-level governance : European and East Asian leadership* (New York: United Nations University Press, 2007) at 20; Corfee-Morlot *et al*, *supra* note138 at 24; Betsill & Bulkeley, *supra* note 147 at 152-53.

[437] Corfee-Morlot *et al*, *supra* note 138 at 25; Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 166.

[438] Kirsten H. Engel, "Harnessing the Benefits of Dynamic Federalism in Environmental Law" (2006) 56:1 Emory LJ 159 at 161; Liesbet Hooghe & Gary Marks, "Unraveling the Central State, but How? Types of Multi-Level Governance" (2003) 97:2 The American Political Science Review 233 at 239. Hooghe and Marks also suggest that one method of multilevel governance is to focus on the problem to be governed and to designate many actors to coordinate to reach a solution. The other method presented is to give one single actor competence over many different problems.

the criticisms that such a parallel and overlapping regime attracts, which were presented in chapter 1. An overlapping regime is argued to lead to economic inefficiencies, due to duplications of effort and the complexity of the administrative coordination of a patchwork of different standards.[439] Moreover, the division of regulation between many actors can also lead to sub-optimal policies and laws, where no unitary body exists to view the big picture and distribute efforts evenly across all affected sectors.[440]

Nevertheless, Kellow posits that overlap and duplication can also be beneficial as competition between actors drives a more proactive and dynamic climate change regime.[441] As mentioned in chapter 2, competition between governance actors can drive innovation through a 'race-to-the-top' mentality.[442] Duplication of government levels acting in the same climate-related area within a country, such as energy or transport, is proposed to reduce the tendency towards complacency that may come with a single, national system, as other levels of government push for more stringent policies and thus increase the collective effectiveness of the national climate change response.[443] In other words, regulatory overlap allows one level of government to pick up the slack caused by inaction by another level and insures against neglect or complacency.[444] However, it must also be acknowledged that duplication can lead to responsibility avoidance, or conversely blame avoidance, with issues at the overlap of legal competence ignored by all.[445]

### *4.1.1 Scale traps and coordination in multilevel governance*

Another benefit of a multilevel regime is that it addresses many of the 'scale traps' described in chapter 1 that governments tend to fall into when attempting to regulate cross-scale and cross-level problems, such as climate change.[446] Firstly, the 'scale trap' that assumes that there is a single, best scale and level at which

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[439] Sovacool & Brown, *supra* note 19.
[440] Kellow, *supra* note 80.
[441] *Ibid.*
[442] Sovacool & Brown, *supra* note 19 at 320; Osofsky, *supra* note 22 at 282.
[443] Kellow, *supra* note 80 at 3.
[444] *Ibid* at 7.
[445] *Ibid* at 6.
[446] Cash *et al.*, *supra* note 23.

any particular problem can be solved is squarely addressed by the adoption of a multilevel framework, which embraces the plurality of different government levels and scales at which climate change can be governed.

The second 'scale trap' is 'ignorance', which relates to the political and financial constraints placed on SNGs' legal and policy efforts by national and regional governments. SNGs may particularly be affected by higher level governments' ignorance of, or disagreement with, their regulations when national or regional government policies undermine those adopted by local governments.[447] By way of example, national governments continue to provide fossil fuel subsidies that counter SNG incentives for low-emission energy sources. According to the International Energy Agency (IEA), fossil-fuel consumption subsidies amounted to over $400 billion worldwide in 2010.[448] In comparison, annual subsidies to renewables are estimated to be $66 billion.[449] Whereas fossil fuel subsidies "encourage wasteful consumption […] and undermine the competitiveness of renewables and other low-emission energy technologies", subsidies to renewable energy technologies are vital to encourage their deployment and allow renewable energies to compete in the global energy market, ultimately aiming to reach price parity with fossil fuels.[450] Federal subsidies for fossil fuels therefore undermine incentives for cleaner energy sources at all levels of government and need to be phased out if a multilevel and cooperative climate change regime is to function most efficiently. More systematic efforts to align incentives across policy areas will deliver greater policy coherence.[451]

In addition to laws and policies that restrain local efforts on climate change, SNGs' actions may be constrained by limited funding and resources. A shift in national commitment to climate change is therefore vital to shift both government

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[447] Corfee-Morlot *et al*, *supra* note 138 at 25.
[448] International Energy Agency, *World Energy Outlook 2011: Executive Summary* (Paris, France: 2011) at 1.
[449] International Energy Agency, *World Energy Outlook 2011 Factsheet: How big are energy subsidies and which fuels benefit?* (2011) online: <http://www.iea.org/weo/docs/weo2011/factsheets.pdf>.
[450] *Ibid.*
[451] Corfee-Morlot *et al, supra* note 138 at 62.

policies and funding to climate change objectives, which in turn may lead to financial and political support for sub-national climate change actions.[452] Broad funding of local climate change initiatives is important to ensure that a broader range of cities are undertaking actions, rather than small leader pockets.[453] The CCP campaign has shown that networks can play an important role in providing additional sway to SNGs lobbying for funding from national governments to facilitate particular network programs.[454] Particularly in Australia, the US and Canada, the national governments have provided a large amount of funding to their national CCP chapters, which is money allocated to city-level governments that may not have been available without the network.[455]

Finally, the 'scale trap' of a mismatch of human action and biophysical systems exists where the authority to regulate an issue does not fit with the biophysical scale of the environmental phenomenon, in this case climate change. Although some climate-related areas are clearly the sole responsibility of one level of government, - for example cities are the exclusive regulators of urban planning - this does not fall into a scale trap as countering unsustainable urban development is clearly a city-specific problem, appropriately designated to the local level of government. Other areas, such as energy or transport, are less neatly divided, and the competencies of multiple government levels overlap. Here, the acknowledgement of multiple jurisdictions' ability to regulate is appropriate, as energy and transport have national, regional as well as local aspects that can be regulated in many overlapping, but potentially complementary ways.

Thus, "[a] two-way relationship exists between local and national action on climate change as each can enable or constrain the other".[456] However, the

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[452] *Ibid* at 46.
[453] *Ibid* at 7-8.
[454] Engel, *supra* note 312 at 450.
[455] Betsill & Bulkeley, *supra* note158 at 478.: "the U.S., Canadian, and Australian governments contribute significant financial resources to their national CCP programs and the U.S. Agency for International Development financed pilot projects to establish the national campaigns in India, Mexico, the Philippines, and South Africa. Likewise, the European Commission has provided direct funding to ICLEI Europe, and indirectly creates resource opportunities for transnational networks through competitive bidding procedures for particular projects or initiatives."
[456] Corfee-Morlot *et al*, *supra* note 138 at 10.

enabling actions open to the plurality of government levels dedicated to combatting climate change sought by multilevel governance is yet to be achieved in reality.[457] Section 4.2 investigates how a multilevel climate change regime could most effectively be built to minimise the constraints between levels of government and to accelerate SNGs' climate policy and law development.

**4.2 Domestic vertical coordination**

Coordination between different government levels is not a problem novel to climate change and federations have been tackling this coordination problem for many years over many different subject areas.[458] However, the problem of climate change is complicated by its relevance to almost all areas of the economy and requires not only coordination between jurisdictional levels, but also between areas that may not traditionally have worked together, such as environment, transport, energy, industry and infrastructure.[459] Whether coordination with respect to the treatment of climate change is effectively occurring is questionable. Based on the formal legal competencies and the strengths of the different levels of government, this section delineates what a domestic multilevel climate change regime that supports both top-down and bottom-up governance efforts may look like. To reiterate, support for SNG actions is vital to facilitate and ultimately maximise the potential for local abatement of climate change causes and effects. After an introduction on the general legal instruments that may be adopted by each different level of government in a national multilevel framework to play to their strengths, a more in-depth look into energy and transport as climate-related areas requiring a real coordination of efforts is explored, with a focus on how to promote SNGs.

***4.2.1 Strengths of top-down and bottom-up policy- and law-making***

The question of how to coordinate climate change efforts between the different levels of government should be answered with the strengths of each level of

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[457] Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 166.
[458] Franz T. Litz, *Towards a Constructive Dialogue on Federal and State Roles in U.S. Climate Change Policy* (2008) online: Solutions White Paper Series <http://www.c2es.org/docUploads/StateFedRoles.pdf> at 13.
[459] Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 166.

government in mind.[460] The primary strength of a top-down approach is the ability to set a uniform standard, thus avoiding the emergence of a patchwork of uncoordinated sub-national efforts and limiting the likelihood of carbon leakage.[461] This thesis has also made clear that, in line with the principle of subsidiarity, any national, domestic climate change regime would do well to exploit the legal competencies of SNGs.[462] To reiterate the benefits of SNGs discussed in chapter 1, SNGs are able to implement the policies of higher-level governments, tailoring the climate change mitigation and adaptation solutions to local circumstances, and in line with community concerns.[463] Local governments have also established themselves as forums for experimentation and innovation with different policy options.[464] SNG policy successes may then exert pressure on higher-level governments to adopt similarly stringent and ambitious measures.[465]

### *4.2.2 A domestic multilevel framework*

On review, it becomes clear that the strengths of top-down and bottom-up approaches provide complementary roles to national and sub-national governments. A multilevel policy framework that is anchored in overarching, federal legal instruments, such as vehicle fuel efficiency or building energy efficiency standards, emission reduction or renewable energy targets and nation-wide market-based mechanisms, can nonetheless be designed with the strengths of SNGs in mind. In other words, national legal instruments can achieve uniformity, but should also provide room for SNGs to experiment with more ambitious actions and to 'over-comply' with national standards or targets.[466] If overarching policies are set as a 'floor', rather than a 'ceiling', they provide SNGs with the

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[460] Litz, *supra* note 458 at 1-2; Shobe & Burtraw, *supra* note 83 at 4.
[461] Corfee-Morlot *et al*, *supra* note 138 at 10.
[462] Shobe & Burtraw, *supra* note 81 at 11.
[463] Corfee-Morlot *et al*, *supra* note 138 at 11; Litz, *supra* note 458 at 24.
[464] Corfee-Morlot *et al*, *supra* note 138 at 11; Lawrence H. Goulder & Robert N. Stavins, "Interactions between State and Federal Climate Change Policies" in Don Fullerton & Catherine Wolfram, eds, *The Design and Implementation of U.S. Climate Policy* (Chicago: University of Chicago Press, 2012) at 9.
[465] Goulder & Stavins, *supra* note 464 at 9.
[466] *Ibid*; Litz, *supra* note 458.

ability to exceed the standards, and to continue to push higher levels of government to improve and successively raise the 'floor'.[467]

These national initiatives can take various forms that place pressure on SNGs to adopt climate change actions at the local level or that alternately facilitate local action.[468] For the sake of this analysis, these legal instruments can be summarised in two points: commands and guidelines.[469] Regulations commanding a certain action from SNGs will ensure uniformity across jurisdictions and guarantee that it is not only climate leader SNGs that are enacting climate change policies.[470] National regulations requiring SNGs to undertake compulsory measures also arm local governments with strong decision-making power. For example, in Newcastle, NSW, Australia, state legislators mandated that energy efficiency measures be instigated for new buildings, which allowed this city to mandate the installation of renewable energy systems in new building developments.[471] In contrast to this binding, obligatory instrument, soft laws that provide only suggestions and guidance to local governments may also be adopted by higher level governments. For example, the British government has adopted guidelines that encourage local planners to consider energy efficiency in building development applications. Although guiding regulations provide SNGs with room for innovation and experimentation, they can leave "local officials [feeling] powerless to deny a development application based solely on these grounds".[472] If they are flexibly drafted, binding instruments may be advantageous as they provide SNGs with the legislative authority to adopt stringent, compulsory policies and laws.[473]

### *4.2.3 Energy and transport as examples for a domestic multilevel regime*

To demonstrate how the general principles of overarching, national legal instruments may be complemented by more targeted local policies in practice,

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[467] Corfee-Morlot *et al*, *supra* note 138 at 10-11; Litz, *supra* note 458 at 29.
[468] Corfee-Morlot *et al*, *supra* note 138 at 45.
[469] *Ibid* at 50.
[470] *Ibid.*
[471] Betsill & Bulkeley, *supra* note 147 at 152.
[472] *Ibid* at 153.
[473] Corfee-Morlot *et al*, *supra* note 138 at 50.

energy and transport are explored as two examples of climate-related areas that lie at the overlap of many government levels' legal competency to regulate.

*4.2.3.1 Energy*

It is within national and regional governments' legal competence to mandate national renewable energy targets or introduce a national GHG emission reduction target, in order to transform energy production to cleaner methods.[474] These overarching targets are often complemented by national market-based mechanisms, such as a cap-and-trade scheme, which provide an economic incentive for power plants, industry, transport and other regulated sources to reduce their GHG emissions. Market-based mechanisms generally target the upstream producers of electricity and air pollution and only indirectly target consumers through increased electricity bills, for example.[475] However, a cap-and-trade system does not necessarily have an impact on all energy consumers, as a carbon price signal will not affect all sectors and thus some industries will not be compelled to contribute to the GHG emission reduction effort, making the ETS less cost efficient.[476] It is here that lower level governments can play an important role in targeting those industries that don't react to the price signal, thereby ensuring a more comprehensive approach to climate change mitigation.[477] For example, a cap-and-trade scheme may provide little incentive to construct more energy efficient buildings, given that the costs of installing energy efficiency measures are borne by the owner, whereas the benefits of lower energy bills are enjoyed by the tenants.[478] Owners are therefore not interested in spending the extra money on energy efficiency extras that they may not recoup. SNG actions can be beneficial to target the consumption of energy, as many cities have already demonstrated by their numerous efforts to retrofit municipal, commercial and residential buildings to be more energy efficient, as seen in chapter 3.[479] Green building codes that mandate higher energy efficiency standards for buildings can

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[474] Trisolini, *supra* note 60 at 695.
[475] *Ibid*.
[476] Litz, *supra* note 458 at 24-25; Shobe & Burtraw, *supra* note 81 at 19.
[477] Litz, *supra* note 458 at 24; Goulder & Stavins, *supra* note 464 at 9.
[478] Western Climate Initiative, *supra* note 337; Goulder & Stavins, *supra* note 464 at 9.
[479] Betsill & Bulkeley, *supra* note 147 at 477.

also be enacted by city, regional and national governments, in concert, and based upon the division of legal competency over this area.[480] Thus, policies to reduce energy consumption in buildings can be an important complementary lower-level policy to a cap-and-trade scheme. However, as an exception to the abovementioned assertion that overarching policies should be set as a 'floor' rather than a 'ceiling', it should be noted that an ETS is one overarching policy that deliberately sets an emissions cap, or 'ceiling' that SNGs cannot raise.[481]

In addition, whereas national or regional governments may be best suited to implement renewable energy targets or to provide funding incentives for the construction of renewable energy power plants, SNGs can provide incentives to increase the demand for energy from renewable sources by becoming primary purchasers of this green energy, by subsidising the cost of home solar heating or hot water systems, or through mandating a certain amount of on-site renewable energy generation for buildings, as seen in chapter 3. Together, the implementation of a national carbon price to support price parity of renewables, and direct SNG regulations, such as renewable energy mandates, provide comprehensive support to the deployment of renewable energy.

*4.2.4.2 Transport*

Turning to the area of transport, federal governments generally have the legal power to regulate vehicle technology and fuel energy efficiency, which are critical elements of transportation policy, and are also able to fund major transport infrastructure projects.[482] On the other hand, municipalities are the primary regulators of urban planning or zoning. As it is unlikely that further fuel efficiency or other technology improvements will deliver sufficient GHG emission reductions to counter the growth in private vehicle demand, policies to

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[480] Shobe & Burtraw, *supra* note 81 at 15.

[481] Goulder & Stavins, *supra* note 464 at 3. In fact, if a SNG cap-and-trade scheme exists in parallel to a less stringent national ETS, this "will not lead to any additional reductions in national emissions beyond that mandated by the federal cap." Goulder and Stavins argue that other SNGs will simply reduce their emission reduction effort and buy allowances from those SNGs over-complying with the national ETS. This trade in emissions is, of course, exactly the point of an ETS, however an SNG ETS will minimise the cost-effectiveness of an overarching national scheme by forcing emission reductions in a certain area.

[482] Trisolini, *supra* note 60 at 672-675.

reduce the amount people drive, known as vehicle miles travelled (VMT) are required.[483] The price elasticity of driving is relatively low, meaning that people will continue to drive, despite an increase in petrol costs.[484] In addition, fuel efficiency improvements may paradoxically lead to an increase in VMT, known as the rebound effect.[485] The complementary competencies of SNGs – sustainable urban planning and the provision of basic infrastructure for alternative transport modes, such as cycling paths – are vital to provide commuters with a viable alternative to driving their cars and are an important complement to any overarching national standards.[486] Given the connection between urban sprawl and private transport use, city- and regional-level policies aimed at reducing urban sprawl will also reduce private transport use and associated GHG emissions as city-dwellers are motivated to cycle or take public transport to work.[487] By using their land-planning authority to transform suburbia into 'compact cities', state and city governments are "changing the built environment".[488] National infrastructure spending should complement these lower-level laws and policies and be directed towards public transport rather than roads, for example, to maximise the success that lower-level policies will have on reducing GHG emissions from transport.[489] As highlighted earlier, limiting the amount of conflicting policies is a vital aspect of a multilevel regime.[490]

If climate change is addressed only through sector-specific, individual policies, the overarching coordination required to transform the entire economy will not be attained. A multilevel governance regime aims to spread the incentives and regulations to reduce GHG emissions throughout the economy, including across

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[483] *Ibid* at 709.
[484] Litz, *supra* note 458 at 29; Trisolini, *supra* note 60 at 717.
[485] Peter H.G. Berkhout, Jos C. Muskens & Jan W. Velthuijsen, "Defining the rebound effect" (2000) 28:6-7 Energy Policy 425.
[486] Litz, *supra* note 458 at 29; Corfee-Morlot *et al*, *supra* note 138.
[487] Genesis Wren Miller, "Reducing Transportation Carbon Emissions: The Latent Potential for New England" (2009) 11:1 Vermont Journal of Environmental Law 167 at 177.
[488] Trisolini, *supra* note 60 at 713. Ewing *et al*, quoted in Trisolini, estimate that "shifting 60 per cent of new growth to compact patterns would save 85 million metric tons of CO2 annually by 2030"; Shobe & Burtraw, *supra* note 81 at 17-18.
[489] Corfee-Morlot *et al*, *supra* note 138 at 25.
[490] *Ibid* at 46.

sectors and all levels of government. Greater efficiency and environmental effectiveness flow from a complementary, non-contradictory, domestic, multilevel policy regime, in which SNG action is supported. At a global level, a multilevel regime should also take SNG actions into account, as discussed in section 3.2.6, both to the advantage of the SNGs and the global regime itself.

In countries in which a cooperative multilevel framework has been developed, the national and regional governments are able to provide support to SNGs' law and policy development. Examples from the UK and NSW were elaborated above to show the variety of policy and legal options available to equip cities with the political and legal tools to proactively address climate change at the local level. Nevertheless, without this domestic government support, SNGs are likely to face many barriers to regulating climate change effectively and may seek assistance further afield, including from SNG networks.

## 4.3 The value of networks in a multilevel regime

The value of SNG networks in multilevel climate change regime is an emerging topic of research, significant both for the ultimate governance of climate change, as well as the on-going effectiveness of networks. This section seeks to contribute to this new research area by demonstrating how the benefits of networks can be exploited in a multilevel framework and, in particular, exploring the role of government networks to 'fill the gap' left by national government inaction on climate change.

### *4.3.1 Exploiting the benefits of networks in a multilevel framework*

Networks improve collaboration between governments and facilitate engagement between different jurisdictional levels. SNG networks have demonstrated their ability to facilitate the forging of close links between SNG governments. Collaborative working linkages and cooperative action has been demonstrated to create a sense of trust between governments and to reassure them that the climate change effort is indeed collaborative and similar efforts to theirs are being

undertaken throughout the world.[491] Although members of networks are generally those SNGs that are in favour of climate change abatement, close links between governments can be vital to bridging differences between jurisdictions,[492] implying that networks may be well-placed to sway the climate change position of governments currently taking less action on climate change.

On top of the forging of links between horizontal governments, networks' advocacy role allows their sub-national members to engage with different jurisdictional levels, facilitating the cross-level discussion and engagement sought by a multilevel framework.[493] As discussed in section 3.2.6, network advocacy supplements the efforts SNGs put into influencing the negotiating position of their national governments at international negotiations and generally allows for more engaged participation and greater clout in international negotiations by SNGs. Moreover, the ability of networks to aid their SNG members to experiment with and demonstrate different climate change mitigation and adaptation actions is proposed to drive ambition and competitive 'races to the top' in both domestic and global climate change policies.

### *4.3.2 Filling the gap*

It is proposed that networks' primary role in a multilevel governance regime is the provision of support to SNGs in countries that do not have a national government framework on climate change in place: they 'fill the gap' left by inaction. Preliminary evidence for this claim has been gleaned from an investigation of the membership of the CCP and C40, as these networks have members across the globe. Specifically, determining whether there is a link between the climate change policies of national governments and the membership of these SNG networks provides a useful insight into the potential importance of networks to SNGs geographically situated in less ambitious climate change nation states. Moreover, this analysis highlights the importance of a comprehensive, multilevel

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[491] Elinor Ostrom, *A Polycentric Approach for Dealing with Climate Change* (Washington D.C.: The World Bank, 2009) at 36.
[492] Davies, *supra* note 192 at 23; Betsill & Bulkeley, *supra* note 147 at 148.
[493] Corfee-Morlot *et al, supra* note 138 at 25; Galarraga, Gonzalez-Eguino & Markandya, *supra* note 138 at 166.

governance regime to facilitating the maximum contribution of all levels of government to combatting climate change.

The investigation into this niche role for SNG networks in a multilevel regime was undertaken by selecting seven nation states whose SNGs participate in the CCP and C40 as representative of countries' climate change ambition. These countries' actions were designated as "ambitious" or "less ambitious" based upon whether broad, overarching policies were in place to limit GHG emissions, such as an ETS, as well as their engagement with the international climate change regime, based upon their ratification of the Kyoto Protocol. Following this methodology, three countries' national climate change legislation and policies were identified as ambitious, two as less ambitious and two as countries in transition. Germany, the United Kingdom (UK) and New Zealand were designated as ambitious, as all three have an active ETS in place,[494] have ratified the Kyoto Protocol and have agreed to signed on to a second commitment period of the Kyoto Protocol to begin in 2013.[495] The USA and Canada were defined as less ambitious climate change countries, given the USA's refusal to ratify the Kyoto Protocol and Canada's withdrawal from the same, as well as their national governments' limited action to establish a national framework to reduce GHG emissions.[496] Australia and Japan were identified as interesting transitional countries. Australia is becoming more ambitious on climate change against this thesis' criteria, due to its recent ratification of the Kyoto Protocol in 2007, as well as its 2011 adoption of a national framework to reduce GHG emissions.[497] In the

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[494] Germany is part of the EU ETS and the UK's ETS now runs in parallel to the EU ETS.

[495] James Tulloch, *Agenda 2012: What Future for Kyoto Protocol?* (2012) online: Allianz - Climate Change Policy <http://knowledge.allianz.com/climate/agenda/?1741/climate-change-policy-agenda-2012-what-future-for-kyoto-protocol>. UNFCCC, *Status of Ratification of the Kyoto Protocol,* online: <http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php>; *Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex 1 Parties under the Kyoto Protocol*, Dec 1/CMP.7, UNFCCC, 7th Sess, UN Doc FCCC/KP/CMP/2011/10/Add.1 (2011).

[496] UNFCCC, *Status of Ratification of the Kyoto Protocol*, *supra* note 495; Bill Curry & Shawn McCarthy, "Canada formally abandons Kyoto Protocol on Climate Change" *The Globe and Mail* (12 December 2011) online: <www.theglobeandmail.com>.

[497] Australian Department of Climate Change and Energy Efficiency, *Clean Energy Legislation*, (2012) online: <http://www.climatechange.gov.au/government/clean-energy-future/legislation.aspx>; UNFCCC, *Status of Ratification of the Kyoto Protocol, supra* note 495.

shadow of the Fukushima nuclear disaster, Japan recently reversed its commitment to implement a national ETS to replace its voluntary ETS that was launched in 2005.[498] Whether the change in national ambition may alter the participation of these countries' SNGs in climate change networks is an interesting future research question that will be touched upon here.

The labels of 'ambitious' and 'less ambitious' should not be taken as forming judgement on the reasons for the climate change policies adopted by each national government, which are multifaceted and complex, but instead are merely intended to distinguish between the groups. The analysis was also confined to countries in Annex 1 of the Kyoto Protocol because these countries were presumed to have the resources and arguably the most impetus to change their behaviour to achieve their Kyoto Protocol emission reduction targets.

The results of this investigation, presented in Table 2, produce an interesting pattern. Over 600 US cities and 230 Canadian municipalities are members of the CCP campaign, and ten US cities and Toronto participate in the C40 Initiative.[499] In comparison, only eleven German municipalities were part of the CCP campaign as of 2010, and Berlin and Heidelberg are members of the C40 Initiative.[500] In the UK, only 58 municipalities had participated in the CCP campaign by 2010, and London is also a member of the C40.[501] 34 municipalities in New Zealand are participants in the CCP network.[502]

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[498] Risa Maeda, "Japan shelves carbon emissions trading scheme" *Reuters* (28 December 2012) online: <http://www.reuters.com>.

[499] C40 Initiative, *supra* note 392; Partners for Climate Protection, *Members*, online: <http://fcm.ca/home/programs/partners-for-climate-protection/members.htm>; ICLEI USA, *supra* note 348 at 1.

[500] C40 Initiative, *supra* note 392; ICLEI's European Cities for Climate Protection (CCP) Campaign, *Participants List*, online: <http://www.iclei-europe.org/fileadmin/templates/iclei-europe/files/content/CCP/CCP_Participants_Sept_2010_website_list.pdf>.

[501] C40 Initiative, *supra* note 392; ICLEI's European Cities for Climate Protection (CCP) Campaign, *supra* note 500.

[502] Cities for Climate Protection New Zealand, *supra* note 315.

**Table 2: Membership of the CCP campaign and C40 Initiative against the climate change ambition of national governments**

| Country | Germany | UK | New Zealand | United States | Canada | Japan | Australia |
|---|---|---|---|---|---|---|---|
| **Overarching national framework** | EU ETS (since 2005) | UK ETS / EU ETS (since 2002) | NZ ETS (since 2008) | - | - | - | $CO_2$ price in 2012 and ETS in 2015. |
| **Cities in relevant networks** | **CCP (in 2010)**<br>• **11** cities<br>**C40**<br>• Berlin<br>• Heidelberg | **CCP (in 2010)**<br>• **58** municipalities<br>**C40**<br>• London | **CCP (in 2009)**<br>• **34** councils | **CCP**<br>• Over **600** cities<br>**C40**<br>• Los Angeles<br>• New York<br>• Chicago<br>• Houston<br>• Philadelphia<br>• Austin<br>• New Orleans<br>• Portland<br>• San Francisco<br>• Seattle | **CCP**<br>• **230** municipal governments<br>**C40**<br>• Toronto | **CCP (in 2009)**<br>• **14** cities and prefectures<br>**C40:**<br>• Tokyo<br>• Yokohama | **CCP (June 2008)**<br>• **233** city councils<br>**C40**<br>• Melbourne<br>• Sydney |
| **Achieving Kyoto target[503] (2012 estimates based on 2009 data)** | Kyoto target: -21% below 1990 levels<br>Actual: -26.3% below 1990 levels<br>**5.3% better than the target** | Kyoto target: -12.5% below 1990 levels<br>Actual: -26.9% below 1990 levels<br>**14.4% better than the target** | Kyoto target: 0% increase on 1990 levels<br>Actual: 0% increase on 1990 levels<br>**On target** | Kyoto target: -7% below 1990 levels<br>Actual: 7.2% above 1990 levels<br>**14.2% worse than the target** | Kyoto target: -6% below 1990 levels<br>Actual: 19.5% above 1990 levels<br>**25.5% worse than the target** | Kyoto target: -6% below 1990 levels<br>Actual: -6% below 1990 levels<br>**On target** | Kyoto target: 8% above 1990 levels<br>Actual: 6% above 1990 levels<br>**2% better than the target** |

[503] UNFCCC, *Kyoto Protocol: Targets*, online: http://unfccc.int/kyoto_protocol/items/3145.php

This introductory look into SNG networks' membership reveals a pattern that more cities are participating in networks from countries that do not have an ambitious national framework to mitigate climate change. Conversely, cities in nation states that have a national framework to reduce GHG emissions appear less likely to join these climate change networks. A tentative explanation lies in the support provided by networks to cities not receiving this backing from their national governments, as well as the drive to act generated by the underperformance of one level of government.[504] In Germany, for example, the federal government has provided municipalities with guidelines for local climate protection - *Leitfaden Kommunaler Klimaschutz* - since 1997, which include real, best practice examples that aim to motivate cities to adopt climate change actions in their own communities.[505] In the USA, cities still lack such federal and state policy support and networks have stepped in to provide it instead; for example *Climate change: a guidebook for local, regional, and state governments* was published recently by King County in Washington state and written in cooperation with ICLEI.[506] An alternate explanation is that cities in countries with comprehensive national climate change frameworks may have less regulatory space to undertake other sub-national level action. For example, in the UK, a unitary state, the national government has a strong hierarchical relationship with its municipalities and various pieces of national legislation already require specific actions of municipalities: Best Value Performance Indicators have been mandated to guide energy use in council buildings; the 1995 *Home Energy Conservation Act* requires local authorities to produce a report detailing practicable and cost-effective energy efficiency improvements in both public and

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[504] Engel, *supra* note 438 at 173.
[505] Deutschen Institut für Urbanistik (Difu) & Institut für Energie- und Umweltforschung (ifeu), *Leitfaden Kommunaler Klimaschutz*, online: <http://www.leitfaden.kommunaler-klimaschutz.de/>.
[506] Gotelind Alber & Kristine Kern, *Governing Climate Change in Cities: Modes of Urban Climate Governance in Multi-level Systems* (Milan: OECD, 2009) at 19; ICLEI & King County, *Preparing for Climate Change: A Guidebook for Local, Regional and State Governments* (2009) online: <http://cses.washington.edu/cig/fpt/planning/guidebook/gateway.php>.

private housing in their community; and Local Transport Plans and Planning Policy Statements provide guidance for urban land use planning.[507]

Australia provides an interesting study, as until recently it would certainly have been placed in the 'less ambitious' country list: it had no national climate change policy framework and did not ratify the Kyoto Protocol until 2007.[508] In line with the emerging pattern, the Australian chapter of the CCP is particularly active, with 233 councils participating in the campaign and Melbourne and Sydney are both participants in the C40 Initiative.[509] However, in November 2011, the Australian Parliament passed the Clean Energy Future legislation, which puts a national carbon price in place from 1 July 2012 and commits to introduce a national ETS in 2015.[510] It will be interesting to monitor whether Australian cities' membership in climate change networks will stabilise or decrease as a result of the adoption of the Clean Energy Future legislation.

Japan offers a counterpoint to the Australian example, as Japan had already ratified the Kyoto Protocol in 2002 and the Japanese Voluntary ETS (JVETS) has been in place since 2005.[511] In 2009, the Japanese government adopted a Bill which decreed that a mandatory national ETS would be designed by the end of 2010.[512] However, in 2010, the Japanese government moved away from its commitment to a national ETS, delaying its development indefinitely.[513] Additionally, at the sixteenth UNFCCC COP in Cancun, Japan voted not to be part of any extension of the Kyoto Protocol past 2012.[514] As a consequence, it will be interesting to see whether more of Japan's cities will join the fourteen Japanese

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[507] Harriet Bulkeley & Kristine Kern, "Local Government and the Governing of Climate Change in Germany and the UK" (2006) 43:12 Urban Studies 2237.
[508] UNFCCC, *Status of Ratification of the Kyoto Protocol, supra* note 495.
[509] C40 Initiative, *supra* note 392; CCP Australia, *supra* note 315.
[510] Australian Department of Climate Change and Energy Efficiency, *Clean energy legislation: the way ahead,* online: <http://www.climatechange.gov.au/en/government/clean-energy-future.aspx>.
[511] Office of Market Mechanisms Climate Change Policy Division, *Japan's Voluntary Emissions Trading Scheme (JVETS)* (2009) online: <http://www.env.go.jp/en/earth/ets/jvets090319.pdf>. The JVETS supported voluntary emission reduction commitments from 232 businesses throughout Japan. It aimed to provide experience in carbon pricing and emissions trading for Japan, and developed the infrastructure required, including the emissions registry system and trading system.
[512] Maeda, *supra* note 468 online.
[513] *Ibid*.
[514] John Vidal, "Cancún climate change summit: Japan accused of threatening Kyoto protocol" *The Guardian* (2 December 2010) online: <http://www.guardian.co.uk>.

cities that are currently members of the CCP and Tokyo and Yokohama in the C40 Initiative.[515] Continued research into fluctuations in network membership based upon changes to national climate change policy will strengthen these tentative conclusions.

The actual emission reductions of these same seven countries were also collated, to act as a counterpoint to their policy efforts. This analysis seeks to determine whether this additional data makes any difference to the emerging pattern of results and whether countries that will achieve their Kyoto Protocol targets are the same countries whose SNGs are less likely to join networks. Actual emission reductions are calculated on the success of the seven abovementioned countries to reach their Kyoto Protocol emission reduction targets, as presented in Table 2.

Germany and the UK are both on track to achieve their Kyoto emission reduction targets by the end of 2012.[516] New Zealand is also expected to reach its Kyoto Protocol target, through extensive use of 'carbon sinks' such as reducing deforestation and establishing tree plantations.[517] Contrastingly, Canada requires an additional 25.5 per cent decrease in emission reductions to reach its emission reduction target.[518] The USA also requires an additional 14.2 per cent decrease in its GHG emissions to reach the Kyoto Protocol target that it never ratified.[519] On the other hand, Australia is expected to meet its Kyoto Protocol target of an 8 per

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[515] C40 Initiative, *supra* note 392; ICLEI Japan Office, *supra* note 354.

[516] Knowledge Allianz, *Kyoto Emissions Targets*, online: http://knowledge.allianz.com/climate/agenda/?761; *Report of the in-depth review of the fifth national communication of Germany*, UNFCCC, U.N. Doc FCCC/IDR.5/DEU, (2011) at 20. Germany's emissions are estimated to be 23.3 per cent below 1990 levels in 2010 and 32.1 per cent below the 1990 level in 2020. *Report of the in-depth review of the fifth national communication of the United Kingdom of Great Britain and Northern Ireland*, UNFCCC, U.N. Doc FCCC/IDR.5/GBR, (2010) at 23. The fifth National Communication of the UK estimates that the UK will be 25.3 per cent below 1990 levels by 2010 and 29.4 per cent below 1990 levels by 2020.

[517] *Report of the in-depth review of the fifth national communication of New Zealand*, UNFCCC, U.N. Doc FCCC/IDR.5/NZL, (2011) at 22. Without the inclusion of land use changes, New Zealand would miss its Kyoto Protocol target by 19.4 per cent. *Kyoto Protocol to the United Nations Framework Convention on Climate Change,* 10 December 1997, 37 ILM 22 (1998) art 3(3) U.N. Doc FCCC/CP/1997/7/Add.1. Land use changes such as afforestation, reforestation and deforestation can be used to meet Kyoto Protocol commitments.

[518] *Report of the in-depth review of the fifth national communication of Canada*, UNFCCC, U.N. Doc FCCC/IDR.5/CAN, (2011) at 21-22.

[519] Knowledge Allianz, *supra* note 516.

cent increase over 1990, with an increase of only 6 per cent.[520] Despite the Fukushima Daiichi nuclear disaster, Japan is also on track to achieve its Kyoto Protocol target of a six per cent reduction on 1990 GHG levels.[521] These results show that the comprehensive, overarching climate change mitigation framework of the EU is achieving the Kyoto Protocol emission reduction targets of its Member States. Japan, which had a national plan in place, also fits into the trend of these two 'ambitious' countries. However, Australia bucks the trend, having achieved its Kyoto Protocol target without an ambitious and comprehensive emissions reduction framework in place. This anomaly may be understood by making reference to the less stringent target imposed upon Australia by the Kyoto Protocol.[522] In contrast, Germany and the UK have substantially reduced their emissions since 1990. Therefore, it is suggested that cities from countries that are meeting their Kyoto targets are less likely to join SNG networks, confirming the preliminary pattern. In contrast, cities in countries that will not reach their Kyoto emissions reduction target by 2012 are joining SNG networks in greater numbers.

Despite the preliminary nature of this analysis, these results make intuitive sense and follow the multilevel framework theory: cities in less ambitious countries face greater barriers and feel greater pressure to act, due to their national governments' under-performance of their national framework role. Greater research into this connection is necessary to confirm the importance of the participation of all levels of government to ensure cost-effective and environmentally ambitious laws and policies in SNGs. This brief quantitative analysis of the links between a national climate change framework resulting in GHG emission reductions and the participation of SNGs in transnational climate change networks indicates both the importance of a comprehensive multilevel climate change regime, where SNGs are supported by an ambitious national framework, and of SNG networks' support to cities in less-ambitious countries. Research that goes beyond an examination of

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[520] *Report of the in-depth review of the fifth national communication of Australia*, UNFCCC, U.N. Doc FCCC/IDR.5/AUS, (2012) at 24.
[521] *Report of the in-depth review of the fifth national communication of Japan*, UNFCCC, U.N. Doc FCCC/IDR.5/JPN, (2011) at 23.
[522] UNFCCC, *Kyoto Protocol: Targets*, online: http://unfccc.int/kyoto_protocol/items/3145.php

membership and focuses on the quality of the cities' climate change mitigation and adaptation laws and policies, in both ambitious and in less ambitious countries, would be an interesting continuation of this investigation.

This thesis has demonstrated that an effective solution to the problem of climate change requires the participation of all levels of government. The adoption of a multilevel framework is shown to generate greater dialogue and discussion to improve coordination between governments' policies leading to a complementary, non-contradictory domestic policy framework for climate change mitigation and adaptation. SNGs' policy and law development can be supported by a coordinated national climate change regime that effectively exploits the strengths of each level of government. A multilevel regime is also made up of parallel actions between state and non-state actors, such as networks, which continuously drive the adoption of more stringent climate change mitigation policies and the development of more innovative means to adapt to our changing climate. Networks specifically 'fill the gap' of climate change law and policy support for SNGs geographically situated in countries without an ambitious national climate change framework. Thus, the advantages to polycentric, parallel efforts by many different actors cannot be overemphasised, particularly for actors such as SNGs that can be proactive climate change regulators if provided with the correct support, either from their own country or a network of likeminded contemporaries.

# Conclusion

Climate change is one of the most complex regulatory tasks facing the world today.[523] Its causes are innumerable and its effects uncertain. Effective regulation requires all high GHG-emitting nations and their citizens to fundamentally change their very lifestyles. This complex challenge calls for similar complexity in its regulatory solution. The beginnings of this solution are already evident, with many parallel climate change mitigation and adaptation actions being undertaken simultaneously by a multitude of different actors. The geographic concepts of scale and level lend support to the desirability of this parallel governance of climate change.

Exploiting the strengths of all of these climate change governance actors may best be achieved through a multilevel regime that encourages overlap of global governance efforts to drive competition and a 'race to the top' attitude. Multilevel governance calls for cooperation between domestic government levels based on a national climate change regime anchored in overarching, federal legal instruments, which nonetheless provide space for innovation and greater ambition in lower-level governments. The role for SNG networks in a multilevel climate change governance regime is an emerging topic of research, and this thesis provides a preliminary insight into the importance of networks' support to SNGs geographically situated in less ambitious climate change countries, through an examination of networks' membership. An analysis that focuses on cities' climate change mitigation and adaptation laws and policies, in both ambitious and in less ambitious countries, would be an interesting path for further research.

The analytical focus of this thesis on five SNG networks of both city and regional members and of different sizes, aims and structures provides a more nuanced

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[523] See e.g. Major Economies Forum on Energy and Climate, (L'Aquila, Italy, 9 July 2009): "We, the leaders of Australia, Brazil, Canada, China, the European Union, France, Germany, India, Indonesia, Italy, Japan, the Republic of Korea, Mexico, Russia, South Africa, the United Kingdom, and the United States declare as follows: Climate change is one of the greatest challenges of our time"; Dr. Margaret Chan, "Message from World Health Organization Director General" (2008) online: <http://www.who.int/world-health-day/dg_message/en/index.html>. "Climate change is one of the greatest challenges of our time. Climate change will affect, in profoundly adverse ways, some of the most fundamental determinants of health: food, air, water".

evaluation of this emerging global climate change governance actor than previous analyses, which evaluated only individual, specific networks or networks in general. By analysing the processes utilised by all five SNG networks, this thesis highlights that the ability of networks to influence their members lies in their effective use of these flexible and adaptable processes. It is above all the differences between networks' adoption of these processes that has shown that a distinction ought to be made between 'broad and shallow' and 'narrow and deep' networks. The policy implication from this nuance in network scholarship is that each type of network should focus its efforts on those processes best suited to it. Therefore, members of narrow networks should engage deeply with one another, working closely together to develop soft laws, establishing collective funding arrangements and sharing successes as replicable best practice examples that they implement domestically. Networks with broader memberships are able to influence the law and policy development of their members through programmes and soft laws designed by the network via interactions with members and the provision of research and expert guidance. 'Broad and shallow' SNG networks also use the strength found in their membership numbers to reframe the debate around SNG's climate change role and to advocate for ambitious actions in the international UNFCCC regime to equal the actions of these leader SNGs.

Networks have been formed by the many SNGs that have already accepted the need to and the challenge of transforming to a low-emission future and the necessity to forge global links, in order to more effectively regulate the cross-scale and cross-level problem of climate change. These SNGs are already aware of and ambitious about their ability to mitigate and adapt to the local causes and effects of climate change and can therefore be seen as forming networks for leaders. Currently these leaders are adopting low-cost, short payback policies, and picking the 'low hanging' fruit. While this is to be expected, the challenge for SNG networks is to continue their current momentum, to encourage SNGs to adopt more ambitious climate change laws and policies and to persuade laggard SNGs to participate in networks' climate change actions. Whether networks' current processes are effective enough to undertake these challenges is yet to be

seen. An initial analysis of SNGs' reasons for continued participation in networks and compliance with networks' decisions suggests that self-interest in the form of technical and economic resources, political reputation and participation in a more effective ETS is the most likely reason. Focusing on these gains may well be the means to greater participation. In narrow networks with deep engagement between members, the sense of community developed via collective decision-making and leading by example is suggested to be another reason for members to comply with the decisions and standards of the network. In larger networks, such as the CCP, a core group – the leaders among leaders[524] – may also hold this moral obligation. Only preliminary empirical data on the extent to which SNG regulators feel morally obliged to follow the decisions of networks and to continue to participate in the networks has been collected,[525] and would be another interesting area of further research.

Networks' ability to support and advance SNGs' climate change efforts, as well as to influence the development of the international climate change regime confirms their place as an important global climate change governance actor to fill the gap between the urgent and meaningful multilevel climate change action that we require, and the slow progress characterising many national governments' efforts today. With the support of networks, SNGs are establishing themselves to be a great force for proactive legal and policy action on local climate change, with the promise that SNG networks' influence over the international regime could ultimately motivate equally strong action in nation states.

[524] C.f. Kern & Bulkeley, *supra* note 191 at 329. Kern and Bulkeley reference networks of "pioneers for pioneers".
[525] Betsill & Bulkeley, *supra* note 158.

# Bibliography

## LEGISLATION

*Constitution Act, 1867 (UK), 30 & 31 Vict, c 3, reprinted in RSC 1985, App II, No 5.*

*Environmental Quality Act*, RSQ 2009, c Q-2.

*Kyoto Protocol to the United Nations Framework Convention on Climate Change,* 10 December 1997, 37 ILM 22 (1998), U.N. Doc FCCC/CP/1997/7/Add.1.

*UN Framework Convention on Climate Change*, art. 3.1, May 9, 1992, 1771 UNTS 107.

US, AB 32, *Global Warming Solutions Act*, 2005-06, Reg Sess, Cal, 2006.

US Const

*Vienna Convention on the Law of Treaties,* 26 May 1969, 1155 UNTS 331, 8 ILM 679 (entered into force 27 January 1980).

## JURISPRUDENCE

*Canadian Western Bank v Alberta,* 2007 SCC 22, [2007] 2 SCR 3.

*City of Clinton v. Cedar Rapids and Missouri River Railroad Company,* 24 Iowa 455 (1868).

*Friends of the Oldman River Society v Canada (Minister of Transport),* [1992] 1 SCR 3, 88 DLR (4th) 1.

*Gonzales v Raich,* 545 US 1 (2005).

*Holmes v Jennison,* 39 US (14 Pet) 540 (1840).

*Houston, East & West Railway Company v United States,* 234 US 342 (1914).

*New York v. United States*, 505 U.S. 144 (1992).

*Nova Scotia (AG) v Canada (AG)* [1951] SCR 31 (available on CanLII) (SCC)

*Ontario v Canadian Pacific Ltd* [1995] 2 SCR 1031 (available on CanLII) (SCC).

*R v Crown Zellerbach Canada Ltd* [1988] 1 SCR 401, 48 DLR (4th) 161.

*R v Fowler*, [1980] 2 SCR 213, [1980] 5 WWR 511.

*R v Hydro-Quebec*, [1997] 3 SCR 213, 151 DLR (4th) 32.

*R v Northwest Falling Contractors Ltd,* [1980] 2 SCR 292, [1981] 1 WWR 681.

*United States v Belmont*, 301 US 324 (1937).

*United States v Darby,* 312 US 100 (1941).

*United States v. Lopez*, 115 S Ct 1624 (1995).

## SECONDARY MATERIALS

---. *Transport in London*, Congestion Charging, online: <http://www.tfl.gov.uk/roadusers/congestioncharging/>.

---. *What is the Tea Party?* online: <http://www.teaparty.org/about.php>.
Adelman, David E. & Kirsten H. Engel. "Reorienting State Climate Change Policies to Induce Technological Change" (2008) 50 Ariz L Rev 835.
Alber, Gotelind & Kristine Kern. *Governing Climate Change in Cities: Modes of Urban Climate Governance in Multi-level Systems* (Milan: OECD, 2009).
Aldy, Joseph E. & Robert N. Stavins. *Architectures for agreement: addressing global climate change in the post-Kyoto world* (Cambridge: Cambridge University Press, 2007).
Aldy, Joseph E. & Robert N. Stavins. "Climate Policy Architectures for the Post-Kyoto World" (2008) 50:3 Environment 6.
Aldy, Joseph E. et al. "Beyond Kyoto: Advancing the international effort against climate change" (2003) online: PEW Centre for Climate Change <http://www.c2es.org/docUploads/Beyond%20Kyoto.pdf>.
Alexandersen, Christian. "Commissioners sever ties with environmental group over policy differences" *Carroll County Times* (21 January 2011) online: <http://swvateapartyab.org/?p=738>.
Alkoby, Asher. "Global Networks and International Environmental Lawmaking: A Discourse Approach" (2008) 8:2 Chicago J of Int'l L 377.
ARUP. *Climate Action in Megacities: C40 Cities Baseline and Opportunities* (2011), online: <http://www.c40cities.org/>.
Asian Cities Climate Change Resilience Network. *ACCCRN: Methodology*, online: <http://www.acccrn.org/about-acccrn/acccrn-methodology>.
Asian Cities Climate Change Resilience Network. *Asian Cities Climate Change Resilience Network: Brochure*, online: <http://www.acccrn.org/>.
Asian Cities Climate Change Resilience Network. *Asian Cities Climate Change Resilience Network*, online: <www.acccrn.org>.
Asian Cities Climate Change Resilience Network. *Shared Learning Dialogues*, online: <http://www.acccrn.org/about-acccrn/acccrn-methodology/shared-learning-dialogues>.
Aspinall, Richard. "Geographical Perspectives on Climate Change" (2010) 100:4 Annals of the Association of American Geographers 715.
Australian Department of Climate Change and Energy Efficiency. *Clean Energy Legislation*, (2012) online: <http://www.climatechange.gov.au/government/clean-energy-future/legislation.aspx>.
Australian Department of Climate Change and Energy Efficiency. *Clean energy legislation: the way ahead,* online: <http://www.climatechange.gov.au/en/government/clean-energy-future.aspx>.

Baker, Judy L. *Climate Change, Disaster Risk and the Urban Poor: Cities Building Resilience for a Changing World: Sao Paulo Case Study Overview* (Washington D.C.: World Bank, 2012).

Baumert, Kevin A. "Participation of Developing Countries in the International Climate Change Regime: Lessons for the Future" (2006) 38 Geo Wash Int'l L Rev 365.

Benidickson, Jamie. *Environmental Law* (Toronto: Irwin Law, 2009).

Benson, Melinda Harm. "Regional Initiatives: Scaling the Climate Response and Responding to Conceptions of Scale" (2010) 100:4 Annals of the Association of American Geographers 1025.

Berkhout, Peter H.G., Jos C. Muskens & Jan W. Velthuijsen. "Defining the rebound effect" (2000) 28:6-7 Energy Policy 425.

Betsill, Michele M. "Mitigating Climate Change in US Cities: opportunities and obstacles" (2001) 6:4 Local Environment 393.

Betsill, Michele M. & Harriet Bulkeley. "Cities and the Multilevel Governance of Global Climate Change" (2006) 12:2 Global Governance 141.

Betsill, Michele M. & Harriet Bulkeley. "Transnational Networks and Global Environmental Governance: The Cities for Climate Protection Program" (2004) 48:2 International Studies Quarterly 471.

Bhanoo, Sindya N. "Arizona Quits Western Cap-and-Trade Program" *The New York Times* (12 February 2010) A20, online: <http://www.nytimes.com >.

Bodansky, Daniel, Jutta Brunnée & Ellen Hey. "International Environmental Law: Mapping the Field" in Daniel Bodansky, Jutta Brunnée & Ellen Hey, eds, *The Oxford Handbook of International Environmental Law* (Oxford: Oxford University Press, 2007).

Brunnée, Jutta & Stephen J. Toope. *Legitimacy and legality in international law: an interactional account* (Cambridge: Cambridge University Press, 2010).

Brunnée, Jutta. "An Agreement in Principle? The Copenhagen Accord and the Post-2012 Climate Regime" in Holger Hestermeyer et al, eds, *Law of the Sea in Dialogue* (Berlin: Springer, 2011).

Brunnée, Jutta. "From Bali to Copenhagen: Towards a Shared Vision for a Post-2012 Climate Regime" (2010) 25 Maryland Journal of International Law 86.

Bulkeley, Harriet & Kristine Kern. "Local Government and the Governing of Climate Change in Germany and the UK" (2006) 43:12 Urban Studies 2237.

Bulkeley, Harriet & Michele Betsill. "Rethinking Sustainable Cities: Multilevel Governance and the 'Urban' Politics of Climate Change" (2005) 14:1 Environmental Politics 42

Bulkeley, Harriet & Michele M. Betsill. *Cities and climate change: urban sustainability and global environmental governance* (London, UK: Routledge, 2003);

Bulkeley, Harriet. "Reconfiguring environmental governance: Towards a politics of scales and networks" (2005) 24:8 Political Geography 875.

Burns, William C. G. & Hari M. Osofsky. *Adjudicating climate change: state, national, and international approaches* (Cambridge: Cambridge University Press, 2009).

C40 Initiative. *Fact Sheet: Why Cities?,* online: C40 Initiative <http://www.c40cities.org/>.

C40 Initiative. *About Us*, online: <http://live.c40cities.org/about-us/>.

C40 Initiative. *C40 and World Bank Form Groundbreaking Climate Change Action Partnership*, online: <http://live.c40cities.org/blog/2011/6/1/c40-and-world-bank-form-groundbreaking-climate-change-action.html>.

C40 Initiative. *C40 Events*, online: <http://live.c40cities.org/c40-events/>.

C40 Initiative. *C40 Initiative*, online: <http://live.c40cities.org/>.

C40 Initiative. *Climate Positive Development Program*, online: <http://www.clintonfoundation.org/what-we-do/clinton-climate-initiative/c40-cci-cities/climate-positive-development-program>.

C40 Initiative. *Fact Sheet: C40 Cities Climate Leadership Group* (2011) online: <http://c40citieslive.squarespace.com/storage/Fact%20Sheet%20C40%20Cities%20Climate%20Leadership%20Group%204.26.12.pdf>.

California Environmental Protection Agency. *Notice of Public Hearing to Consider Amendments to the Cap and Trade Regulation: Initial Statement of Reasons: Appendix B: Western Climate Initiative Development and Stakeholder Process* (2012) online: <http://www.arb.ca.gov/regact/2012/capandtrade12/appendixb.pdf>.

California Green Solutions. *Cities Benefit from Bulk Purchases of Green Supplies by Clinton Foundation*, online: California Green Solutions, <http://www.californiagreensolutions.com/cgi-bin/gt/tpl.h,content=1342>.

Carbon Disclosure Project. *Measure for Management: CDP Cities 2012 Global Report including special report on C40 cities* (2012) online: <https://www.cdproject.net/CDPResults/CDP-Cities-2012-Global-Report.pdf>.

Cash, David W. & Susanne C. Moser. "Linking global and local scales: designing dynamic assessment and management processes" (2000) 10 Global Environmental Change 109.

Cash, David W. et al. "Scale and Cross-Scale Dynamics: Governance and Information in a Multi-Level World" (2006) 11:2 Ecology and Society 8.

Cassidy, Barrie. "The world is abandoning emissions trading: Abbott" online: The Australian Broadcasting Corporation (ABC), <http://www.abc.net.au/insiders/content/2012/s3541262.htm/>.

CCP Australia. *Local Government Action on Climate Change*, online: <http://www.iclei.org/index.php?id=10829>.

Center for Climate and Energy Solutions. *Climate Change 101: State Action*, (2009) online: Center for Climate and Energy Solutions (C2ES) <http://www.c2es.org/docUploads/climate101-state.pdf>.

Chan, Dr. Margaret. "Message from World Health Organization Director General" (2008) online: <http://www.who.int/world-health-day/dg_message/en/index.html>.

Chinkin, Christine. "Normative Development in the International Legal System" in Dinah Shelton, ed., *Commitment and Compliance: The Role of Non-Binding Norms in the International System* (Oxford: Oxford University Press, 2000) 21.

Cities for Climate Protection New Zealand. *Actions Profile*, (2009) online: <http://www.iclei.org/index.php?id=10829>.

Clinton Climate Initiative. *CCI - C40 Cities*, online: <http://www.clintonfoundation.org/main/our-work/by-initiative/clinton-climate-initiative/programs/c40-cci-cities.html>.

Cohen, Boyd. *Tea Party Opposes ICLEI and Sustainable Development in Cities*, online: <http://www.triplepundit.com/2011/07/tea-party-opposes-iclei-sustainable-development-cities/>.

Corfee-Morlot, Jan et al. *Cities, Climate Change and Multilevel Governance* (2009) online: OECD Environment Working Papers, No 14 <www.oecd.org/env/workingpapers>.

Cotterrell, Roger. "What is Transnational Law" (2012) 37:2 Law and Social Inquiry 500.

Curry, Bill & Shawn McCarthy. "Canada formally abandons Kyoto Protocol on Climate Change" *The Globe and Mail* (12 December 2011) online: <www.theglobeandmail.com>.

D'Amato, Anthony. "Softness in International Law: A Self-Serving Quest for New Legal Materials: A Reply to Jean d'Aspremont" (2009) 20 EJIL 897.

Davies, Anna R. "Local Action for Climate Change: Transnational Networks and the Irish Experience" (2005) 10:1 Local Environment 21.

de Prado, César. *Global multi-level governance: European and East Asian leadership* (New York: United Nations University Press, 2007).

Deangelo, Benjamin J. & L. D. Danny Harvey. "The jurisdictional framework for municipal action to reduce greenhouse gas emissions: Case studies from Canada, the USA and Germany" (1998) 3:2 Local Environment 111.

Deutschen Institut für Urbanistik (Difu) & Institut für Energie- und Umweltforschung (ifeu). *Leitfaden Kommunaler Klimaschutz*, online: <http://www.leitfaden.kommunaler-klimaschutz.de/>.

Dewing, Michael, William Robert Young & Erin Tolley. *Municipalities, the constitution, and the Canadian federal system*, online: Library of Parliament, Parliamentary Information and Research Service <http://www.parl.gc.ca>.

Di Robilant, Anna. "Genealogies of Soft Law" (2006) 54 American Journal of Comparative Law 499.

Dingman, Erica. *Sovereignty Matters: States, Security and Climate Change in the Arctic.* (New York: The World Policy Institute, 2011).

Djelic, Marie-Laure & Kerstin Sahlin-Andersson. *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006).

Duggan, Jill. *Synchronized Swimming: The Regional Greenhouse Gas Initiative* (2010) online: World Resources Institute <http://www.wri.org/stories/2010/02/synchronized-swimming-regional-greenhouse-gas-initiative>.

Eilstrup-Sangiovanni, Mette. "Varieties of Cooperation: Government Networks in International Security" in Miles Kahler, ed, *Networked politics: agency, power, and governance* (Ithaca: Cornell University Press, 2009).

Elkins, Zachary. "Constitutional Networks" in Miles Kahler, ed, *Networked Politics: Agency, Power and Governance* (Ithica: Cornell University Press, 2009).

Ellis, Jaye. "Shades of Grey: Soft Law and the Validity of Public International Law" (2012) 25:2 Leiden Journal of International Law 313.

Engel, Kirsten H. "Harnessing the Benefits of Dynamic Federalism in Environmental Law" (2006) 56:1 Emory LJ 159.

Engel, Kirsten H. "Mitigating Global Climate Change in the United States: A Regional Approach" (2005) 14 NYU Envtl LJ 54.

Engel, Kirsten H. "State and Local Climate Change Initiatives: What is Motivating State and Local Governments to Address a Global Problem and What Does This Say About Federalism and Environmental Law?" (2006) 38 Urban Lawyer 1015.

Engel, Kirsten H. "Whither Subnational Climate Change Initiatives in the Wake of Federal Climate Legislation?" (2009) 39:3 Publius: The Journal of Federalism 432.

European Parliament. *Subsidiarity*, online: European Union <http://www.europarl.europa.eu>.

European Solar Thermal Industry Federation. *Solar Ordinances*, online: <http://www.estif.org/policies/solar_ordinances>.

Fink, Carl, Dirk Michels & Mariah R. Kennedy. "California Proposes Revised Cap-and-Trade Regulations Providing for Linkage with International Cap-and

Trade Market" (18 May 2012) online: Legal Insights <http://www.jdsupra.com>.
Galarraga, Ibon, Mikel Gonzalez-Eguino & Anil Markandya. "The Role of Regional Governments in Climate Change Policy" (2011) 21:3 Environmental Policy & Governance 164.
Galbraith, John Kenneth. *The anatomy of power* (Boston: Houghton Mifflin, 1983).
Gibson, Clark C. Elinor Ostrom & T.K. Ahn. "The concept of scale and the human dimensions of global change: a survey" (2000) 32 Ecological Economics 217.
Goulder, Lawrence H. & Robert N. Stavins. "Interactions between State and Federal Climate Change Policies" in Don Fullerton & Catherine Wolfram, eds, *The Design and Implementation of U.S. Climate Policy* (Chicago: University of Chicago Press, 2012).
Green, Andrew. "Climate Change, Regulatory Policy and the WTO" (2005) 8:1 J Int'l Econ L 143.
Guzman, Andrew T. & Timothy L. Meyer. "International Soft Law" (2010) 2:1 Journal of Legal Analysis 171.
Happaerts, Sander, Karoline Van den Brande & Hans Bruyninckx. "Subnational governments in transnational networks for sustainable development" (2011) 11:4 International Environmental Agreements 321.
Hardin, Garrett James. "The tragedy of the commons" in Garrett James Hardin & John Baden, eds, *Managing the commons* (San Francisco: W.H. Freeman, 1977).
Harvey, Fiona. "Rich nations 'give up' on new climate treaty until 2020" *The Guardian* online: <www.guardian.co.uk>.
Heringa, A. W. & Philipp Kiiver. *Constitutions compared: an introduction to comparative constitutional law,* 2 ed. (Oxford: Intersentia; Metro, 2009).
Hibbard, Paul J. et al. *The Economic Impacts of the Regional Greenhouse Gas Initiative on Ten Northeast and Mid-Atlantic States: Review of the Use of RGGI Auction Proceeds from the First Three-Year Compliance Period* (The Analysis Group, 2011).
Hoffmann, Matthew J. "Experimenting with Climate Governance" (Paper prepared for Amsterdam Human Dimensions of Environmental Change meeting (Agency Stream), December 2009) [unpublished].
Hogg, Peter W. *Constitutional law of Canada* (Toronto: Carswell, 2010).
Honan, Edith. "New Jersey sued for pulling out of climate initiative" *Reuters* (6 June 2012) online: <http://in.reuters.com/>.

Hooghe, Liesbet & Gary Marks. "Unraveling the Central State, but How? Types of Multi-Level Governance" (2003) 97:2 The American Political Science Review 233.

Hoornweg, D. et al. *Cities and Climate Change: Responding to an Urgent Agenda* (Washington D.C.: World Bank, 2011).

Hoover, Lydia B. "The Commerce Clause, Federalism and Environmentalism: At Odds After Olin?" (1997) 21 Wm & Mary Envtl L & Pol'y Rev 735.

Huettner, Michael et al. "Regaining momentum for international climate policy beyond Copenhagen" (2010) 5:1 Carbon Balance and Management 1.

ICLEI & King County. *Preparing for Climate Change: A Guidebook for Local, Regional and State Governments* (2009) online: <http://cses.washington.edu/cig/fpt/planning/guidebook/gateway.php>.

ICLEI Japan Office. *CCP Japan Campaign Report 2009*, online: <http://www.iclei.org/index.php?id=10829>.

ICLEI USA. *Measuring Up*, online: <http://www.iclei.org/index.php?id=10829>.

ICLEI USA. *Sustainability Toolkit*, online: <www.icleiusa.org/sustainabilitytoolkit>.

ICLEI. *Submission of ICLEI - Local Governments for Sustainability on Options and Ways for Further Increasing Level of Ambition,* UN Doc FCCC/CP/2011/L.10, para.8, (2012) online: <http://unfccc.int/resource/docs/2012/smsn/ngo/136.pdf>.

ICLEI. *HEAT+ Harmonised Emission Analysis Tool*, online: <http://heat.iclei.org/heatplus/downloads/HEATplus_brochure.pdf>.

ICLEI. *ICLEI Climate Program*, online: <http://www.iclei.org/index.php?id=800>.

ICLEI. *ICLEI Global - Cities' next steps after COP17*, online: <http://www.iclei.org/index.php?id=1487&tx_ttnews%5Btt_news%5D=4764&tx_ttnews%5BbackPid%5D=983&cHash=572ebdb8b7>.

ICLEI. *ICLEI International Progress Report: Cities for Climate Protection*, online: <http://www.iclei.org/fileadmin/user_upload/documents/Global/Progams/CCP/CCP_Reports/ICLEI_CCP_Internat_2006.pdf>.

ICLEI. *Local Government Climate Roadmap*, online: <http://www.iclei.org/index.php?id=7694>.

ICLEI. *The Cities for Climate Protection (CCP) Campaign*, online: <http://www.iclei.org/index.php?id=10829>.

ICLEI's European Cities for Climate Protection (CCP) Campaign. *Participants List,* online: <http://www.iclei-europe.org/fileadmin/templates/iclei-europe/files/content/CCP/CCP_Participants_Sept_2010_website_list.pdf>.

Ingham, Alan, Jie Ma & Alistair Ulph. “Climate change, mitigation and adaptation with uncertainty and learning” (Paper delivered at the Symposium NCCR CLIMATE “Interfaces between Climate and Economic Dynamics” Interlaken, 3-4 March 2005) [unpublished].

International Emissions Trading Association. "Pacific Rim Climate Workshop - Summary Report" in International Emissions Trading Association, ed, *Pacific Rim Climate Workshop - Summary Report: Proceedings of the Pacific Rim Climate Workshop*, (Vancouver, 2012).

International Energy Agency. *World Energy Outlook 2011 Factsheet: How big are energy subsidies and which fuels benefit?* (2011) online: <http://www.iea.org/weo/docs/weo2011/factsheets.pdf>.

International Energy Agency. *World Energy Outlook 2011: Executive Summary* (Paris, France: 2011).

Jacobsson, Bengt & Kerstin Sahlin-Andersson. "Dynamics of soft regulations" in Marie-Laure Djelic & Kerstin Sahlin-Andersson, eds, *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006).

Jessup, Philip C. *Transnational law* (New Haven: Yale University Press, 1956).

Junger, Kirk W. "Conventional Wisdom, De-emption and Uncooperative Federalism in International Environmental Agreements" (2004) 2:1 Loy U Chicago International LJ 93.

Kahler, Miles "Networked politics: agency, power, and governance" in Miles Kahler, ed, *Networked politics: agency, power, and governance* (Ithaca: Cornell University Press, 2009).

Kahler, Miles. *Networked politics: agency, power and governance* (Ithaca: Cornell University Press, 2009).

Kates, Robert W. & Thomas J. Wilbanks. "Making the Global Local" (2003) 45:3 Environment 12.

Kellow, Aynsley. "Multi-level and multi-arena governance: the limits of integration and the possibilities of forum shopping" International Environmental Agreements [forthcoming in 2012].

Kern, Kristine & Harriet Bulkeley. "Cities, Europeanization and Multi-level Governance: Governing Climate Change through Transnational Municipal Networks" (2009) 47:2 Journal of Common Market Studies 309.

Kingsbury, Benedict, Nico Krisch & Richard B. Stewart. "The Emergence of Global Administrative Law" (2005) 68:3 Law and contemporary problems 15.

Kirton, John J. & M. J. Trebilcock. *Hard choices, soft law: voluntary standards in global trade, environment, and social governance* (Brookfield, USA: Ashgate, 2004).

Klein, Christine A. "The Environmental Commerce Clause" (2003) 27 Harv Envtl L Rev 1.

Knowledge Allianz. *Kyoto Emissions Targets*, online: <http://knowledge.allianz.com/climate/agenda/?761>.

Kosloff, Laura & Mark Trexler. "State Climate Change Initiatives: Think Locally, Act Globally" (2004) 18:Winter Natural Resources and Environment 46.

Krisch, Nico. "Who is Afraid of Radical Pluralism? Legal Order and Political Stability in the Postnational Space" (2011) 24:4 Ratio Juris 386.

Lazar, Harvey & Christian Leuprecht. *Spheres of governance : comparative studies of cities in multilevel governance systems* (Montréal: McGill-Queen's University Press, 2007).

Leal-Arcas, Rafael. "Kyoto and the COPs: Lessons Learned and Looking Ahead " (2011) 23 Hague YB of Int'l L 17.

Litz, Franz T. *Towards a Constructive Dialogue on Federal and State Roles in U.S. Climate Change Policy* (2008) online: Solutions White Paper Series <http://www.c2es.org/docUploads/StateFedRoles.pdf>.

Macey, Adrian. "The Road to Durban and Beyond" (2012) 8:2 Policy Quarterly 25.

Maeda, Risa. "Japan shelves carbon emissions trading scheme" *Reuters* (28 December 2012) online: <http://www.reuters.com>.

Major Economies Forum on Energy and Climate, (L'Aquila, Italy, 9 July 2009).

McCarthy, James. "Scale, Sovereignty, and Strategy in Environmental Governance" (2005) 37:4 Antipode 731.

McGrew, Anthony. "Globalisation and global politics" in John Baylis & Steve Smith, eds, *The Globalisation of World Politics* (Oxford: Oxford University Press, 2010).

Michaelowa, Axel, Kristian Tangen & Henrik Hasselknippe, "Issues and Options for the Post-2012 Climate Architecture - An Overview" (2005) 5 International Environmental Agreements 5.

Millard-Ball, Adam. "Do city climate plans reduce emissions?" (2012) 71:3 Journal of Urban Economics 289.

Millard-Ball, Adam. "The Limits to Planning: The causal impacts of city climate action plans" Journal of Planning Education and Research [forthcoming in 2012].

Miller, Genesis Wren. "Reducing Transportation Carbon Emissions: The Latent Potential for New England" (2009) 11:1 Vermont Journal of Environmental Law 167.

Moench, Marcus, Stephen Tyler & Jessica Lage. *Catalyzing Urban Climate Resilience: Applying Resilient Concept to Planning Practice in the ACCCRN Program* (2009-2011), online:

<http://www.acccrn.org/sites/default/files/documents/ISET_Report_CatalyzingUrbanClimateResilience.pdf>.

Monahan, Patrick J. *Constitutional law* (Toronto: Irwin Law, 2006).

Mörth, Ulrika. "Soft regulation and global democracy" in Marie-Laure Djelic & Kerstin Sahlin-Andersson, eds, *Transnational Governance: Institutional Dynamics of Regulation* (Cambridge: Cambridge University Press, 2006).

Murphy, Joseph & Helen Yanacopulos. "Understanding governance and networks: EU-US interactions and the regulation of genetically modified organisms" (2005) 36:5 Geoforum 593.

Neumann, Roderick P. "Political ecology: theorizing scale" (2009) 33:3 Progress in Human Geography 398.

Office of Market Mechanisms Climate Change Policy Division. *Japan's Voluntary Emissions Trading Scheme (JVETS),* (2009) online: <http://www.env.go.jp/en/earth/ets/jvets090319.pdf>.

Okereke, Chukwumerije, Harriet Bulkeley & Heike Schroeder. "Conceptualizing Climate Governance Beyond the International Regime" (2009) 9:1 Global Environmental Politics 58.

Osofsky, Hari M. "Diagonal Federalism and Climate Change: Implications for the Obama Administration" (2011) 62:2 Ala L Rev 237.

Osofsky, Hari M. "Is Climate Change "International"? Litigation's Diagonal Regulatory Role" (2009) 49:3 Va J Int'l L 585.

Osofsky, Hari M. "Multiscalar Governance and Climate Change: Reflections on the Role of States and Cities at Copenhagen" (2010) 25 Maryland Journal of International Law 64.

Osofsky, Hari M. "The Scale of Networks?: Local Climate Change Coalitions" (2008) 8:2 Chicago J Int'l L 409.

Ostrom, Elinor. *A Polycentric Approach for Dealing with Climate Change* (Washington D.C.: The World Bank, 2009).

Partners for Climate Protection. *Members*, online: <http://fcm.ca/home/programs/partners-for-climate-protection/members.htm>.

Partners for Climate Protection. *National Measures Report 2010*, online: <http://www.iclei.org/fileadmin/user_upload/documents/Global/Progams/CCP/CCP_Reports/ICLEI_Canadian_National_Measures_Report_2010_English.pdf>.

Piattoni, Simona. *The theory of multi-level governance: conceptual, empirical, and normative challenges,* (Oxford: Oxford University Press, 2010).

Raustiala, Kal. "The Architecture of International Cooperation: Transgovernmental Networks and the Future of International Law" (2002) 43:1 Va J Int'l L 1.

Regional Greenhouse Gas Initiative. *About the Regional Greenhouse Gas Initiative* (2010), online: <http://www.rggi.org/docs/RGGI_Fact_Sheet.pdf>.
Regional Greenhouse Gas Initiative. Media Release, "Ten States Mark Second Anniversary of Regional Program to Reduce Greenhouse Gas Emissions", online: (2010) <http://www.rggi.org/docs/Auction_9_News_Release_MM_Report.pdf>.
Regional Greenhouse Gas Initiative. *Memorandum of Understanding*, online: <http://www.rggi.org/docs/mou_final_12_20_05.pdf>.
Regional Greenhouse Gas Initiative. *Program Design*, online: <http://www.rggi.org/design>.
Regional Greenhouse Gas Initiative. *Regional Greenhouse Gas Initiative Model Rule*, online: <http://www.rggi.org/docs/Model%20Rule%20Revised%2012.31.08.pdf>;
Regional Greenhouse Gas Initiative. *State Statutes and Regulations*, online: <http://www.rggi.org/design/regulations>.
Regional Greenhouse Gas Initiative. *The RGGI CO2 Cap*, online: <http://www.rggi.org/design/overview/cap>.
Regional Greenhouse Gas Initiative. *Welcome*, online: < http://www.rggi.org>.
Resnik, Judith, Joshua Civin & Joseph Frueh. "Ratifying Kyoto at the Local Level: Sovereigntism, Federalism, and Translocal Organizations of Government Actors (TOGAs)" (2008) 50 Ariz L Rev 709.
Rice, Jennifer L. "Climate, Carbon, and Territory: Greenhouse Gas Mitigation in Seattle, Washington" (2010) 100:4 Annals of the Association of American Geographers 929.
Robinson, Pamela J. & Christopher D. Gore. "Barriers to Canadian Municipal Response to Climate Change" (2005) 14 Canadian Journal of Urban Research 102.
Ross Garnaut. *The Garnaut Review 2011: Australia in the Global Response to Climate Change* (New York: Cambridge University Press, 2011).
Rumbaitis del Rip, Cristina. "Asian Cities Climate Change Resilience Network", (Presentation delivered at the Proceedings of the Cities and Resilience Dialogue: Progress and Challenges in Addressing Urban Adaptation in Asia, Bangkok, 2009) [unpublished].
Saddler, Hugh, Frank Muller & Clara Cuevas. *Competitiveness and Carbon Pricing: Border adjustments for greenhouse policies* (Canberra: The Australia Institute, 2006).
Sand, Inger-Johanne. "Polycontextuality as an Alternative to Constitutionalism" in Christian Joerges, Inger-Johanne Sand & Gunther Teubner, eds, *Transnational Governance and Constitutionalism* (Portland, Oregon: Hart Publishing, 2004).

Sayre, Nathan F. "Ecological and geographical scale: parallels and potential for integration" (2005) 29:3 Progress in Human Geography 276.

Schroeder, Heike & Harriet Bulkeley. "Global cities and the governance of climate change: what is the role of law in cities?" (2009) 36:2 Fordham Urb LJ 313.

Sharma, Ajay. *Multilevel Governance and Climate Change: Are Municipalities Effective 'Partners' in the Canadian Climate-Change Response?* (Carleton University: 2009).

Shobe, William M. & Dallas Burtraw. *Rethinking environmental federalism in a warming world* (Washington D.C.: Standford Institute for Economic Policy, 2011).

Sikkink, Kathryn. "The Power of Networks in International Politics" in Miles Kahler, ed, *Networked Politics: Agency, Power and Governance* (Ithaca: Cornell University Press, 2009).

Slaughter, Anne-Marie & David Zaring. "Networking Goes International: An Update" (2006) 2:1 Annual Review of Law and Social Science 211.

Slaughter, Anne-Marie & Thomas Hale. "Transgovernmental Networks and Emerging Powers" in Alan S. Alexandroff & Andrew F. Cooper, eds, *Rising States, Rising Institutions* (Waterloo, Ontario: The Centre for International Governance Innovation, 2010).

Slaughter, Anne-Marie & William Burke-White. "The Future of International Law Is Domestic (or, The European Way of Law)" (2006) 47:2 Harvard International Law Journal 327.

Slaughter, Anne-Marie. "Sovereignty and Power in a Networked World Order" (2004) 40:2 Stan J Int'l L 283.

Slaughter, Anne-Marie. *A new world order* (Princeton: Princeton University Press, 2004).

Sovacool, Benjamin K. & Marilyn A. Brown. "Addressing Climate Change: Global vs. Local Scales of Jurisdiction?" in Fereidoon Sioshansi, ed, *Generating Electricity in a Carbon-Constrained World* (Burlington: Elsevier, 2010) 109.

Sovacool, Benjamin K. & Marilyn A. Brown. "Scaling the policy response to climate change" (2009) 27 Policy and Society 317.

Stavins, Robert. *Low Prices a Problem? Making Sense of Misleading Talk about Cap-and-Trade in Europe and the USA*, (2012) online: <http://www.robertstavinsblog.org/>.

Stewart, Richard B. "States and Cities as Actors in Global Climate Regulation: Unitary vs. Plural Architectures" (2008) 50 Ariz L Rev 681.

Sugiyama, Taishi & Jonathon Sinton. "Orchestra of Treaties: A Future Climate Regime Scenario with Multiple Treaties among Like-minded Countries" (2005) 5 International Environmental Agreements 65.

Takeuchi, Kazuhiko & Nicholas Turner. "Japan's triple disaster and climate change policy" *East Asia Forum* (23 May 2011) online: <www.eastasiaforum.org/>.

Trisolini, Katherine & Jonathon Zasloff. "Cities, Land Use, and the Global Commons: Genesis and the Urban Politics of Climate Change" in William C.G. Burns and Hari M. Osofsky, eds, *Adjudicating Climate Change: State, National and International Approaches* (Cambridge: Cambridge University Press, 2009) 72.

Trisolini, Katherine A. "All hands on deck: local governments and the potential for bidirectional climate change regulation" (2010) 62:3 Stan L Rev 669.

Tulloch, James. *Agenda 2012: What Future for Kyoto Protocol?* (2012) online: Allianz - Climate Change Policy <http://knowledge.allianz.com/climate/agenda/?1741/climate-change-policy-agenda-2012-what-future-for-kyoto-protocol>.

United Nations Department of Economic and Social Affairs. Agenda 21: The United Nations Programme of Action from Rio, online: <http://www.un.org/esa/dsd/agenda21/>.

United Nations Framework Convention on Climate Change, *Status of Ratification of the Kyoto Protocol*, online: <http://unfccc.int/kyoto_protocol/status_of_ratification/items/2613.php>;

Vidal, John. "Cancún climate change summit: Japan accused of threatening Kyoto protocol" *The Guardian* (2 December 2010) online: <http://www.guardian.co.uk>.

Virginia Right. *Tea Party Report: Fayetteville (AR) says no to ICLEI renewal! Victory!,* online: <http://www.varight.com/news/tea-party-report-fayetteville-ar-says-no-to-iclei-renewal-victory/>.

Vogel, Ronald K. "Multilevel Governance in the United States" in Harvey Lazar & Christian Leuprecht, eds, *Spheres of Governance: Comparative Studies of Cities in Multilevel Governance Systems* (Montreal: McGill-Queen's University Press, 2007).

Von Bernstorff, Jochen. "The Structural Limitations of Network Governance: ICANN as a Case in Point" in Christian Joerges, Inger-Johanne Sand & Gunther Teubner, eds, *Transnational Governance and Constitutionalism* (Portland, Oregon: Hart Publishing, 2004).

Western Climate Initiative. *Design Summary* (2010), online: <http://www.westernclimateinitiative.org/designing-the-program>;

Western Climate Initiative. *Detailed Design*, online: <http://www.westernclimateinitiative.org/component/remository/general/program-design/Detailed-Design/>.

Western Climate Initiative. *Final Complementary Policies White Paper*, online: (2010) <http://www.westernclimateinitiative.org/dmdocuments/Complementary%20Polcies%20-%20Final%20White%20Paper%20052010.255.pdf>.

Western Climate Initiative. Media Release "Stakeholder Update: WCI Unveils Steps to Develop North American Greenhouse Gas Emissions Trading Program", online: http://www.westernclimateinitiative.org/news-and-updates.

Western Climate Initiative. Media Release, "The WCI Partners Release Their Comprehensive Strategy to Address Climate Change and Spur a Clean-Energy Economy" (2010) online: Western Climate Initiative <http://www.westernclimateinitiative.org/the-wci-cap-and-trade-program/program-design>.

Western Climate Initiative. *WCI Emissions Trading Program Update*, online: <http://www.westernclimateinitiative.org/document-archives/Partner-Meeting-Materials/Jan-12-Stakeholder-Update-Presentation/%20>.

Western Climate Initiative. *WCI Governors' Agreement*, online: <http://www.westernclimateinitiative.org/component/remository/general/orderby,1/page,2/>.

Western Climate Initiative. *WCI Releases Updated Economic Analysis*, online: <http://www.westernclimateinitiative.org/news-and-updates/119-wci-releases-updated-economic-analysis>.

Western Climate Initiative. *Western Climate Initiative*, online: <http://www.westernclimateinitiative.org>.

Whiteman, Gail et al. "Business strategies and the transition to low-carbon cities" (2011) 20:4 Business Strategy and the Environment 251.

Wilbanks, Thomas J. & Robert W. Kates. "Global Change in Local Places: How Scale Matters" (1999) 43 Climatic Change 601.

Woodiwiss, Anthony. "International Law" (2006) 23:2-3 Theory, Culture & Society 524.

Zhang, Zhongxiang. "In what format and under what timeframe would China take on climate commitments? A roadmap to 2050" (2011) 11:3 International Environmental Agreements 245.

## SECONDARY MATERIALS: INTERNATIONAL SOURCES

*Agreement of the Ad Hoc Working Group on Long-term Cooperative Action*, Dec. 1/CP16, UNFCCC, 16th Sess, UN Doc FCCC/CP/2010/7/Add.1 (2010).

*Copenhagen Accord*, UNFCCC, Dec 2/CP.15, UNFCCC, 15th Sess, UN Doc FCCC/CP/2009/11/Add.1 (2010).

*Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action*, Dec 1/CP.17, UNFCCC, 17th Sess, UN Doc. FCCC/CP/2011/9/Add.1, (2011).

*Outcome of the work of the Ad Hoc Working Group on Further Commitments for Annex 1 Parties under the Kyoto Protocol*, Dec 1/CMP.7, UNFCCC, 7th Sess, UN Doc FCCC/KP/CMP/2011/10/Add.1 (2011).

*Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*, Decision 2/CP.17, UNFCCC, 17th Sess, UN Doc FCCC/CP/2011/9/Add.1 (2011).

*Report of the in-depth review of the fifth national communication of New Zealand*, UNFCCC, U.N. Doc FCCC/IDR.5/NZL, (2011).

## Appendix 1 – Sub-national government networks on climate change

### Cities for Climate Protection Campaign

The CCP campaign has more than 1000 local government members worldwide, from North America, Oceania, Latin America, Europe, Africa and Asia. These member governments represent more than 20% of global GHG emissions.[526] The five milestone process is considered as one of the unique features of CCP. Following a political commitment statement of the representative of their local governments, participating cities are expected to:

- Measure their emissions of greenhouse gases, generated through the actions of their local government administration (government emissions) and through the actions of the community they serve (community emissions);
- Commit for an emissions (government or community) reduction target with respect to a base year and a target year;
- Plan their actions (e.g. energy efficiency in buildings and transport, introduction of renewable energy, sustainable waste management) at the government and community level to reach this committed reduction target;
- Implement their Local Climate Action Plan;
- Monitor emissions reductions achieved by their mitigation actions.[527]

### C40 Initiative

The C40 Initiative has 58 members, forty participating cities and eighteen affiliated cities:

- C40 participating cities (40): Addis Ababa, Athens, Bangkok, Beijing, Berlin, Bogotá, Buenos Aires, Cairo, Caracas, Chicago, Delhi NCT, Dhaka, Hanoi, Houston, Hong Kong, Istanbul, Jakarta, Johannesburg, Karachi, Lagos, Lima, London, Los Angeles, Madrid, Melbourne, Mexico City, Moscow, Mumbai, New York, Paris, Philadelphia, Rio de Janeiro, Rome, Sao Paulo, Seoul, Shanghai, Sydney, Tokyo, Toronto, and Warsaw.

- C40 affiliate cities (18): include Amsterdam, Austin, Barcelona, Basel, Changwon, Copenhagen, Curitiba, Heidelberg, Ho Chi Minh City, Milan, New Orleans, Portland, Rotterdam, Salt Lake City, San Francisco, Seattle, Stockholm, and Yokohoma.

### Asian Cities for Climate Change Protection Programme

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[526] ICLEI, "ICLEI Climate Program", online.

[527] ICLEI, "The Cities for Climate Protection (CCP) Campaign", online.

The ACCCRN is a programme established by the Rockefeller Institute that works at the intersection of climate change, urban systems and vulnerability to consider both direct and indirect impacts of climate change in developing countries.[528] Its ten member cities are Indore, Gorakhpur and Surat in India, Bandar Lampung and Semarang in Indonesia, Chiang Rai and Hat Yai in Thailand and Can Tho, Da Nang and Quy Nhon in Vietnam.

The ACCCRN will undertake its work in four Phases.

- The first phase included scoping and selecting the ten cities that would be members of the network, which was undertaken from 2008-2009.
- From 2009-2010, the second phase involved close engagement with cities and capacity building of both city governments and the broader community. Vulnerability analyses were undertaken to identify climate change impacts.
- The third phase includes the actual implementation of urban resilience projects, which is still being undertaken.
- The fourth phase is to be one of replication and the ACCCRN program will scale-up through shared learning within and between cities, countries and sectors.[529]

**Regional Greenhouse Gas Initiative**

The RGGI is a cooperative effort among the states of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. The RGGI is the first market-based regulatory program in the USA and has capped and will reduce CO2 emissions from the power sector 10 per cent by 2018.[530]

The cap-and-trade emissions trading scheme of the RGGI covers fossil fuel-fired power plants that are 25 megawatts or greater in size. The majority of emission allowances are auctioned by the RGGI and auction proceeds reached $993 million by March 2012. 80 per cent of these proceeds have been invested in consumer benefit programs, including energy efficiency, renewable energy, direct energy bill assistance and other greenhouse gas reduction programs. Power plants may offset their actual emission reductions through qualifying GHG reduction projects outside the electricity sector, to meet 3.3 per cent of their compliance obligation.

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528 Asian Cities Climate Change Resilience Network, "Asian Cities Climate Change Resilience Network - Brochure", online.

529 Ibid.

530 regional Greenhouse Gas Initiative.

**Western Climate Initiative**

As of December 2011, the WCI members are California and the Canadian provinces British Columbia, Manitoba, Ontario, and Quebec. In November 2011, Arizona, Montana, New Mexico, Oregon, Utah and Washington formally withdrew from the WCI.

The WCI is also a cap-and-trade ETS that will cover emissions of all six greenhouse gases - Carbon Dioxide (CO2), Methane (CH4), Nitrous Oxide (N2O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), Sulfur Hexafluoride (SF6). It will initially include electricity generators, including those outside but delivered inside WCI jurisdictions, and large industrial sources. In 2015, the program will expand to include emissions from the transportation sector, as well as from the residential, commercial, and small industrial sectors.[531] It is estimated that the first period will cover about half of WCI-members' emissions, rising to about 90 per cent from 2015.

On January 1, 2012 WCI members were to introduce their individual cap-and-trade schemes. However, only two (California and Quebec) have actually implemented a cap-and-trade program.

[531] PEW Center on Global Climate Change, online.