Regional Initiatives to Address Global Climate Change

Across the nation, there is a growing acceptance of the proposition that human activities are causing an increase in atmospheric concentrations of carbon dioxide and other greenhouse gases and that this will cause changes in global climate patterns that will have economic and social impacts. States are studying their policy options and implementing policies to reduce greenhouse gas emissions.

Recognizing the limited impact one state can have on this global phenomenon, states and provinces have banded together to create regional initiatives. This memorandum identifies and briefly describes four regional climate change initiatives in North America, the European Union Climate Change Program, and the International Carbon Action Partnership. It addresses one private sector initiative, the Chicago Climate Exchange (CCX). The principal initiatives consist of emissions trading programs and emissions registries; other initiatives include emissions registries and efforts to coordinate energy and climate policies among participating states and provinces. Although some of the programs require enabling legislation, all the North American initiatives described in this memorandum (except the CCX) were initiated by governors.

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1 Six gases emitted by human activities are implicated as contributing to global climate change, including four discrete compounds, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and sulphur hexafluoride (SF₆), and two families of compounds, hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). As carbon dioxide is the single largest contributor, many discussions and programs focus exclusively on this compound. This memorandum distinguishes between “greenhouse gases,” referring to the six gases collectively, and carbon dioxide.

2 The phenomenon in question is often referred to as “global warming,” because an increase in average global temperature is projected to drive other changes. However, since the anticipated effects are far more complicated, this memorandum refers instead to “global climate change.”

3 Typically, participation in one of the regional initiatives described in this memorandum is only one element of a state’s broader climate change program.
EMISSIONS TRADING PROGRAMS

Emissions trading programs, also called cap-and-trade programs, are a market-based approach to reducing pollution discharges. The concept was pioneered in the early 1990s, since which time it has been applied to control acid rain and smog by reducing emissions of sulphur dioxide (SO$_2$), nitrogen oxides (NO$_x$), and volatile organic compounds (VOCs). Under a cap-and-trade program, regulators set a cap on emissions of a specified pollutant from specified sources. The cap is less than current emissions and so represents an overall emissions reduction. In many cap-and-trade programs, the cap is progressively lowered over time. The emissions allowed under the cap are allocated among existing sources, establishing an “allowance,” or “permit to pollute,” to each source. Again, the allowance is less than the source’s baseline emissions. Each source has the option to meet its lower emissions limit by either reducing its emissions or buying a portion of another source’s allowance. If the latter option is taken, the source that sells the allowance must further reduce its own emissions to reflect the allowance it has sold.

A third option that may be allowed is for a source to obtain an “offset,” a verifiable reduction in the target pollutant from an industry not regulated under the program or from a source outside the geographical region of the program. In the case of a carbon dioxide reduction program, an offset may be in the form of an emissions reduction of another greenhouse gas, adjusted to reflect the relative greenhouse effects of the respective gases. Offsets can also be indirect, from activities that reduce reliance on other greenhouse gas-emitting activities or even take carbon dioxide out of the atmosphere. In addition, a cap-and-trade program may allow the banking of allowances or offsets for use or sale at a later date.

Cap-and-trade programs are market-based in that they establish a market for emissions allowances, which allows sources to find the most cost-effective means of making the overall emissions reductions required under the cap. Sources that can more easily (i.e., less expensively) reduce their emissions will make greater reductions than required, and offer the increment for sale; sources that can not so easily reduce emissions will buy these increments in lieu of reducing their own emissions. The cap-and-trade model is credited with meeting pollution reduction targets at costs far less than possible under conventional permit systems.

The trading of emissions allocations and offsets is conducted in private sector markets. Specialized brokerage firms are being formed to serve these markets. The Chicago Climate Exchange (CCX) was the first such company formed in North America. It is developing a number of distinct markets to serve cap-and-trade programs in operation or under development in the Northeastern US, California, Canada, and Europe. A number of other entities are providing similar functions, particularly in Europe.

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4 A “carbon tax” on emissions of carbon dioxide, or an equivalent tax on the emissions of other greenhouse gases, is the principal alternative market-based policy, considered such because it effectively establishes a price of carbon dioxide or other emissions.

5 Significant opportunities for creating offsets in Wisconsin include production of biofuels, development of wind power, capture of methane from landfills and agricultural waste, forestation, soil conservation practices such as conservation tillage, and enrollment of land in agricultural set-aside programs.

Emissions trading is well suited to programs covering a large geographic area. The more sources that are in the program, the more potential trading partners there are and the more opportunities there are for sources to find the most efficient means of meeting emissions reduction requirements. For similar reasons, emissions trading programs work best if the affected sources have varying costs of reducing emissions. Both of these describe greenhouse gases.

**COORDINATION OF REGIONAL CAP-AND-TRADE PROGRAMS**

For the same reasons that cap-and-trade programs work best when applied over large geographic areas, it is advantageous to link regional cap-and-trade programs. Recognizing this, the planners of the cap-and-trade programs described in this Information Memorandum are taking care to ensure that their programs are compatible, such that credits can be traded between programs. In fact, the principal purpose of one regional initiative, the International Carbon Action Partnership, described below, is to promote coordination between cap-and-trade programs on a global scale.

Officials associated with the three North American programs, as well as information on the programs’ web sites, indicate an additional reason for coordination. These program planners anticipate that the regional initiatives will eventually be supplemented or supplanted by national programs, at least in the United States and Canada. With programs in place designed by the states and provinces, they hope to influence the design of federal programs, to ensure that these programs utilize program designs that have been shown to work for the states and provinces and to ensure that credit toward compliance with any federal requirements is given for the emissions reductions achieved under the regional programs.

**EMISSIONS REGISTRIES**

An emissions trading program depends on reliable and consistent systems for the recording and verification of emissions reductions and of transactions in emissions allowances and offsets, which must be consistent across the entire region covered by the program. These needs are met through state or regional emissions registries.

Beyond regulatory needs, emissions registries can be valuable to sources of pollution, too. In particular, they allow sources to document voluntary emissions reductions. If reductions are later mandated, these sources can document their early actions and, if the policy allows, receive credit for them. Voluntary reporting also allows sources to demonstrate their role as environmental leaders in their industries.

Numerous states, including Wisconsin, have initiated greenhouse gas emissions registries. The earliest such efforts were the Eastern Climate Registry and the California Climate Action Registry. As states in other regions, particularly in the Midwest and West, began work on registries, the value of a common registry system for North America became apparent. The various state and regional registries came together at that point to form The Climate Registry.

**The Climate Registry**

The Climate Registry (TCR) is a collaborative effort of states, provinces, and American Indian tribes to develop mutually compatible reporting systems in jurisdictions throughout North America. It is not a registry itself, and so does not replace individual state or regional
registries. Rather, it is a project to establish standardized protocols to support the various greenhouse gas reporting and emissions reductions policies of the participating jurisdictions. TCR member jurisdictions agree to work with TCR to develop and implement a voluntary emissions reporting and verification system, using data quantification and verification standards developed by TCR, and to incorporate these standards into any mandatory emissions reporting or reductions programs.

TCR intends its registry system to be policy neutral; that is, it is intended to be a tool that can be used with any emissions reporting or reductions policy. It is being designed on the basis of “best practices,” to be cost-effective for both regulators and sources. In particular, a common reporting platform will greatly facilitate reporting by entities that operate in more than one state. Its goal is to promote full and public disclosure of greenhouse gas emissions, in the context of voluntary or mandatory reporting programs.

TCR was incorporated in March 2007. A technical committee of representatives of TCR members and other stakeholders is currently developing detailed protocols. The committee is using the protocols of the California Climate Action Registry as a point of departure, modifying these protocols for broader application. The protocols apply to all greenhouse gases. TCR plans to launch its system at the end of June 2008.

Figure 1: The Climate Registry (TCR)
TCR’s membership is open to any state, province, or tribe that agrees to its principles and goals and commits to developing a greenhouse gas emissions registry based on the TCR design and standards. Its current membership consists of 39 U.S. states (including Wisconsin), four Canadian provinces, two Mexican states, and three American Indian tribes. [See Figure 1.]

**REGIONAL EMISSIONS TRADING PROGRAMS IN NORTH AMERICA**

**Regional Greenhouse Gas Initiative**

The Regional Greenhouse Gas Initiative (RGGI) is a mandatory cap-and-trade program in the northeastern United States. It is narrower in scope than the other cap-and-trade programs described in this memorandum, regulating only the carbon dioxide emissions of fossil-fueled electric generating facilities over 25 megawatts (MW) within the member states. The program caps emissions at a level approximately the average of 2003-05 emissions and requires that sources reduce emissions from this cap by a collective 10% by 2019. The program allows the use of offsets based on specified activities, including activities outside the RGGI region, under strictly controlled conditions.

It also allows banking of allocations and offset credits. Each participating state government is responsible for administration of the program within its borders, although RGGI will provide coordination of various functions. RGGI sets emissions caps for the region and for member states, and the states allocate emissions allowances to individual sources.

The program is scheduled to begin in 2009. In August 2006, RGGI adopted its final model rule, which each participating state must adopt by legislation or regulation. At this time, all RGGI states are developing the required regulations. The legislatures of four states have enacted legislation to either provide the necessary statutory authority for the program or to specify certain policies. In the remaining states, the regulatory agencies are proceeding under previously existing statutory authority.

RGGI grew out of a 2003 meeting of 11 Northeastern governors called by New York Governor George E. Pataki, and was formally established by a 2005 Memorandum of Understanding (MOU) signed by the governors of seven states. RGGI now consists of 10 signatory states, in addition to a number of observers. [See Figure 2.]
The MOU states the intent of RGGI to expand the geographical reach of the initiative by bringing new signatory states into its structure, though none of the observers are taking steps toward joining RGGI at this time. RGGI also recognizes the potential for members to expand their programs to additional sources or additional greenhouse gases.

**THE CHICAGO CLIMATE EXCHANGE**

It was noted earlier that the CCX is a private brokerage firm specializing in the trading of emissions allocations and offsets. CCX is also a voluntary, binding, private sector emissions reduction program. Members of the program make legally binding agreements to reduce emissions by specified amounts or buy equivalent offsets from other members. In Phase I of the program, members committed to annual reductions of 1% from 2003 to 2006, for a total reduction of 4% below baseline emissions. In Phase II, members commit to a 6% reduction below their 2006 baseline. Associate members commit to offset 100% of their annual indirect emissions.

Members of CCX are diverse. They include many private companies, some but not all of whom are large greenhouse gas emitters. Other members include state and local governments, public and private colleges and universities, and other entities with largely indirect greenhouse gas emissions. Membership consists primarily of North American entities, but includes entities in Latin America, Europe, and elsewhere.

Associate members are office-based organizations, such as professional firms, research and science centers, and nongovernmental organizations. Like governments and universities, these organizations’ emissions are largely indirect, primarily through the use of electricity and business travel. Participating members, in CCX’s terminology, are providers of offsets, aggregators of offsets, and entities that participate only in the financial and trading aspects of CCX.

The reasons that members participate in CCX, making voluntary, legally binding commitments to reduce greenhouse gas emissions and incur the associated costs, may be as diverse as the members. The reasons include:

- To verify and receive credit for early investments in greenhouse gas emissions reductions (large emitters).
- To take advantage of financial opportunities associated with the ability to create offsets in a cost-competitive manner (offset providers).

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7 Members located in Wisconsin include Alliant Energy, Stora Enzo, Meister Cheese, and Stark Investments.

8 Associate members located in Wisconsin include Orion Lighting Systems and Foley and Lardner.

9 Aggregators are particularly important for agricultural sources of offsets, where the offsets generated by one person may be too small to trade.
• To gain experience in the design and functioning of a cap-and-trade system for greenhouse gases (governments, large emitters, offset providers, and market participants).

• To lead by example (state and local governments, large emitters).

• To establish “green credentials” as part of a corporate brand and public image (large emitters).

• To acquire a “turn-key” mechanism to reduce indirect emissions (state and local governments, colleges and universities, professional firms, other office-based entities).

MULTI-STRATEGY REGIONAL INITIATIVES

WESTERN CLIMATE INITIATIVE

The Western Climate Initiative (WCI) is an agreement among western governors and premiers to “collaborate in identifying, evaluating, and implementing ways to reduce [greenhouse gas] emissions in our states collectively and achieve related co-benefits.”10 The agreement, signed in February 2007, identifies three specific initiatives the WCI will pursue, at a minimum:

• Within six months, to establish regional and state-specific greenhouse gas emissions reduction targets.

• Within 18 months, to design a market-based, multi-sector, regional program to achieve those goals.

• To participate in a multi-state greenhouse gas emissions registry.

With regard to the first of these initiatives, in August 2007, the WCI announced the goal of reducing greenhouse gas emissions in the WCI region to a level 15% below 2005 emissions by 2020. The goal applies to all sources of all greenhouse gases in the participating jurisdictions. In addition, all members except Utah have adopted their own short-, medium-, or long-term goals representing the members’ contributions to achieving the regional goal.

To implement the second initiative, the WCI is developing a regional cap-and-trade program. It has established five technical subcommittees to study various aspects of the program design and has held its first public stakeholder workshop. It anticipates having a preliminary design completed in Spring 2008 and the final program design completed by August 2008.

In compliance with the third initiative, all members of the WCI are also members of TCR; all WCI observers are either members of TCR or have indicated their intention to join.

In addition, the signatories agreed to continue independent and collaborative efforts to reduce greenhouse gas emissions through:

• Promoting clean and renewable energy within the region.

• Increasing the efficiency of energy use within the members’ jurisdictions.

• Advocating regional and national climate policies that reflect the needs and interests of the region.

• Identifying measures to adapt to the impacts of climate change.

Seven U.S. states and two Canadian provinces are members of the WCI. Six additional U.S. states, two Mexican states, and three Canadian provinces are observers. [See Figure 3.]

**Figure 3: The Western Climate Initiative (WCI)**
The WCI encourages other states and provinces, as well as American Indian tribes, to join if they are “undertaking comparable efforts to meet the challenge of climate change.” Measures of whether a new entrant is making such an effort include whether the entrant has a greenhouse gas emissions reduction goal in place, has an action plan to achieve the goal, has committed to adopting greenhouse gas tailpipe emissions standards for passenger vehicles, and participates in TCR.

**Midwestern Greenhouse Gas Accord**

The Midwestern Greenhouse Gas Accord (Accord) is the newest North American regional climate change initiative. It was signed by the governors of six Midwestern states and the Premier of Manitoba at the Midwestern Governors Association’s (MGA’s) Energy Summit in November 2007 in Milwaukee; three additional states are participating as observers. (See Figure 4.) (While neither signatories nor observers to the Accord, Nebraska and North Dakota are signatories to some of the related agreements described below.) The Accord and related agreements are intended to serve as a regional strategy to achieve energy security and reduce greenhouse gas emissions.

*Figure 4: Midwestern Greenhouse Gas Accord*
Like the WCI, the Accord will set greenhouse gas emissions reduction targets for participating jurisdictions, implement a cap-and-trade program to achieve those reductions, and utilize TCR for verification and monitoring. The cap-and-trade program will be designed to enable linkages with other jurisdictions’ programs. The Accord encourages other state and provinces as well as tribal governments, first nations (Canadian Indian tribes), and other jurisdictions to participate in or observe its program.

Also like the WCI, the Accord commits its signatories to pursue additional programs and policies to meet their greenhouse gas reduction targets. Specific goals, objectives, and policy options for additional action are outlined in the Energy Security and Climate Stewardship Platform for the Midwest (Platform), also signed in November 2007, under the following headings:

- Energy efficiency.
- Biobased products and transportation.
- Renewable electricity.
- Advanced coal and carbon capture and storage.

The Platform includes six side agreements to establish cooperative regional initiatives. Not all governors signed each of the side agreements. These agreements address the following topics:

- Establishing a carbon management infrastructure partnership.
- Establishing a Midwestern bioproduct procurement program.
- Establishing a regional electricity transmission adequacy initiative.
- Establishing renewable fuels corridors and coordinated signage across the Midwest.
- Advancing a bioenergy permitting collaborative.
- Developing a regional low-carbon energy transmission infrastructure initiative.

The signatories are in the early stages of implementing the Accord, Platform, and related agreements. The agreements have various implementation deadlines. For example, the Accord calls for completion of a proposed cap-and-trade agreement and a model rule within 12 months of the signing, i.e., November 2008. While this is not the earliest deadline, it may be the most ambitious. Three advisory panels are being established to develop recommendations in the following areas: renewable electricity, advanced coal and carbon capture; bioeconomy and transportation; and energy efficiency. These groups will be broadly representative of stakeholders with a range of interests and expertise from throughout the region of the participating states.

**EUROPEAN UNION (EU) CLIMATE CHANGE PROGRAM**

The 27-member EU is a strong advocate of not only regional but global action to address global climate change. The EU launched the first phase of its climate change program in 1991 and the second phase in 2005. There are numerous components to the program.
**Goals**

The EU program includes aggressive goals in several areas. Except as noted, all goals are for the year 2020.

- A binding goal to reduce greenhouse gas emissions to 30% below 1990 emissions if other countries commit to the same; otherwise, reduce to 20% below 1990 emissions. The program envisions the need for further reductions to 60-80% below 1990 emissions by 2050.

- A binding goal to increase use of renewable energy sources to supply 20% of the “primary energy supply,” including electricity generation, and energy for heating, cooling and transportation.

- A binding goal to increase use of “sustainable” biofuels for transportation to 10%.

- A non-binding goal to increase the efficiency of energy use by 20%.

- A non-binding goal of reducing carbon dioxide emissions from new cars by 25%.

A variety of activities, in the EU, in members states, and in the private sector, are focused on accomplishing these goals.

**Emissions Trading System**

The EU launched its emissions trading system on January 1, 2005. It applies to carbon dioxide emissions, but allows offsets from reductions in emissions of other greenhouse gases. The system applies to sources in four major groups: energy production; iron and steel production and processing; minerals industries; and the wood pulp, paper, and card industries. As in RGGI, the EU agrees on emissions caps for the region and individual states, and each state administers the program within its borders, including allocation of emissions to individual sources. Emissions registries will be maintained by the member states, with oversight and verification by the EU.

The EU trading program is coordinated with the Kyoto Protocol for greenhouse gas emissions reductions. Specifically, it allows sources to use “project-based” emissions reduction activities recognized under the Kyoto Protocol as offsets. It also allows the EU to enter into agreements with other Kyoto Protocol-signatory states to recognize allowances and offsets from their trading programs, with the result that the program recognizes emissions reductions far from the sources claiming them, including emissions reductions from developing countries.

The EU trading system includes penalties for failure to comply with emissions limits. The penalty is 100 Euros per metric ton of excess emissions. This does not establish the equivalent of a price of emissions, though, as the source is still obligated to obtain offsets for the excess emissions.

**Other Program Elements**

The following is a partial list of other subjects addressed by the EU Climate Change Program:
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- Appliance efficiency.
- Building energy performance.
- Efficiency and emissions of motors.
- Emissions from all transportation sectors, including aviation.
- Emissions from agriculture and forestry.
- Pollution prevention and waste management.
- Assistance to developing countries to reduce greenhouse gas emission.
- Monitoring of and adaptation to the consequences of climate change.

INTERNATIONAL CARBON ACTION PARTNERSHIP

The International Carbon Action Partnership (ICAP) is a partnership of nations and states that are actively developing or implementing cap-and-trade systems to control emissions of greenhouse gasses (particularly carbon dioxide). Its goal is to serve as a forum in which members can share knowledge and experience to help in “the establishment of a well-functioning global cap and trade carbon market.” In particular, it wants to ensure that cap-and-trade programs are compatible, such that their trading schemes can be integrated into this global market.

The ICAP differs from other global activities, in particular those conducted by the United Nations (UN). The UN seeks to develop international treaties committing member nations to greenhouse gas controls, and so its focus is on policy development. ICAP, on the other hand, has a technical focus and is advisory in nature. Its web site states that “ICAP supports efforts to tackle climate change under the UN framework.”

ICAP was created by an agreement signed on October 29, 2007, in Lisbon, Portugal. Its membership consists of “public authorities and governments that have established or are actively pursuing carbon markets through mandatory cap and trade systems.” The charter membership consists of the European Commission, nine EU members, five RGGI members, seven WCI members, New Zealand, and Norway. ICAP will create a process for interested stakeholders to participate. It will organize its first public workshop in 2008.

OTHER REGIONAL ACTIVITIES

Other regional activities include initiatives of governors and premiers, working through their regional associations or with the governors and premiers of neighboring states and provinces.

NORTHEASTERN GOVERNORS AND PREMIERS

Perhaps the first regional climate change initiative in North America was the 2001 Climate Action Plan adopted by the Conference of New England Governors and Eastern Canadian
Premiers. The initiative established short-, mid-, and long-term goals for regional reductions in greenhouse gas emissions and identified nine action items to achieve the goals.

**Western Governors**

Western governors have created a number of climate initiatives. In 2003, the governors of Washington, Oregon, and California announced the West Coast Governors’ Global Warming Initiative. The West Coast Governors directed their staffs to work with each other and the private sector to develop measures relating to such topics as renewable energy resources, energy efficiency (with particular emphasis on the transportation sector), and the creation of an emissions registry. A similar agreement was signed in 2006 by the governors of Arizona and New Mexico as the Southwest Climate Change Initiative. Since 2004, the Western Governors’ Association (WGA) has been active in this area, as well. Among other activities, it has developed a Clean and Diversified Energy Initiative, which addresses many of the same topics addressed by the West Coast governors, and includes specific, regional renewable energy and energy efficiency goals.

Some of the Western Governors’ initiatives have been superseded by the WCI, described earlier, while others complement it.

**Wisconsin and the Midwest**

A number of Midwestern states are currently studying appropriate state policies to address climate change issues in general and greenhouse gas emissions in particular. Wisconsin Governor James E. Doyle created the Governor’s Task Force on Global Warming by an April 5, 2007 executive order, with instructions to report its findings and recommendations to him by December 31, 2007. Other Midwestern states developing state climate change policies are Illinois, Iowa, and Minnesota; Missouri has a climate action plan in place.

**Additional Resources**

**Technical Resources**

Center for Climate Strategies: [http://www.climatestrategies.us/](http://www.climatestrategies.us/)

Intergovernmental Panel on Climate Change (IPCC): [http://www.ipcc.ch/](http://www.ipcc.ch/)

Pew Center on Global Climate Change: [http://www.pewclimate.org/](http://www.pewclimate.org/)

**Regional Initiatives**


The Climate Registry (TCR): http://www.theclimateregistry.org/
Western Climate Initiative (WCI): http://westernclimateinitiative.org/
Wisconsin Governor’s Task Force on Global Warming: http://dnr.wi.gov/environmentprotect/gtfgw/

This memorandum is not a policy statement of the Joint Legislative Council or its staff.

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