

Laboratories of Innovation

Why States Created a North American Greenhouse Gas Registry

by Allison Reilly, Michelle Manion, Leah Weiss, and James Colman

Over the past decade, climate change has catapulted from an issue relegated to arcane scientific debates to the forefront of corporate and governmental strategic and policy agendas—even the Pentagon has recognized climate change as one of

the foremost security challenges for the United States over the next century.¹ Recognizing the business mantra that to manage a problem, one must first measure its magnitude, U.S. state policymakers found that few of the existing tools for measuring greenhouse gas (GHG) emissions met the unique needs of the public sector.²





To serve these needs, The Climate Registry (TCR) was created in 2007 by a consortium of U.S. state governments to provide a reporting platform that uniformly and transparently measures, verifies, and reports GHG emissions. TCR operates a policy-neutral, voluntary GHG reporting program, but its protocols and database can also support other voluntary and mandatory reporting programs. As of August 2008, TCR's members included 39 U.S. states and the District of Columbia, 10 Canadian provinces, six Mexican states, and three native sovereign nations. A subset of these members are currently working to adapt TCR's protocols and database to support a variety of state and regional mandatory GHG reduction programs.

The Origins of TCR

TCR stemmed from parallel efforts to create tools for GHG emissions reporting on the East and West coasts of the U.S. Northeast states began discussing and designing a regional GHG registry in the mid-1990s. In 2001, the New England Governors' and Eastern Canadian Premiers' Climate Change Action Plan identified a GHG registry as a key step to meet its climate reduction goals.³ In response, the Northeast States for Coordinated Use Management (NESCAUM)⁴ began efforts to launch the Eastern Climate Registry. This effort was bolstered by the need for a uniform registry to support the Regional Greenhouse Gas Initiative (RGGI).⁵ Concurrently, a group of business leaders interested in reducing emissions through investments in energy efficiency requested that California create a mechanism to document and certify their historical GHG emissions. The California Climate Action Registry (CCAR)⁶ was subsequently established by state statute in 2001.

As the Northeast and California's reporting programs developed, their program staff began interacting and discussing issues common to GHG accounting, reporting, and verification. This network expanded as other states, particularly in the Midwest, considered developing their own state and regional GHG registries. Provincial and state officials from Canada and Mexico and officials from native sovereign nations also entered into discussions at that time. This laid the groundwork for a truly continental North American reporting tool. Figure 1 shows TCR member states, provinces, and sovereign nations, as of August 2008.

States quickly recognized the benefits of consistency for all reporters and users of GHG data. Companies publicly articulated their desire for a single, robust GHG registry rather than a patchwork of state and regional reporting systems. Moreover, they wanted it in short order, to create a record of their early efforts to reduce GHGs. Doing what they do best—acting quickly and being laboratories of innovation—the states agreed that creating separate, but interactive, regional GHG registries was not a workable solution. What was needed was a single, consolidated state-based registry.

"We were pleased that so many states took an active interest and signed on to this enormous project," says Connecticut Department

of Environmental Protection Commissioner Gina McCarthy, and current chair of TCR's Board. "In the absence of a federal climate registry, we were getting a lot of requests from companies to go forward on our own."⁷ TCR was incorporated as a nonprofit organization in May 2007. With financial support from states and charitable foundations, CCAR and NESCAUM staffed the new organization through early 2008, when TCR hired an executive director and staff. In just over a year, TCR progressed from a concept of state, tribal, and provincial governments to a fully-operational, self-sufficient organization.

Developing Reporting Tools

At the core of TCR are its key protocols for reporting—the General Reporting Protocol (GRP)—and for verifying GHG data—the General Verification Protocol (GVP). The GRP was designed with the goals of comprehensiveness, accuracy, and transparency, and allows for consistency in comparisons across reporters and also for a single reporter

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over time. Building from a foundation of best practices in GHG reporting established by the World Resources Institute/World Business Council for Sustainable Development's (WRI/WBCSD) GHG Reporting Protocol⁸ and by CCAR, the GRP provides reporting guidelines, defines reporting boundaries, and provides initial direction for calculating emissions from a broad suite of GHG sources and processes. In tandem with the GRP, TCR developed a Web-based software tool, the Climate Registry Information System (CRIS), which streamlines data entry for reporters and allows compatibility with the U.S. Environmental Protection Agency's (EPA) data systems. The GVP establishes standards for third-party, independent verification of GHG reports. TCR worked closely with the American National Standards Institute (ANSI) to create an accreditation process for verifiers. (See sidebar "What's in TCR's General Reporting and Verification Protocols?" for a summary of the GRP and GVP.)

Because TCR was created by officials from state government, public input to the TCR development process has been essential. Significant input was solicited from the

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Figure 1. A map of the TCR member states, provinces, and sovereign nations, as of August 2008.

public, including an advisory committee made up of stakeholders from industry, the public sector, the environmental community, and consultants. This input has resulted in many refinements to the GRP and GVP that will enhance the reporting experience for reporters and improve the overall data quality. TCR will continue to work with the public and private sectors to develop new, sector-specific protocols, and to further modify, improve, and streamline reporting requirements.

Why Companies Report to TCR

The private and public sector have been very enthusiastic about TCR's strong precedent for comprehensive and transparent GHG reporting—as of August 2008, 267 companies and organizations have enrolled to report to TCR. Nearly half of founding reporters to TCR are from the commercial and industrial sectors and 14% are from the electric power sector. Public agencies and nonprofit sectors are also well-represented, with 73 state and provincial agencies, universities, municipalities, and others signing on to report to TCR.

A key benefit cited by companies and public and nonprofit organizations is that TCR reporting establishes a

credible, historical record of baseline GHG emissions and reductions. While TCR does not guarantee “early action credit” under a future federal climate program, adhering to TCR's robust requirements enables reporters to establish a credible track record by which they can show early progress toward GHG reduction goals. “Our participation in TCR allows us to showcase our voluntary efforts on climate change while supporting a standardized approach to data collection,” says Lawrence Merritt, Jr., manager of global environmental policy at Ford Motor Company.⁹ “Having an external record of GHG emissions through TCR helps us share the results of our internal energy efficiency initiatives.”

Reporting to TCR also helps organizations develop their information systems, including GHG data collection and tracking systems, and to educate employees in preparation for future

mandatory GHG programs. Many organizations, especially those who are embarking on emissions reporting for the first time, have noted that going through the exercise of tracking and reporting GHG emissions to TCR may help them to prioritize opportunities for cost-effective reductions of energy use and associated emissions. It can also help the reporter anticipate market opportunities for qualifying emissions reductions. “At our company, we felt that that it was important and timely to develop the expertise needed to properly report to TCR,” says Chip Jones, senior vice president of corporate responsibility and sustainability for Dean Foods. “We are looking for a long-term relationship with TCR, whose requirements and parameters work well for a complex company like Dean Foods that is poised to change and grow over time.”¹⁰

Moreover, reporting to TCR aids companies and organizations seeking to differentiate themselves within their industries and peers as leaders on the issues of climate change and energy. With federal climate change legislation looming on the horizon, many companies and public institutions face growing expectations from consumers and citizens to take proactive steps toward reducing their footprint and limiting potential liability and economic

dislocation in the future. Participating in TCR might also provide reporters with a "seat at the table" to shape future climate policy. "The energy-from-waste industry has a good story to tell regarding GHG mitigation, and we see TCR as a primary mover of GHG reporting, so we want to make sure the best quality of information is available to the policy-makers," says Brian Bahor, vice president of sustainability for Covanta Energy, a firm that provides renewable energy.¹¹

What is TCR's Value to the Public?

TCR is a GHG reporting tool designed first and foremost with the public interest in mind. States that have been especially proactive in their climate change planning have long recognized a need for a reporting tool that is comprehensive in its scope and transparent enough to allow public scrutiny.

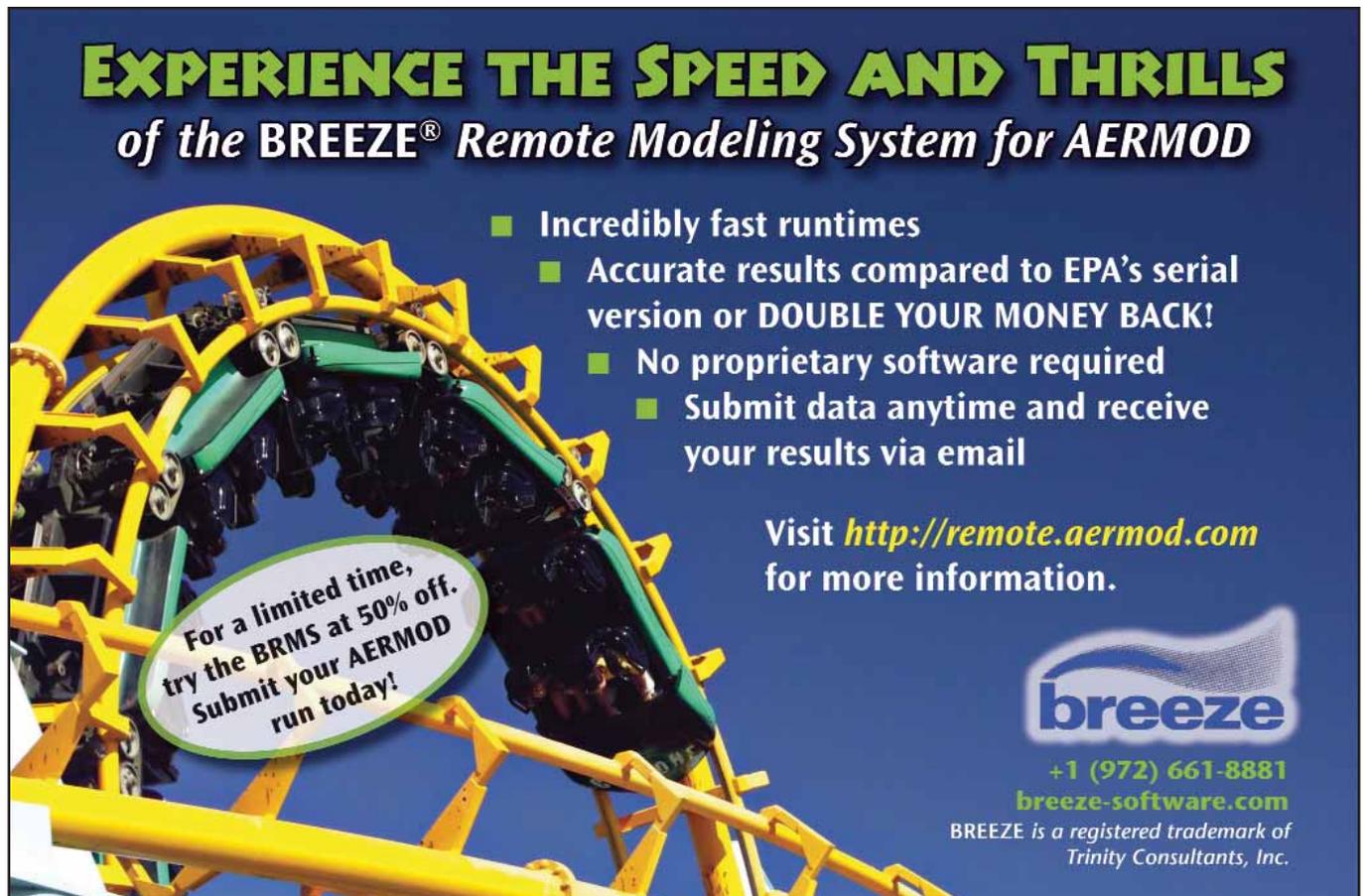
States designed TCR to require annual public reporting at the entity or organization level. These annual reports will enable the public to track the performance of an organization over time, and allow those interpreting reported data to understand how emissions change as organizations grow or divest. "One of our goals for TCR has been to ensure that all data reported is both accurate and publicly accessible," says Joe Shacter, senior policy advocate at Environmental Law and Policy Center.¹² "We're pleased that TCR has developed its protocols accordingly. Accuracy and accessibility are crucial because our region and nation

are now implementing policies by which global warming pollution can be reduced."

Since TCR is a voluntary registry, all entities or organizations in a given state or industry sector will not choose to enroll and publicly report emissions data. Nonetheless, state officials have noted that data provided by companies or organizations in common industries will enable comparisons of relative performance among peers. This will allow states to begin identifying best GHG practices within industries and to devise programs suited to particular sectors. "TCR provides the great benefit of allowing our organization and other reporters in the state to lead by example, but we are also excited because we will now have actual, bottom-up data to ground-truth our statewide, top-down emissions inventory on which we base many climate policies," says Brock Nicholson, TCR Board member and deputy director of the Division of Air Quality for the North Carolina Department of Environment and Natural Resources (NCDENR), which is a founding reporter.¹³ North Carolina entities mandated to report to NCDENR under the Clean Air Act's (CAA) Title V Operating Permits Program must also report annual GHG emissions using the methodology established in the GRP.¹⁴

Relationship to a Federal GHG Reporting Program

Sometime in the near future, TCR will coexist alongside a



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What's in TCR's General Reporting and Verification Protocols?

TCR's General Reporting Protocol (GRP) and General Verification Protocol (GVP) are the sources of detailed information to guide prospective reporters through the process of GHG reporting and having reports verified.

- **Defining the entity:** The GRP encourages reporting at the highest level of an organization's structure. While any legal entity is allowed to report, TCR encourages reporting at the level of a parent company and its underlying subsidiaries.
- **Defining geographic boundaries:** Reporters must report all emissions in North America and may also elect to report worldwide emissions.
- **Understanding emissions scope:** Excluding cases where business confidentiality is of concern, the GRP outlines reporting of emissions of the six Kyoto GHGs by gas, scope, and category. Direct emissions include emissions from stationary combustion, mobile sources, and process and fugitive emissions. Indirect emissions include emissions from purchased electricity, imported steam, cooling, and heating. Biogenic and indirect emissions not from purchased electricity or steam are optional, and are reported separately.
- **Calculating emissions:** The GRP contains quantification methodologies for universal emission sources.

- **Reporting emissions:** Emissions are publicly reported by gas and category at the facility level. TCR's software will automatically generate a public report based on reporter inputs and requirements outlined in the GRP.
- **Choosing a verifier:** Each reporter must solicit bids, select, and enter a contract with a TCR-accredited independent verifier.
- **Core verification activities:** The verification process includes assessing conformance with the GRP, asserting completeness of the emissions report, risk assessment, site visits to a sampling of sites, and a review of emissions calculations.
- **Documentation:** The verifier submits to the reporter a verification checklist and report and files with TCR a verification opinion.
- **Verification cycle:** Verification occurs on a three-year cycle. In-depth verification is required during the first year; during years two and three, verification of emissions calculations is required. After two three-year cycles, the reporter must change verifiers for one three-year cycle.

For more information, go to www.theclimateregistry.org.

federal GHG reporting program. While Congress has yet to pass major climate legislation, many climate policy experts acknowledge that two to three years of mandatory reporting at minimum is necessary to establish a baseline against which to measure required reductions under a federal program.¹⁵ In December 2007, Congress passed legislation directing EPA to promulgate a final plan for federal mandatory reporting of GHG emissions by June 2009. The directive from Congress was simple: EPA must use existing authority under the CAA Amendments to establish appropriate thresholds and reporting frequencies for GHG emissions reporting for all sectors of the economy.

As of this writing, EPA is in early stages of thinking through alternative designs and thresholds for mandatory GHG reporting, and has sought the input of TCR and states throughout the process. EPA's recommended approach is likely to focus on large GHG emitters (i.e., those companies and industries most likely to be addressed by a cap-and-trade system for GHG emissions). "I want to emphasize that the launch and continued work of [TCR] is crucial, particularly at this juncture," says Sen. Dianne Feinstein (D-Calif.), who penned the legislation. "There is an immediate need for [TCR] to support state programs that are either planned or promulgated. By the time that the federal... program is targeted to commence, [TCR] will have been operational... and amassed a database of valuable, verified information."¹⁶ While there is uncertainty about the future relationship between TCR and a federal GHG reporting system, TCR has already established itself as a vital GHG reporting platform for states, provinces,

companies and organizations, and is poised to continue providing this service for the foreseeable future. em

References

- 1 Schwartz, P.; Randall, D. *An Abrupt Climate Change Scenario and Its Implications for United States Security*; Global Business Network: San Francisco, CA, 2003.
- 2 For example, the Chicago Climate Exchange (CCX) is an important precedent for the private sector to participate in GHG reduction strategies, but its emissions data are acknowledged by most state policy-makers to lack sufficient transparency for public uses.
- 3 *The Committee on the Environment and the Northeast International Committee on Energy of the Conference of New England Governors' and Eastern Canadian Premiers' Climate Change Action Plan*; Conference of New England Governors and Eastern Canadian Premiers: Boston, MA, 2001.
- 4 NESCAUM is the association of the air pollution control agencies in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. It was established in 1967 to provide a forum for coordinating state air quality protection programs in the Northeast region. See www.nescaum.org.
- 5 RGGI, as a trading program that requires allowance tracking, uses its own reporting platform. See www.rggi.org.
- 6 The California Climate Action Registry is a private, nonprofit organization, established in 2001, that serves as a voluntary GHG registry to protect and promote early actions to reduce GHG emissions by organizations. See www.climateregistry.org.
- 7 McCarthy, G. Connecticut Department of Environmental Protection, Hartford, CT. Personal Communication, 2008.
- 8 *The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard*; World Resources Institute and World Business Council for Sustainable Development: Washington, DC, 2004.
- 9 Merrit, L., Jr., Ford Motor Company, Dearborn, MI. Personal Communication, 2008.
- 10 Jones, C., Dean Foods, Horsham, PA. Personal Communication, 2008.
- 11 Bahor, B., Covanta Energy, Fairfield, NJ. Personal Communication, 2008.
- 12 Shacter, J., Environmental Law and Policy Center, Chicago, IL. Personal Communication, 2008.
- 13 Nicholson, B., North Carolina Department of Environment and Natural Resources, Raleigh, NC. Personal Communication, 2008.
- 14 The North Carolina Annual Emissions Reporting Amendment (Amendment 15A NCAC 02Q .0207) adds GHGs to the list of emissions that must be reported by all entities with Title V permits. However, there will be no additional permit charge for GHG emissions.
- 15 Rich, D. *Designing a U.S. Greenhouse Gas Emissions Registry: Climate and Energy Policy Series*; World Resources Institute: Washington, DC, February 2008.
- 16 Feinstein, D., U.S. Senator. Letter to Gina McCarthy, Chairman of The Climate Registry, dated January 14, 2008.

