

Canadian Transportation Fuel Cell Alliance

milestones

The Canadian Transportation Fuel Cell Alliance is a \$23 million Government of Canada partnership initiative to demonstrate and evaluate various fuelling options for fuel cell vehicles in Canada. The CTFCA plans to demonstrate different combinations of fuels and fuelling systems for light, medium and heavy duty vehicles by 2005. The initiative will also help develop standards, training and testing procedures related to fuel cell and hydrogen technologies. The CTFCA is part of Canada's Action Plan 2000 on Climate Change.

Greetings.

We're pleased to provide this brief progress update on the Canadian Transportation Fuel Cell Alliance (CTFCA).

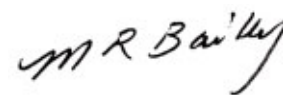
Over the nine months covered by this reporting period, the CTFCA has laid critical groundwork, bringing together the people, structure and processes necessary to successfully move this important initiative forward. Over the course of the next year, we expect to see increased activity

by all CTFCA working groups, including the initiation of one or more hydrogen fuelling stations, and greater Canadian involvement in the development of international codes and standards.

Working together, CTFCA partners are helping address hydrogen refueling and infrastructure challenges as well as other issues necessary to bring Canadian fuel cell technologies to the public domain.



Nick Beck, Chief, Transportation Energy Technologies
CANMET Energy Technology Centre, Natural Resources Canada

Margaret Bailey, Chief, Fuels Policy and Programs
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CTFCA Partners

ATCO Gas	Ford Motor Company	Government of Ontario	National Research Council	Stuart Energy Systems
Ballard Power Systems	Ford Motor Company of Canada	Government of Quebec	Natural Resources Canada	Society of Automotive Engineers
BC Transit	Limited	Hydro-Québec	New Flyer Industries	TISEC Inc.
BMW of North America	Fuel Cells Canada	Hydrogenics Corporation	Nissan Motor Co. Ltd	Toyota Canada Inc.
Bureau de normalisation du Québec	Fuel Maker Corporation	IMW Industries Ltd.	Novabus	Toyota Technical Center, U.S.A., Inc.
California Air Resources Board	General Hydrogen	Imperial Oil	Pembina Institute	Transport Canada
Canadian Natural Gas Vehicle Alliance	General Motors of Canada	Industry Canada	PetroCanada	University of Manitoba
Canadian Petroleum Products Institute	Limited	Kraus Group Inc.	PowerTech Labs Inc.	University of Quebec at Trois-Rivières
CCS Business Improvement Services Inc.	Government of Alberta	Methanex Inc.	QuestAir Technologies	University of Toronto
City of Winnipeg	Government of British Columbia	Manitoba Hydro	Saskatchewan Research	Vandenborre Hydrogen Systems Inc.
Electric Vehicle Association of Canada	Government of Manitoba	Motor Coach Industries	Council	Western Economic Diversification



“By developing Canadian hydrogen technology demonstration projects and international codes and standards, the CTFCA is helping move these clean energy technologies from labs to the marketplace.”

- Dr. Tapan Bose, President, Canadian Hydrogen Association

Update from CTFCA Working Groups:

1 LIGHT DUTY VEHICLE FUELLING DEMONSTRATION WORKING GROUP

Fuelling demonstrations for light duty vehicles will be restricted to systems that utilize “off-board” hydrogen production. Fuelling options to be demonstrated will include electrolysis, natural gas reforming, methanol reforming, merchant hydrogen, and recovered waste hydrogen. A variety of on-site storage options will be considered including liquid hydrogen, compressed gaseous hydrogen, metal hydrides and carbon nanotubes. Demonstration projects will test various technologies’ cold-weather performance. Over the next fiscal year, one or more demonstration projects should be approved. Future availability of fuel cell vehicles remains an issue.

2 COMMUNICATIONS WORKING GROUP

Promoting awareness of Canadian fuel cell and hydrogen industry development is critical to the success of the CTFCA. The CTFCA has been promoted at a variety of conferences, workshops and special events. A bilingual website and fact sheet has been produced and a Strategic Communications Plan is nearly complete. Communications activities linked with demonstration projects will ensue as projects commence.

3 HEAVY DUTY VEHICLE FUELLING DEMONSTRATION WORKING GROUP

Large-scale fuelling demonstrations will focus on transit applications, addressing long-term viability issues and factors necessary for the technology’s integration into both small- and large-scale transit operations. Fuelling pathways will accommodate vehicles that utilize onboard compressed gaseous hydrogen produced on-site via methods such as methanol and natural gas reforming, and water electrolysis. Merchant- and waste-hydrogen may also be produced and/or recovered off-site and transported to the station. Training, certification and safety education programs will be included in the projects to ensure transit authority participation. At least one transit fuelling demonstration project is expected to get underway next year. Future availability of fuel cell buses must be addressed.

4 STUDIES AND ASSESSMENTS WORKING GROUP

Analytical research concerning fuelling pathways, economic, energy and emissions implications of fuelling feedstocks and routes, and policy instruments that affect hydrogen infrastructure development, is an integral part of the CTFCA’s work. Already a number of studies are underway including evaluating electrical capacity available for electrolysis by 2020, market research on the demand for new transportation technologies, policy and economic analyses of fuelling pathways, and full-cost accounting of fuelling pathways. Activities will be linked with other national and international programs. Data from demonstration projects will be used in future research. The initial studies are scheduled for completion in fiscal 2003. Reports will be available on the CTFCA website.

5 CODES AND STANDARDS WORKING GROUP

The development of national and international codes and standards related to hydrogen fuel and fuelling systems and fuelling-systems safety equipment, and the development of training courses and certification procedures for personnel operating and maintaining fuelling stations are key CTFCA priorities. The CTFCA is working in cooperation with groups in the United States and in Europe to coordinate activities with the International Standards Organization. A detailed work plan is expected within the first six months of fiscal year 2003. Specific activities related to the regulatory requirements for the siting of hydrogen fuelling stations in Canada will also be initiated.



“Through the CTFCA, Natural Resources Canada is playing a strong role to help Canada’s fuel cell industry resolve issues surrounding hydrogen fuel infrastructure.”

- Dr. Ron Britton, President and CEO, Fuel Cells Canada

For more information visit <http://ctfca.nrcan.gc.ca>

or contact Richard Fry, Program Manager, Fuel Cell Infrastructure, Natural Resources Canada: 613.943.2258

