

Resource and Environmental Technologies

Canada is known throughout the world for its wealth of natural resources, which has fostered a resource and environmental technologies industry in Canada that is respected for its innovative approaches. Canadian government, university and industry labs are all active in this process, turning their attention in particular to technologies to mitigate the effects of climate change. Natural Resources Canada is assisting Stuart Energy Systems, which has operations in Québec, Ontario and British Columbia, to develop its hydrogen refueller. Already in use, the refueller is currently servicing three new hydrogen buses, powered by Ballard fuel cells, in Port Coquitlam, British Columbia.

Researchers at **CANMET**, Canada's largest federal laboratory for energy technologies, are developing clean, energy-efficient, conventional, alternative and renewable energy technologies to combat climate change. At other government labs, scientists are assessing the environmental and sustainable performance of technology in areas such as bioethanol production, enzyme bleaching in pulp and paper processes, and fuel cells.

In fact, British Columbia is a world leader in fuel-cell technology. In Vancouver, collaborations between government researchers and Ballard Power have resulted in fuel cell technology for car and bus transportation. In addition, a national fuel cell research centre was established at the University of British Columbia in 1999.

Canadian fire risk management system used worldwide

A forest fire knows no borders: It can rage for weeks, spreading across thousands of kilometres and affecting millions of people. Natural Resources Canada's **Canadian Forest Service**, a leader in the development of internationally acclaimed fire management information systems, developed the "Spatial Fire Management System" now being used in Canada, the United States, Mexico, Indonesia, Malaysia, Brunei, Thailand, Vietnam, and the Philippines. This year, it will be introduced in Russia and the Baltic countries. This system rates the potential for fire ignitions and predicts fire occurrence and expected behaviour, thus allowing managers to evaluate wildfire threats and optimize the use of fire control resources.

Rolls-Royce to give cleaner power to the people

With a \$53.3 million investment from Technology Partnerships Canada (TPC), Montréal-based Rolls-Royce Industries Canada Inc. will soon help meet Canada's future power generation needs in a way that is more environmentally friendly. The company has long been a world leader in the engineering and manufacturing of state-of-the-art gas turbines for aeronautical and industrial applications. With this project, it will turn its attention to improving environmental performance by developing combustors and boosting turbine output and efficiency to reduce emissions that contribute to air pollution and climate change. TPC's investment, repayable through royalties on revenues made by the Canadian section of Rolls-Royce's Energy Business Unit, will leverage an additional \$160 million in R&D spending from the company.

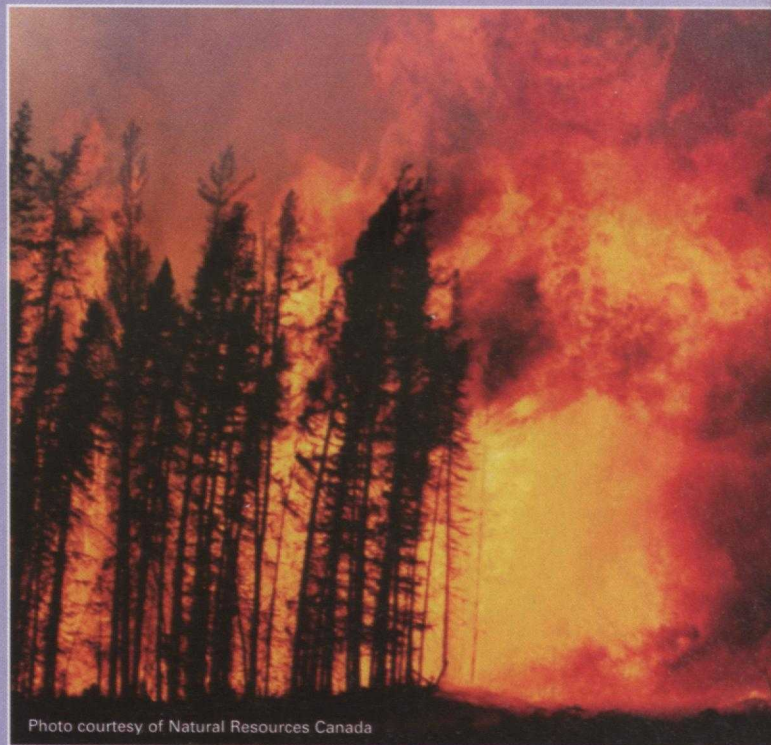


Photo courtesy of Natural Resources Canada