



Council of Canadian Academies  
Conseil des académies canadiennes

# REPORT SUMMARY

November 2008

## Vision for the Canadian Arctic Research Initiative: Assessing the Opportunities

The Speech from the Throne of October 16, 2007, committed the Government of Canada to deliver a Northern Strategy, including the construction of a world-class arctic research station. Indian and Northern Affairs Canada, the lead federal department for this initiative, prepared a *Visioning Workshop* report on proposed scientific priorities for the station through consultation with stakeholders. The department then commissioned the Council of Canadian Academies to convene an independent international panel of experts to provide an external perspective on the key findings of the *Visioning Workshop* report.

The International Expert Panel on Science Priorities for the Canadian Arctic Research Initiative was asked to provide advice with respect to Canada's unique advantages and contributions to global polar science from an international perspective with reference to the science priorities proposed in the *Visioning Workshop* report.

In the view of the panel, the Canadian government's intention to undertake a world-class Canadian Arctic Research Initiative (CARI), of which a research station(s) would be an integral component, responds to a clear international obligation to provide proactive stewardship of Canada's Arctic in view of its global environmental significance.

### *A world-class Canadian Arctic Research Initiative responds to a clear international obligation to provide proactive stewardship of Canada's Arctic.*

In considering the science program of the Canadian Arctic Research Initiative, the Panel concluded that Canada should build on its twin inherent advantages: (i) the rich variety of ecosystems that make up Canada's vast arctic terrain, and (ii) Canada's human capital, comprising its northern citizens together with its largely southern-based scientists and engineers. Taking into consideration these unique Canadian advantages, the panel considered the four science priorities proposed in the *Visioning Workshop* report: sustainable resource development; environmental science and stewardship; climate change; and healthy and sustainable communities.

The panel considers these to be sensible and appropriate directions and recommends that "Observation and Monitoring" and "Technology" be recognized as additional themes that are significant in the Canadian context.

The panel also considered the key enabling conditions that are most likely to lead to long-term success of this initiative. Integration, coordination and partnerships will be essential elements of a successful "CARI approach." The challenges of arctic research are too great for any one institution, country, discipline or stakeholder group to have success in going it alone. The designers of CARI must consider the importance of organizational flexibility, ability to attract talent, stable funding, issues of access and data sharing, engaged governance, informed and transparent decision-making with respect to location and structure. Essential will be a plan for transition to sustain the momentum created by the International Polar Year as CARI becomes operational.

### KEY MESSAGES

**Recognize Canada's international obligation to arctic science** – which stems from Canada's position as steward of remarkable human and natural resources of crucial global importance. International arctic research efforts will not be successful without Canada's participation.

**Seek synergy** – by creating a flexible environment that breaks down the silos of disciplines, methodologies, stakeholder interests and embraces an approach that seeks to find synergy among the efforts of all involved.

**Expand the definition of "cutting-edge" science** – to include observation and long-term monitoring; which are core activities that enable science to move forward and predictions to be made.

**Assure sufficient long-term funding** – to support ongoing operations of CARI infrastructure and research programs.

**Engage in transparent decision-making from Day One** – CARI will likely require a two-hub model (logistical hub in a central location, and scientific hub in a scientifically interesting area) so transparent decision-making about possible models and sites is essential.

**Start now** – by identifying and supporting key programs that respond to fast-changing environmental and economic circumstances and that will bridge the end of International Polar Year to the time when CARI becomes fully operational.

**The International Expert Panel on Science Priorities for the Canadian Arctic Research Initiative:** Elizabeth Dowdeswell (Chair) – Chair, Scientific Advisory Committee, Council of Canadian Academies; Former UN Under-Secretary General and Executive Director of UNEP; Founding President of the Nuclear Waste Management Organization (Canada) Michael Bravo – Convenor, Circumpolar History & Public Policy, University of Cambridge (United Kingdom) Torben Christensen – Professor, Lund University (Sweden) Karl Erb – Director, Office of Polar Programs, National Science Foundation (USA) Robert Finney – Senior Environmental Advisor, BP Exploration (United Kingdom) Peter Harrison – Skelton-Clark Fellow, Queen's University (Canada) Paula Kankaanpää – Director, Arctic Centre, University of Lapland (Finland) Anders Karlqvist – Director General, Swedish Polar Research Secretariat (Sweden) Peter Lemke – Director, Division for Climate Research, Alfred Wegener Institute (Germany) Lars-Otto Reiersen – Executive Secretary, Arctic Monitoring Assessment Program (Norway) Matti Saarnisto – Secretary General, The Finnish Academy of Science and Letters (Finland) Joern Thiede – Former Director, Alfred Wegener Institute (Germany) Kue Young – Professor, Public Health Sciences/Aboriginal Health, University of Toronto (Canada)