

Prospectus of
The Global Issues Project

A Project initiated by



and supported by the

Canadian Pugwash Group and the

Canadian Association for the Club of Rome

Synopsis

Rapidly growing demand, resulting from increasing global population, rising per-capita consumption, and the spread of harmful or inappropriate technologies, is causing an upward trend in the use of resources and the stresses on environmental sinks. At the same time, supplies of resources are being provided at increasing energy cost, and pollution is increasing, most notably the level of carbon dioxide in the atmosphere. Climate change exacerbates each factor of concern. The Global Issues Project is designed to explain inter-relationships between vital factors, and to devise and promote strategies that might help humankind to manage its way through anticipated crises.

The issues

There are serious threats to global stability arising from rapid consumption of key resources. The symptoms are shortages of water, depletion of fisheries, disappearance of forests, and impending food and agriculture crises. Climate change, arising largely from carbon fuel consumption, results in increasingly violent weather patterns, and melting glaciers, thereby creating further shortages for both human development and wildlife support systems. The existence of these alarming developments is well supported by scientific findings. Relative to the usual horizon for planning processes in western democratic society, these issues are very long-term and are interdependent. While governments, organizations, and corporations are taking small and positive corrective steps, there remains a large gap between actual and required actions in order to ensure resources and a habitable planet for future generations.

There are fundamental concerns. All of the crucial global issues are interrelated so that failure of one resource or one cultural process has

implications for other global issues and would bring about serious additional ecological damage.

Our collective concern is the failure of governments at all levels to act appropriately on the crucial global issues that threaten the life-supporting resources on Earth. Society's opinion makers need to start looking at long-term issues that threaten global security. Plausible consequences of these potential crises should be examined and responses formulated.

The Global Issues Project seeks to build a body of knowledge and preparedness through key people who are educated about, and interested in, these crucial issues. The project will enable participants to see the *Big Picture* as it relates to the position of humankind within the supporting structure of the biosphere, and thus enable them to act in their own spheres of influence.

How to achieve the necessary and sufficient knowledge

It is not easy to grasp the *Big Picture*. Day-to-day events proceed more or less routinely — in prosperous regions, food arrives from nearby farms or from orchards halfway around the globe — and life goes on. Most people, especially in North America, are oblivious to clear evidence of excess use of global resources, especially non-renewable resources, to climate change, or to wastage in general — to name only a few factors.

There is growing evidence that the Earth is overstrained by an expanding population and an increasing per-capita consumption. In addition to over-consumption, we are also faced with the so-called “sinks” becoming overloaded; water and air pollution are increasing and the search for landfill sites to take the waste from our larger cities is already a political nightmare. The increasing use of energy-intensive technologies, such as the automobile, adds greatly to the stresses. Therefore, we — humankind — must review our stewardship of planet Earth, our only home.

Some people expect innovative techno-fixes to be capable of solving such problems. But, as Ronald Wright in his book *A Short History of Progress* argues, all innovations, starting with those developed by the early hunter-gatherers, have assisted humankind in harvesting nature's resources. Over-harvesting, accelerating for the past 20 years, can be irreversible. For example, the over-harvesting of many ocean fisheries has already depleted stocks of many species in ways that currently appear irreversible.

The Global Issues Project proposes a process through which opinion makers can explore the factors that may lead to a collapse of civilization and devise strategies to obviate such a catastrophe.

Unless the use of resources is wisely managed, they *and environmental sinks* will be stressed. Those that seem to be stretched well beyond sustainability

are: **land, fresh water, agriculture and food, forests, biodiversity, oceans and fisheries, and carbon fuels.**

The other factors or issues that could lead to collapse are:

- population
- cities
- climate change
- disease
- waste and pollution
- war and military consumption
- inappropriate technologies and inappropriate myths
- faulty social structures
- poor land-use planning
- absence of political will
- failings in governance and statesmanship

What we can do toward a successful outcome

Our plan is to explore the *Big Picture* by studying the crucial global issues one at a time, as individual components of a conceptual global model. We are proposing to continue our comprehensive series of Roundtables, starting with the issues where urgency and importance combine to make action essential. The presentations, discussion groups, and workshops will be designed to attract opinion makers, particularly those within the media; the education system; the business community; non-governmental organizations; the planning communities in the public sector; government officials and politicians at all levels of government.

Modeling

We believe that computer-based systems modeling is an essential tool for representing and quantifying the relationships among the many processes that constitute the whole system and for exploring alternative long-term and coherent futures.

This conclusion was based on our experience with the Global Systems Simulator, a highly aggregated model of the global physical economy developed by WhatIf? Technologies in collaboration with the Canadian Association for the Club of Rome. The Global Systems Simulator was intended as proof-of-concept; it represents the minimum structure required to explore the concept of sustainability at the global scale. Data covering a long past period are used to calibrate the history of usage of resources by humankind. The simulator looks not simply at supply and demand for one

resource but at the interconnection with other resources, including human resources.

The Roundtables will, when appropriate models are available, explore supply-demand tensions that emerge as the future unfolds. We have already used the simulator to demonstrate the need for consumption of a resource to be reduced below maximum available supply – so as to ensure availability in the long term.

Our plan for Roundtables

Our plan for each Roundtable:

- to bring together experts on the focal issue to exchange views with other experts and with concerned individuals
- to stimulate discussion by circulating survey papers prior to the Roundtable
- to acquire the most up-to-date information from these experts,
- to consider the role of the focal issue, or resource, in relation to other important issues
- to explore adaptation strategies using the Global Systems Simulator with a view to managing demand for resources so that well-being of future generations will be secure
- to utilize strategic foresight because it produces options for decisions now based on analysis of plausible future threats and opportunities,
- to make recommendations for action to decision makers in government and in civil society, and
- to publish, through the media and the internet, the discoveries from each Roundtable in ways designed to assist the general public to become familiar with the crucial Global Issues facing humankind
- To form a follow-up team

The first international Roundtable was held in September 2006, with forests as the focus. The participants examined the ecological role of global forests, considered their preservation in the face of accelerating demand for wood, and explored the inter-relationships between forests and the other crucial issues. The Faculty of Forestry at the University of Toronto collaborated in the organization of the Roundtable and participated actively in the event.

The second international Roundtable - Energy and Climate Change - was held in September 2007. The climate change scientists and experts concluded that economic policies and overconsumption are the root causes of climate change. In their statement, The Wasan Action Framework, the scientists fault policies that pursue economic growth "for its own sake," and the large per capita overconsumption of natural resources in the industrialized countries.

The statement's twenty-seven endorsers include two Canadian members of the Intergovernmental Panel on Climate Change (IPCC), which was awarded the 2007 Nobel Peace Prize jointly with former U.S. vice-president Al Gore. "In the long run, we need to focus on sustainable levels of consumption, which means finding ways to rein in our currently insatiable demand for more and more," said Professor Danny Harvey of the Department of Geography at the University of Toronto, who also served as lead author of the latest IPCC assessment report.

The scientists also cast doubt on the reliance upon nuclear power and large-scale biofuels to prevent climate change. "It is no secret that humankind is already struggling to eliminate hunger and the loss of biodiversity," said Ryerson University Professor Emeritus of Physics Helmut Burkhardt. "To take land away from food production and from rainforests is, in a global perspective, not an option."

The Wasan Action Framework urges governments and international bodies to curb overconsumption, promote lower global birth rates through women's education and empowerment, focus on low-impact renewable energy sources, reduce carbon emissions and preserve forests.

The format of the Roundtables includes scientific presentations, workshops, and discussion groups held, ideally, in retreat settings. A profile of the participants to be invited to each Roundtable is as follows:

- Experts on the focal issue, both Canadian and International,
- Government officials (Federal and Provincial) responsible for the focal issue,
- A partner from WhatIf? Technologies (modeling and simulation group)
- Leaders of grass roots organizations dedicated to the main issue
- Leaders in the industries related to the main issue
- Other government officials or leading politicians from affected countries
- Scholars from Canadian and International universities in diverse fields
- Media representatives

Resources required for the Global Issues Project

The project received approval from the Board of Directors of Science for Peace and was awarded start-up funding. It has subsequently received similar approval from the Canadian Pugwash Group. The financial participation of additional donors and grantors is now being sought, to complete the funding requirements for the full program described here. A budget and funding proposal is available on request.

Future Planning, Output, and Follow-up from the Roundtables

For each Roundtable, the Planning Group will appoint a Follow-up Committee to supervise the preparation of the full report and to manage the publication and distribution of the report and its findings. It is anticipated that a Follow-up Committee will be active for a period of at least a year after the completion of each Roundtable. Its responsibility will be to contact appropriate government departments, relevant industries, media outlets, and concerned nongovernmental organizations. The Follow-up Committee will be expected to explore the need for a possible further Roundtable on the same issue and to consider communications with similar groups in other countries, and to identify needs for new research and propose and encourage such research.

Contacts:

Helmut Burkhardt 416 694 8385 h.burkhardt@rogers.com

Derek Paul 416 532 6440 farp@sympatico.ca

Participating Groups:

Science for Peace is a charitable corporation founded in 1981 which brings together scientists and scholars, students and others who are concerned about peace, justice and making an environmentally sustainable future.

The Canadian Pugwash Group of influential scientists and scholars is concerned with advancing the cause of peace and alleviating the causes of global insecurity. The Group is the Canadian affiliate of the Pugwash Conferences on Science and World Affairs, which jointly with its founder Sir Joseph Rotblat, received the Nobel Peace Prize in 1995.

The Canadian Association for the Club of Rome promotes study and discussion on the nature of world problems.

WhatIf? Technologies is a private company providing technology and services for strategic planning and scenario analysis, including specifically foresight through interactive modelling and simulation.

Individual members of the Planning Committee for the Global Issues Project

- Claus Brandes, manager, Bank of Nova Scotia, retired
- Adele Buckley, aerospace engineering, physics, environment, PhD, DSc; formerly Chair of the Canadian Pugwash Group; member, Pugwash Council; member, Science for Peace; formerly Vice President, Technology and Research, Ontario Centre for Environmental Technology Advancement
- Helmut Burkhardt, physics, Dr.rer.nat.; Board member, Science for Peace; Chairman of Board, Council on Global Issues; member, Canadian Pugwash Group; Professor Emeritus, Ryerson University
- Phyllis Creighton, M.A.; translations editor, Dictionary of Canadian Biography; Research Associate, Faculty of Divinity, Trinity College, Toronto; Executive member, Science for Peace
- David Harries, nuclear engineering, strategic foresight; PhD; Professor, Royal Military College of Canada; member; Board member, Foresight Canada
- Robert Hoffman, economics, MSc.; partner, WhatIf? Technologies; President, Canadian Association of the Club of Rome
- Martin Hubbes, forestry, PhD; Faculty of Forestry, University of Toronto
- Donna Mergler, biological sciences and occupational health, PhD, Professor, University of Quebec in Montreal; team leader, Collaborative Mercury Research Network; member, Science Advisory Board of the International Joint Commission on the Great Lakes; member, Canadian Pugwash Group
- Julia Morton-Marr, teacher, global sustainability education; geographer, system scientist; B.Ed. Dip.T.; founder, International Holistic Tourism Education Centre and International School Peace Gardens Program; Board member, Science for Peace and Canadian Voice of Women for Peace
- Derek Paul, physics, PhD; Executive member, Science for Peace; member and former executive member, Canadian Pugwash Group; Board member, Council on Global Issues; Fellow, World Innovation Foundation; Professor Emeritus, University of Toronto

Individual Members of the Advisory Group for the Global Issues Project

Danny Harvey, geography, PhD; Professor, Dept of Geography, U of Toronto, member, Science for Peace

Bert McInnis, physics, PhD; partner, WhatIf? Technologies

Ken MacKay, agriculture, PhD; member Canadian Association of the Club of Rome and Science for Peace

Beth Savan, Research Director and Senior Lecturer, Centre for the Environment; Adjunct Professor, Department of Geography; Director, Sustainability Office, University of Toronto; Board member, Toronto Atmospheric Fund

Colin L. Soskolne, Professor of Epidemiology, School of Public Health, University of Alberta; Global Ecological Integrity Group Steering Committee; memb. Ethics Specialist Group, Commission on Environmental Law, International Union for the Conservation of Nature; Senior Editor, "Sustaining Life on Earth"

- Barbara Zimmerman, forestry, PhD; Adjunct Professor, Faculty of Forestry, University of Toronto; Director, Kayapo Project, Conservation International – Brazil Program