Six new indicators to track Canada's ability to maintain prosperity: final ESDI report

he National Round Table on the Environment and the Economy released the final report from its Environment and Sustainable Development Indicators (ESDI) Initiative on May 12 in Ottawa.

The aim of the three-year initiative was to develop a small set of credible and understandable indicators to track whether Canada's current economic activities threaten the well-being of future generations.

"This initiative is part of a world-wide recognition that current measures of progress, such as the GDP [gross domestic product], tell us little about what's happening to the natural, human and social capital that underpin a healthy society and economy," said Stuart Smith, Co-Chair of the ESDI Initiative Steering Committee. "The recommendations in this report are a first step toward getting an idea of the true cost of economic and policy decisions."

In addition to proposing new indicators, the report also recommends that the government expand its System of National Accounts and improve the country's systems for gathering environmental information.

Tracking the state of natural and human capital: Six new indicators

from the National Round Table on the Environmen

"Right now, Canada does not keep track of its ecological resources. We do not know if we are running down our stocks of 'natural capital' to the detriment of future generations' prosperity," said Dr. Smith.

To fill this gap in Canada's understanding of its long-term economic

prospects, the report recommends that

the government supplement existing economic indicators such as the GDP

with annual reporting on the following six measures of natural and human capital:

Air Quality Trend Indicator—tracks the exposure of Canadians to ground-level ozone (O₃), a particularly harmful air pollutant. For the first time, the NRTEE report weights, by population, air quality information

from across Canada. One finding is that while the level of smog

• Program Updates

New Programs

 National Strategy on Brownfield Redevelopment

New direction for the Ecological Fiscal Reform program – energy

NRTEE TRNEE

Starting this spring, the NRTEE's Ecological Fiscal Reform (EFR) program is shifting its focus to study the role of fiscal policy in reducing the carbon emission intensity of Canadian energy systems.

The new direction is motivated by a clear message from stakeholders that the program should focus on strategic issues of importance to Canada in the long term, as well as a realization that Canada's ratification of the Kyoto Accord will produce substantial changes in the Canadian energy marketplace.

Through a series of case studies, the NRTEE will seek to demonstrate how fiscal policy could shift Canadian energy production and consumption away from carbonintensive fuels, processes and technologies. Three case studies will explore the role of fiscal policy in:

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ESDI final report, continued...

Canadians are exposed to is increasing slowly (+3% over 20 years), scientists have discovered the actual level of smog that can hurt and kill people is lower than previously thought.

QWe must come to grips

with the fact that the

progress are inadequate.

on public policy than any

other single measure we

might introduce.r

- The Minister of Finance,

announcing the ESDI initiative in

the 2000 spring budget

Freshwater Quality **Indicator**—provides a national measure of whether water is of sufficient quality for aquatic habitat, recreation, agriculture and other uses. For the first time, national water quality information has been assembled showing that in 2002, 22% of monitored waterways are damaged.

Greenhouse Gas (GHG) Emissions **Indicator**—tracks Canada's total annual emissions of greenhouse gases, including carbon

dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Canadian GHG emissions have increased 16% over the last 20 years.

Forest Cover Indicator—tracks changes in the extent of Canada's forests. The report includes Canada's first satellite-based national measure of forest cover.

Extent of Wetlands Indicator—tracks changes in the total area of wetlands in Canada. Often referred to as the lungs of the planet, the area covered by wetlands is a proxy for biodiversity. Surprisingly, there is no information at this time to calculate this indicator. but it could be constructed in two years from satellite remote-sensing data.

Human Capital Indicator (Educational

Attainment)—tracks the percentage of the population between ages 25 and 64 with educational qualifications beyond the secondary school level. This indicator will reveal our

investment in a well-educated workforce and will help us understand our ability to compete in a global, knowlcurrent means of measuring edge-based economy. The Round Table found that this indicator increased by over 10% from 1990 to 2000.

> the indicators was guided by a 30-member steering committee that included representatives from organizations involved in developing indicators of sustainability, nongovernmental organizations, business and financial organizations, universities, and government.

...[These indicators] could The process of developing well have a greater impact

An expanded system of national accounts

The report also recommends that the government permanently expand its System of National Accounts (SNA) to include explicit measures of natural, human and, over time, social capital.

The most widely used framework for analysis of the Canadian economy, the SNA is the basis of most of our important macroeconomic indicators, including the GDP. Yet it focuses almost exclusively on market transactions, ignoring, for example, the value of unpriced natural resources or the cost of pollution. Expanding the SNA to include

Contact Us Category List Search Publication Index The NRTEE has a Virtual Library section on its Web site (www.nrtee-trnee.ca) allowing access to over 300 NRTEE documents and publications that are organized into easy to search categories including: natural resources, community awareness, atmospheric issues, greening government policy, and health.

A broader view of capital

The NRTEE recommendations are based on an expanded view of capital—an economic term first used for infrastructure such as buildings and equipment that enables future economic production—that includes:

Produced capital—equipment, buildings, machinery and other infrastructure that provide benefits over time by helping to produce other goods and services.

Natural capital—the natural resources, land and ecosystems that provide us with natural materials (such as timber) and essential services (such as the cleansing of fouled air and water and the provision of productive soil, wildlife habitat, and a predictable and relatively stable climate).

Human capital—the "knowledge, skills, competencies and other attributes embodied in individuals that facilitate the creation of personal, social and economic well-being."1

Social capital—the least understood form of capital, roughly defined as the formal and informal institutional arrangements, relationships, networks and norms that facilitate collective action. More work to understand and learn how to measure social capital is needed.

accounts on more forms of capital will make it a more accurate framework on which to base economic and policy decisions.

"Just knowing the level of economic activity — the GDP — is not enough. It does not tell us about our natural capital stocks," said David J. McGuinty, President and CEO of the NRTEE. "Nature provides us with lifesustaining clean air and water, as well as exploitable natural resources and biodiversity's encyclopedia of recipes, patterns and ideas. Natural capital is the foundation of our economy. If nature is in trouble, we need to know sooner rather than later."

Improved environmental data

Much of Canada's environmental information is incomplete and can't be compared across the country, and is surprisingly poor in some areas, according to the report. The NRTEE therefore recommends that the federal government work with all levels of government to improve the quantity and

¹ Organisation for Economic Cooperation and Development, The Well-Being of Nations: The Role of Human and Social Capital (OECD, 2001).

ESDI final report, continued...

quality of environmental information, with the Canadian Information System for the Environment (CISE) playing a central role.

"The new indicators and accounts will need the kind of national system that CISE will promote," Dr. Smith stressed.

The state of the debate

The report also discusses areas of disagreement among participants in the initiative. One of the most controversial is the question of whether information about Canada's many forms of capital could or should be translated into a single dollar value, similar to the GDP. A few participants also disagreed about the form of the final indicators and whether to include additional indicators.

Next steps

Implementing the recommendations will require the involvement of many organizations, including the Department of Finance and other federal departments, the Canadian Council of Ministers of the Environment, provincial agencies, and academic and non-profit organizations. Over the next year, the NRTEE will promote the implementation of its recommendations and the value of taking a broader approach to national accounting. b

Ecological Fiscal Reform, continued...

- promoting the commercialization of hydrogen-based energy systems by encouraging Canadian consumers and corporations to buy hydrogen technologies, helping to create a hydrogen infrastructure, and increasing support for R&D in the industry;
- hrough both short-term measures (encouraging home energy audits, capital improvements for more efficient energy production, and high-efficiency vehicles, for example) and more systemic approaches (such as promoting co-generation and community-based or shared energy systems);
- **promoting renewable power** by increasing the share of new electricity-generating

Program Updates

Urban Sustainability

The State of the Debate report on urban sustainability was released on May 30, 2003, at the Annual Conference and Municipal Expo

of the Federation of
Canadian
Municipalities in
Winnipeg, Manitoba.
The NRTEE is planning to promote
the report
with a
cross-Canada tour

that will include events in five major urban centres (Halifax, Montreal, Toronto, Winnipeg, Calgary and Vancouver).

The tour will also promote the national brownfields redevelopment strategy, which was released in early February. For more information on the Urban Sustainability program, visit our Web site.

Conservation of Natural Heritage

The NRTEE will be releasing its State of the Debate report on the conservation of natural heritage, entitled *Securing Canada's Natural*

capacity sources and encouraging the private sector to generate green power and Canadian consumers and corporations to purchase green power.

The NRTEE expects that the work on each case study will continue for 12 to 18 months. More information about the EFR program is available on the NRTEE Web site.

Ecological fiscal reform

Governments have traditionally used fiscal policy (taxation and expenditure policies) to generate revenues and stimulate economic growth, rather than to achieve broad social and environmental objectives. The NRTEE's Ecological Fiscal Reform program is designed to demonstrate how governments can use fiscal policy as a strategic tool to achieve environmental and economic objectives simultaneously. b

Capital: A Vision for Nature Conservation in the 21st Century, in June 2003. The report

follows consultations held during fall 2002, including a multistakeholder workshop where more

> than 70 participants representing a variety of sectors and regions discussed a draft report and its rec-

ommendations. The report includes the following nature conservation case studies, which are available on our Web site:

- Clayoquot Sound Biosphere Reserve (British Columbia)
- Eastern Scotian Shelf Integrated Management Project (Nova Scotia)
- Lands for Life (Ontario)
- Manitoba Mining Sector Consultation (Manitoba)
- Muskwa-Kechika Management Area (British Columbia)
- Pacific Estuary Conservation Program (British Columbia)
- Vuntut National Park (Yukon)
- Yukon Protected Areas Strategy (Yukon)

To learn more about the Conservation of Natural Heritage program, visit our Web site. b

New Programs

Capital Markets

How strong is the business case for sustainability? The relationship between financial performance and corporate activities to improve environmental and social performance is the focus of the NRTEE's new Capital Markets program.

The NRTEE believes that the business case for sustainability has not yet been adequately made. During the first phase of the program, it will test this theory by inviting key players in the financial and corporate sectors, and others, to determine the "state of the debate" on the links between sustainable practices and the bottom line. Subsequently,

New Programs, continued...

the program will involve developing recommendations to better link sustainable actions with financial performance.

For more information on the Capital Markets program, visit the NRTEE Web site.

Nature Phase II

The Round Table has begun a second phase of the Conservation of Natural Heritage program. Phase I of the program emphasized the importance of conservation on the "working landscape"—the portion of public and private lands allocated to industrial uses, such as

forestry, mining, oil and gas exploration and development, hydroelectric development, and others. Initial scoping has begun on this second phase to determine the focus of the program. One poten-

tial theme includes an examination of ecological fiscal reform (EFR) measures on public land allocated for use to resource companies. The NRTEE hopes to have the focus of this new program refined by the fall.

For more information on the Nature Phase II program, visit the NRTEE Web site.b

Cleaning up the Past, Building the Future: A National Brownfield Redevelopment Strategy for Canada

The vision of the National Strategy on Brownfield Redevelopment is to transform Canada's brownfields into eco-

nomically productive, environmentally healthy and socially vibrant centres of community life, through the coordinated efforts of all levels of government, the private sector and community organizations.

Designed to eliminate key barriers including lack of access to capital, liability and risk problems, and low stakeholder awareness, the strategy is a realistic, practical, and innovative blueprint for action that presents a coordinated, comprehensive national approach to cleaning up and redeveloping brownfields in Canada.

This report is available in English and French. For ordering information, please see the enclosed publications catalogue.



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