NATIONAL ROUND TABLE ON THE ENVIRONMENT AND THE ECONOMY
TABLE RONDE NATIONALE SUR L'ENVIRONNEMENT ET L'ÉCONOMIE

NRTEE Official Reports Copyright and Reproduction Notice

All **NRTEE Official Reports** ("Works"), provided on this USB memory key and identified in the **NRTEE Official Reports List** folder, contain their individual copyright and reproduction notice. The notice in each of these Works is replaced and superseded by the following copyright and reproduction notice, effective February 22, 2013:

> **© This Work is protected by copyright and made available for personal or public non-commercial use and may be reproduced, in part or in whole, and by any means, and may be further distributed for non-commercial use, without charge or further permission. All users are required to indicate that the reproduction, whether in part or in whole, is a copy of a Work of the National Round Table on the Environment and the Economy (NRTEE). Reproduction, in whole or in part, of this Work for the purpose of commercial redistribution is strictly prohibited. Furthermore, no right to modify or alter in any manner the Work is hereby granted.**

Consultant Reports Copyright and Reproduction Notice

All **Consultant Reports** ("Works"), provided on this USB memory key and identified in the **Consultant Reports List** folder, were prepared for, or commissioned by, the National Round Table on the Environment and the Economy ("NRTEE") in support of its research efforts, and may or may not reflect the views of the NRTEE. Such Works may not contain a copyright notice as they were not intended for public release when they were so prepared or commissioned. In the absence of a copyright notice, and where a copyright notice may in fact appear, the following notice shall be read together with the Work and, where applicable, replace and supersede any existing copyright notice, effective February 22, 2013:

> **© This Work is protected by copyright and made available for personal or public non-commercial use and may be reproduced, in part or in whole, and by any means, and may be further distributed for non-commercial use, without charge or further permission. All users are required to indicate that the reproduction, in part or in whole, is a copy of a Work of the National Round Table on the Environment and the Economy (NRTEE). Reproduction, in whole or in part, of this Work for the purpose of commercial redistribution is strictly prohibited. Furthermore, no right to modify or alter in any manner the Work is hereby granted.**

Market-Based Approaches to Environmental Improvement: A Near-Term Agenda

A Report for the
National Round Table on the Environment and the Economy
January 1996

Prepared by:
Bunli Yang
BY Associates

Market-Based Approaches to Environmental Improvement:
A Near-Term Agenda

Introduction

The National Round Table on the Environment and the Economy (NRTEE) has advocated for several years, since at least 1991, the greater use of economic instruments to protect and to improve the environment. The NRTEE's Task Force on Economic Instruments and Disincentives to Sound Environmental Technologies wishes to develop a workplan leading to implementation of measures by governments and business.

The topic of economic instruments and the environment, or sustainable development, has drawn a great deal of attention world-wide. There have been many reports in Canada sponsored by governments, by non-affiliated organizations such as NRTEE, and by business. Appendix 1 is a selected bibliography that gives a flavour of recent Canadian work. Even so, a recent OECD survey of its member countries shows that Canada makes less use of environmental taxes than the bulk of its counterparts.

Defining "economic" or "market-based" instruments is not easy. They are often regarded as everything outside direct regulation of equipment and process specifications. The federal government makes a broad classification of tax and non-tax instruments, with examples being:

Tax:	Charges on emissions
	Charges on inputs
	Charges on products
	Tax incentives
Non-Tax:	Direct subsidies and programs
	User charges
	Tradeable permits
	Deposit-refund

The general term "market-based approaches" is adopted here in order to include voluntary efforts that are mounted in a formal manner to address government policies, regulations, or programs. An example is the federal government's Voluntary Challenge and Registry (VCR) program to assist achievement of Canada's commitments under the international Framework Convention on Climate Change to reduce greenhouse gas emissions. Another example is the emerging environmental management standard, ISO 14000.

Why the focus on economic, or market-based, instruments? There has been a noticeable shift in North America for all governments to respond to public expectations to do less--**not** "do more with less", which was a rallying theme during the deep recession of the early 1990s. Doing less means fewer programs, and it means spending less. Spending less means taking in lower tax revenues, so taxes and tax expenditures will decrease. At the same time, governments need the biggest impact for each dollar spent.

From a review of the numerous recent reports and studies, what can be done that is practical? What are appropriate roles for NRTEE? What would a near-term workplan for NRTEE look like? What resources are needed?

Classes of NRTEE Options

The NRTEE's recent efforts on market-based approaches have focused on ways to influence the 1996 and 1997 federal budget cycles, mainly on taxes and investment incentives. The NRTEE Task Force has proposed changes to:

i) the capital gains treatment of lands donated for conservation, and
ii) the capital cost allowance for various kinds of electrical generation.

These measures have had the benefit of several advocacy studies, and a level of consensus at the NRTEE has been reached on their desirability. They are also highly specific and are limited in application to very few stakeholders.

These measures face formidable obstacles in the federal budget process, partly because of the political and fiscal climate and partly because of the technical design challenges they present to civil servants. The NRTEE Task Force can continue to offer its assistance to staff at Finance and Revenue Canada on these two measures through a joint working group.

To address the broad range of market-based approaches, there are many ways to identify classes of actions NRTEE could take. One is to address existing policy weaknesses or barriers, in both the tax system and the federal government's programs. The 1994 Federal Task Force on Economic Instruments and Disincentives to Sound Environmental Practices proposed such an approach, a "Framework for Analyzing Public Policy Barriers to Sound Environmental Practices". It is reproduced as Appendix 2.

This analytical framework is both systematic and flexible. The NRTEE's Task Force report "Fine Tuning Taxes for Energy Eco-Efficiency" applied the framework to taxes and capital investment incentives related to energy.

The main drawbacks of this analytical framework are:

- the huge amounts of policy research and analysis required to complete its steps 1 to 6;
- the narrowness of scope forced onto the result of analyzing any specific barrier; and consequently,
- the uncertain strategic significance of the result.

An alternative is to start by identifying key "strategic partners" and their areas of responsibility where near-term progress is possible. Then the challenge becomes the design of measures or actions to which the NRTEE can bring its value-added. The underlying policy rationale can be constructed after the measure has been designed. Briefly, the approach would be:

1. Break out classes of actions by target audience or strategic partner.
2. Identify novel or cross-cutting measures for a given target audience.
3. Identify process options for joint development with NRTEE.
4. Design the measure jointly.
5. Develop the underlying rationale, including principles and objectives.

This may seem inverted, with the rationale and objectives coming at the end rather than the beginning. But first developing novel, achievable, concrete measures and then constructing the rationale with a range of strategic partners is the pragmatic way to make progress in complex areas where no single party or interest group commands authority and control. Table 1 gives a sample list of concerns of different strategic partners.

Table 1
Classes of Actions for NRTEE on Market-Based Approaches

Target Audience/ Strategic Partner	Potential Topics for NRTEE Actions
1. Finance/Revenue Canada	Investment incentives Carbon/energy taxes GST/product taxes Tradeable permits
2. Environment/Natural Resources Canada	Program subsidies Regulatory compliance Carbon/energy taxes Tradeable permits
3. Individual Provinces or Municipalities	User charges Regulatory compliance Tradeable permits
4. CCME Federal/Provincial	Regulatory compliance Product stewardship/deposit-refund Tradeable permits
5. Businesses and Associations	Product stewardship Self-monitoring Regulatory compliance Tradeable permits Joint Implementation GHG initiatives
6. ENGOs	Regulatory compliance Performance auditing Joint Implementation GHG initiatives

7. International Organizations	Performance and auditing standards Cross-border tradeable permits Joint Implementation GHG initiatives

This way of classifying potential actions for the NRTEE to take does not stand alone; it needs to be supplemented by something like the analytical framework proposed by the 1994 Federal Task Force. But it provides a way to test out NRTEE members' views on strategic significance and to benefit from the rich, diverse spectrum of their experience and interests. It builds on a unique strength of the NRTEE--the capacity to bring together unlikely alliances to address issues as strategic partners.

The challenge, of course, is to propose to the right strategic partners genuinely novel measures that have more than a snowball's chance in a hot place of success. And "novel" should reflect the unique credibility and stature of the NRTEE.

Possible Measures

A list of possible near-term measures follows, as a starting point for discussion. NRTEE members need to decide what is sufficiently novel and what are the value-added contributions of the NRTEE: what does NRTEE bring uniquely to the party?

1. Support for Specific Tax and Investment Incentives [Joining the Chorus]

Other organizations and stakeholders have also proposed to Finance Canada for the 1996 Budget that investment incentives be amended, including:

- the capital gains treatment of lands donated for conservation,
- the capital cost allowance for various kinds of electrical generation,
- the expansion of flow through shares to apply to energy efficiency and renewable energy technology businesses.

2. Beyond Due Diligence

Voluntary efforts on the part of business are both good news and bad news. They are promising from the point of view of business because they may persuade governments and the public that further regulation is unnecessary. The playing field for competing businesses, however, would not be level because there is a temptation for free riders to do the minimum. On the other hand, ENGOs are also skeptical about the effectiveness of voluntary efforts to achieve "stretch" targets and goals. Examples are the "stabilization of greenhouse gas emissions by 2000" and the virtual elimination of various toxics. Mounting credible voluntary programs will require extensive communications and institutional constructs. Examples include:

- voluntary reporting and inventories under the climate change Voluntary Challenge and Registry,
- the ISO 14000 environmental management standard,
- the European Union Eco-Management and Audit System (EMAS).

3. Self-Serve Regulatory Compliance

Government departments are downsizing. Budget reductions in operations will also affect regulatory compliance functions. Approvals could become more performance-based, rather than depending on prescriptive standards for equipment and processes. Responsibility for ambient water and air quality monitoring can be devolved to regulated businesses, subject to periodic government audits, in exchange for a greater degree of flexibility on permits and approvals. A working example is the Netherlands' approach of covenants with industrial sectors, leading to simplified permits for those firms with EMAS accreditation.

4. Toxic Phase-out, of Benzene in Gasoline

Benzene is a hazard to human health, but acceptably safe ambient concentrations are not known. There may be naturally occurring sources of benzene in the atmosphere. The bulk of human-generated benzene occurs in gasoline. Petroleum refiners will observe that volatile emissions of benzene from gasoline have been largely controlled, and that most atmospheric emissions could be reduced by vehicle modifications. Very low or zero-concentration benzene in gasoline is possible but expensive. California has recently required low benzene gasoline. A way to reduce benzene in gasoline would be to use a method of tradeable allowances to cover all the gasoline sold in Canada, or in specified regions, including imports. The phase-down could follow the path taken in the US to phase-out lead in gasoline. Differential taxes similar to those imposed in Canada on leaded fuel are also possible, as a supplement.

5. Tradeable Emissions Reductions ["Open Market Trading"]

Most tradeable permit systems are allowances schemes. For example, the US Clean Air Act Amendment of 1990 instituted a tradeable allowances system to control SOx emissions from large stationary sources, mainly electric utilities. This kind of trading system requires an overall cap, extensive inventories, and extensive monitoring. The record-keeping requirements are burdensome and costly for governments to administer, and the market is "closed"; that is, available only to those sources designated to be under the cap. A common criticism of tradeable allowances is that they are "licenses to pollute", though command-and-control equipment specifications are also licenses to pollute at specified rates.

For NOx and VOCs, states in the US midwest and northeast have been developing open market trading, in which the tradeable commodity is emissions reductions, not emissions themselves. The US EPA recently issued guidance on acceptable open market trading systems. Such a market is "open" because any source of emissions can offer emissions reductions for sale. Any investments achieving emissions reductions beyond regulated requirements qualify--low NOx burners, industrial process changes, triple-glazed windows, fuel switching--so long as the reductions are real, quantifiable, verifiable, and enduring. In

Ontario, an industry working group has been designing a pilot emissions reduction trading system, and the Ontario Government has recently agreed to participate in the effort. As smog and ozone transport are cross-border problems, internationally harmonized trading systems are desirable. The North American Commission for Environmental Cooperation (established under NAFTA) has expressed a keen interest in cross-border tradeable permits.

A variation of the open market trading approach is "cash for clunkers", in which payments are made to scrap old, high NOx or high VOC vehicles. A small fraction of the vehicle fleet is generally responsible for the great bulk of harmful automotive emissions.

6. Tax Shift from Income to Carbon/Energy Consumption [non-regressively]

A carbon or energy tax is controversial. There are many reasons for controversy, among them competitiveness issues between different countries and differential impacts on export commodities. But the main one might be the hefty size of such a tax that would be needed to achieve, by itself, large reductions in the use of fossil fuels in industrialized countries. This may be a self-limiting approach, trying to set environmental policy goals to be achieved by essentially a single tax. Instead, an incremental approach might be to shift the burden of existing taxes slightly more onto carbon or energy, as a scene-setter.

An example might be to take advantage of the current efforts to harmonize the GST, which is largely a pass-through for business but a consumption tax on consumers, with provincial sales taxes, which are paid by consumers and businesses alike. Introducing a small carbon or energy tax taking up 1-3% of the tax points of combined GST and PST, and reducing income taxes at the same time, with tax increases announced to be applied to the carbon or energy tax would be more nearly acceptable than a shift to a substantial carbon or energy tax.

A separate matter is the appropriateness of a charge or tax on financial transactions, a "Tobin tax" and its relation to any taxes on energy or telecommunications transactions.

7. Global Greenhouse Gas Off-sets and Joint Implementation

Many organizations world-wide are trying to establish guidelines and protocols for investments by industrialized countries (both governments and businesses) in developing countries to reduce greenhouse gas emissions, mainly carbon. Such investments are generally more cost-effective, greater carbon reductions per dollar invested. But they raise skeptical concerns about why not invest scarce dollars in efficiency at home? or if the financial returns are higher in developing countries, isn't this legitimized exploitation? and why should developing countries bear any responsibility for carbon reductions at all since the industrialized countries got the world into the fix it's in by burning fossil fuels when it was cheap to do so?

Appendix 1

A Selected Canadian Bibliography

Apogee Consultants. Assessment of Economic Instruments for Waste Management. 1992.

Canada. Economic Instruments for Environmental Protection: A Discussion Paper. 1992.

Conference Board of Canada (B. Hull and A. St-Pierre). The Market and the Environment: Using Market-Based Approaches to Achieve Environmental Goals. 1990.

DRI Canada and Marbek Resource Consultants. Canadian Competitiveness and the Control of Greenhouse Gas Emissions Through the Imposition of a Carbon Tax. 1993.

Economic Instruments Collaborative. Achieving Atmospheric Quality Objectives Through the Use of Economic Instruments. 1993.

International Institute for Sustainable Development (A. M. Gillies). Where to Start: An Action Plan for Protecting the Environment and Reducing Canada's Deficit. 1994.

Mintz, J. and K. Scharf. A Comparison of Tax Incentives for Extraction and Recycling of Basic Materials in Canada. 1994.

National Round Table on the Environment and the Economy (M. Kelly). Market Correction: Economic Incentives for Sustainable Development. 1992.

_____ (P. Clement). Environmentally Perverse Government Incentives. 1992.

_____ (M. Denhez). You Can't Give It Away: Tax Aspects of Ecologically Sensitive Areas. 1992.

_____ (Pembina Institute). Fine Tuning Taxes for Energy Eco-Efficiency. 1995.

_____ (Resource Futures International). Ecological Fiscal Reform: A Review of the Issues. 1995.

Task Force on Economic Instruments and Disincentives to Sound Environmental Practices. Economic Instruments and Disincentives to Sound Environmental Practices. 1994.

Appendix 2

Source: Task Force Report on Economic Instruments and Disincentives to Sound Environmental Practices, 1994.