# Economic Instruments Workshop For

50.104

St. Lawrence Vision 2000 and Great Lakes 2000 programs, Environment Canada

Ottawa, Ontario February 1 and 2, 1995

Workshop summary by the Great Lakes Pollution Prevention Centre

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#### **Executive Summary**

#### Background

In Creating Opportunity (the Red Book) the federal government made a commitment to the adoption of economic and environmental agendas that converge. In support of this commitment the Regional Director Generals of the Quebec and Ontario Regions invited participation in a two-day workshop designed to evaluate the role of economic instruments in the delivery of St. Lawerence Vision 2000 and Great Lakes 2000 programs.

The Economic Instruments Workshop was held in Ottawa on February 1 and 2, 1995.

#### Highlights of the Workshop included:

presentations on the availability and implementation of economic instruments;

case studies of successfully implemented strategies in the U.S.;

working sessions to identify the SLV 2000 and Great Lakes 2000 program objectives that might be most amenable to the use of economic instruments;

discussion sessions on implementation strategies for economic instruments;

a plenary discussion on " where do we go from here?"

#### 43 in attendance

Including representatives from:

Environment Canada Quebec Region Ontario Region Western & Northern Region Atlantic Region

McMaster University

The Ontario Ministry of Environment and Energy

Industry Canada

The University of Quebec

The Great Lakes Pollution Prevention Centre Workgroup Sessions:

The objective of the workgroup sessions was to raise the awareness of participants on the use of economic instruments and identify potential links with the objectives of regional programs. The Great Lakes 2000 workgroup identifed potential economic instruments (E.I.), and design & implementation issues for eight of the Ontario program's objectives, including: restoration of degraded areas, and preventing & controlling pollution. The SLV 2000 workgroup focused on the application of E.I. in three key aspects of the Quebec program: preservation of sensitive habitat, reduction of toxic effluent and a 50% reduction in pesticide use.

**Economic Instruments - Next Steps** 

Build on the ideas developed during the workshop

Get input from industry and non-government organizations; broaden the scope of participants to include experts in other fields.

Examine the success/failures of economic instruments at the municipal level; they have had the most experience with using economic instruments in Canada. (Eg. tipping fees)

Obtain the guidance of economic experts to fill the gaps between our current knowledge and necessary knowledge.

Identify tools, and obtain a list of contacts and information available on the "how to's" of implementation.

Obtain support (\$) from HQ for implementation.

#### Workshop Evaluation

Workshop evaluation forms were returned by 14 of the 43 workshop participants. Comments generally were positive and a significant number of participants indicated they would like to participate in future economic instrument workshops. Written comments indicated that future workshops should be organized around case studies, and that industry and other non-government representatives need to be included in discussions.

Steering Committee members for the workshop were <u>Judith Hull</u>, Economic Analysis Branch; <u>Paul Laramee</u>, Environmental Protection Branch; and <u>Tom Muir</u>, Environmental Projects Office of Environment Canada. Organization of the workshop was through the Great Lakes Pollution Prevention Centre (GLPPC) conference management services.

#### Guest Speakers and Case Studies

#### John Palmisano

John Palmisano is Director of the Environmental Policy Group for Enron Corporation. He assists industry and environmental protection agencies develop cost-effective environmental protection policies and regulations. Highlights of his speech included:

- market based reforms verses command-and-control;
- where economic instruments have been used and why;
- when to consider using economic instruments;
- descriptions of programs in place;
- administration and implementation issues;
- evaluating effectiveness.

Copies of overheads are available on request.

#### Jennifer Moore

Jennifer Moore spoke briefly, on behalf of Laura Tupper of the Economic Analysis Branch, and gave the Canadian perspective where the economy, environment, and society are interconnected.

#### Stuart Mestelman and Andy Muller, McMaster University

Stuart Mestelman and Andy Muller have been active in establishing McMaster University as a leading centre of laboratory economic research. They use the techniques of laboratory experimentation in economics to investigate design features of emission trading plans.

- Highlights of their presentation included:
  - common features of Canadian emissions trading proposals;
  - test bedding;
  - experiments conducted;
  - importance of design features;
  - market efficiency.

Copies of overheads are available on request.

Tom Muir

Tom Muir is with the Environmental Projects Office, Ontario Region. Tom spoke on the task force investigation of the potential usefulness of economic instruments to help achieve virtual elimination and zero discharge of persistent toxic substances. Specifically, in relation to PCB's, mercury, chlorine, and effluent discharges of incinerators and of polyvinyl chloride. Highlights:

- economic concepts as obstacles;
- economic incentives
- application of E.I. to incinerators and polyvinyl chloride;
- assessing information;
- incremental costs.

see: Proceedings of the Symposium on Economic Incentives to Implement Zero Discharge of Persistent Toxic Chemicals in the Lake Superior Basin, Nov. 1993

#### Alain Webster, University of Quebec in Montreal

Alain Webster is a Professeur of Environmental Economics with the University of Quebec and obtained his doctorate in economics and natural resources in France. Alain spoke on accounting in the environment, highlights included:

- taxes vs tradable permits;
- rights of ownership; trading and geographical limits;
- the french experience;
- legislative framework in Ouebec:
- limitations of economic instruments.

Text of presentation is available in french

**Yves Bourassa** 

Yves Bourassa is currently studying the feasibility of using economic instruments in the Atlantic Region for a more sustainable use of water, control of air quality, and other sustainability issues in renewable resource sectors. Yves' speech was on the three approaches to address environmental challenges and highlights included:

> the failure of society to consider the impact of decisions on the environment; lack of pricing for common-owned resources;

- internalization of environmental costs;
- economic instruments vs. command-and-control, "the carrot and the stick"; advantages/constraints/bottom lines.

#### Jean Cing-Mars and Susan Nameth

Jean Cing-Mars and Susan Nameth (for Vic Shantora) spoke on the objectives of the workshop and the overall objectives when using economic instruments to realize environmental goals.

# Great Lakes 2000 Economic Instruments Workgroup Session

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#### Great Lakes 2000 Workgroup

#### WORKGROUP STRATEGY

The workgroup discussed the following focus questions for most objectives:

- i) identify economic instruments which could be used
- ii) users of the instruments / how and when they can be used
- iii) design/implementation issues
- iv) which instrument has the most potential

#### **Great Lakes 2000 OBJECTIVES DISCUSSED**

implementing municipal Pollution Control Plans (PCPs)

- demonstrate and implement new technologies through green industry
- capital works
- rehabilitation
- contaminated sites and sediments
- persistent toxic substances reduction
- habitat conservation
- land / water use management

#### **PROGRAM OBJECTIVE** implementing municipal Pollution Control Plans (PCPs)

**POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)** 

- full cost pricing for water services / or tradeable permits (*limit the basin or create sub-ecosystems*)
  municipalities and firms pay for low quality effluent (*getting municipalities to adopt and implement new instruments*)
  privatization of municipal water/sewage works (*lack of funds*)
  transfer payments /tax incentives (*need and acceptability of conditions*)
  provincial royalty for water use
  removal of existing policies- particularly subsidies that hasten non-renewal resource deplotion
  - depletion

### **PROGRAM OBJECTIVE** demonstrating and implementing new technologies through green industries

#### **POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)**

through grants or tax incentives (should be targeted & conditional grants / priority setting / minimum but necessary grant levels / effect on the deficit )

2 standards and discharge fees

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tax or environmental charges to change undesirable behavior\* (which pollutant, how much, how long, which industry / taxes would have to be significant to lead to change / make sure it is an acceptable standard you a trying to promote)

create a market - promotion perhaps internationally - bigger than the Canadian market\* preferential procurement (acceptable procurement)

preferred

#### **III PROGRAM OBJECTIVE** capital works

#### **POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)**

accelerated depreciation allowance or tax (creates an equity issue for labour and other types of capital)

tax deductible bonds (competes with other public / private borrowing)

privatization (great give away or it is incredibly inflationary / must acknowledge the full price / value of land in costing)

full cost and proper accounting procedures (make sure there are meters)

substitute storage capacity for distribution (change federal infrastructure subsidy)

#### IV PROGRAM OBJECTIVE rehabilitation

#### **POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)**

1 tax incentives for owners of wetlands

education/awareness of benefits of wetlands

affinity cards

financing studies to address rehabilitation / and to look at the costs of status quo

govt purchases of wetlands

removal of govt subsidies for draining wetlands

**PROGRAM OBJECTIVE** contaminated sites and sediments

**POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)** 

\* DISCLAIMER : economic instruments may not be appropriate for this problem / these instruments are revenue raisers, not incentives to change behaviors / unresolved debate as to whether there are appropriate instruments

insurance or performance bonding

public-sector sponsored research on how to clean up (*setting priorities*) tax incentives for research to develop the technology to develop the sites (*dollars*)

priorities)

superfund type of approach (more of a disincentive / may not be an instrument)

land-use planning / zoning (could be integrated in site rehabilitation process and benefit extracted /criteria development / cost burden on the municipalities)

ISSUES

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- who pays for clean-up / assigning or assuming liability

- cost of clean-up

low market demand for use of land

- create links to green industry

continued contribution to the problem.

need to design instrument which transfers the burden to who pays in the most efficient way

- ensure that there will be a benefit to cleaning up the sites / who receives benefit

**VI PROGRAM OBJECTIVE** persistent toxic substances (PTS)

**POTENTIAL ECONOMIC INSTRUMENTS** (design and implementation issues)

1 - emission trading for by-products (how do you allocate emission permits / need objective stated / bring cap down / finding a common criteria / good when put together with command and control but will raise abatement costs / phase out schedule / monitoring)

2- input trading\*\*\* for certain processes and / or substances is announce a ban and then allow input trading, at source, for a period prior to the ban eg. HCFCs program (*put constraints on producers not users / hard to identify producers depending on substances / selection of uses and competitive issues / could have high administrative costs / issues depend on which chemical is being considered*)

3- tax or environmental charge (gst could be instrument, but prefer the tax to be identified with the product / very large tax to make it most effective / know the sources / charge input )

\*\* most appropriate instrument

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#### VII PROGRAM OBJECTIVE habitat conservation

#### **POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)**

- 1 landowner agreements or financial compensation (reluctance of landowners / criteria what kind of lands / timeframes / sensitivity to landowners)
- 2 privatization and /or common property rights for groups with a "land ethic" (cost sharing by govt)
  - environmental liability package or trust fund to address the loss of space and or species (creative / science based)
    - no net loss policy / offset development on one piece of property by remediation on another
  - user charges/ taxes / licenses ( how to delimit access / migratory bird act could provide model / foreign purchase of property)
    SEE same instruments as for rehabilitation

#### VIII PROGRAM OBJECTIVE land and water use management

#### **POTENTIAL ECONOMIC INSTRUMENTS (design and implementation issues)**

- education is a key here - directed to rural land owners

- 1 full cost pricing for water
- 2 link land tax to land use with credits and/or penalties (politically sensitive)
- 3 subsidies ie . for fencing and stream bank preservation
- 4 market value assessment / zoning
- 5 cross compliance opportunities

## St. Lawrence Vision 2000 Economic Instruments Workgroup Session

#### St. Lawrence Vision 2000 Workgroup Session

The workgroup was asked to identify and discuss potential economic instruments that could be used to meet the objectives of the St. Lawrence Vision 2000 program:

Preserve the biodiversity of the St. Lawrence ecosystem;

prevent and reduce the effects of agricultural pollution;

ensure public involvement in protection and restoration;

improve knowledge about the ecosystem and the dissemination of information to decision makers;

protect the health of riparian populations;

reduce discharges of liquid toxic effluent, and virtually eliminate discharges of persistent toxic substances;

restore degraded sites in the St. Lawrence ecosystem.

Initially the group set out to look at each objective in relation to the potential use of economic instruments; however, after looking at the first objective in this manner the process was considered unwieldy and that time would be better spent looking at three key aspects of the objectives:

Preservation of 7000 hectares of sensitive habitat in the St. Lawrence basin;

The reduction of toxic liquid effluent discharges by 90%;

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3. A 50% reduction in the use of pesticides in areas surrounding 5 rivers in the basin.

#### 1. Preservation of Sensitive Habitat

The key question raised during discussion was whether economic instruments were to be used to generate revenue or to actually achieve the environmental objectives. If the intent was to purchase property to preserve the habitat areas, revenue generation would be necessary; however if the intent was to promote the preservation of these sensitive areas by the current owners, monetary incentives could play an important role.

The consensus of the group was that further information on local environmental policies and programs in place in the basin need to be gathered before they would be able to identify which economic instruments were most appropriate.

Points:

We need agreement on the objectives; and to

identify current policies

#### 2. Reduction of Toxic Liquid Effluent Discharges

The workgroup believed that there were opportunities to use economic instruments (Eg. marketable permits) to help reach the 90 percent reduction in toxic effluent discharges for the following reasons:

monitoring data is readily available;

it's possible to develop " pollution units" for the plants targeted via chimiotox index;

pollution units could be reduced incrementally until the 90% reduction is realized;

\* regulatory approach is slow/costly/ineffective

However, there are questions that need to be answered:

who would be allowed to purchase the units? (ENGO's ?)

which geographical areas (ecosystems) would they be traded in?

how large a geographical area would they be traded in?

how will concentrations of toxic contaminants in sensitive or localized areas be effected?

can voluntary industry pilot projects be set up to demonstrate cost savings and environmental benefits.

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#### **3.** 50 Percent Reduction in the Use of Pesticides

The workgroup believed that quotas and either a tax or tax incentive were the most suitable economic instruments to use in reaching the goal of a 50 percent reduction in pesticides. The following questions were raised and points discussed:

How to ensure that the use of economic instruments is equitable and that farmers in the effected areas are not put in a disadvantaged competitive position?

How to monitor the effectiveness of the instruments?

Should there be a basin agency to consider local issues?

Do we tax farmers, manufacturers or importers?

Should the E.I. be used at the national or local level?

Will local initiatives result in the creation of a blackmarket in pesticides?

What is the timing for implementation?

There needs to be an incentive for self reporting.

Demonstration projects.

During workgroup discussion it was generally believed that the a tax placed on pesticides sold by the manufacture or importer at a provincial or national level would work. However, there was concern that a tax would be poorly received, and that a tax incentive that encourages a change in farming practices, and increases the competitiveness of the farmers in the long term may be the more effective economic instrument to use.

#### **Recurring Themes in SLV 2000 Workshop Discussions**

economic Instruments need to ensure fairness;

a combination of tools may be necessary;

more information is required to comment on appropriate economic instruments;

the design and the monitoring of the instruments is critical;

economic instruments/ incentives need to tie into programs already in place at the local and provincial levels.

# Plenary Session Where do we go from here?

#### **Panel Discussion**

#### Vic Shantora

The goal of this workshop was to address questions raised by a joint meeting of SLV/ GL about the potential role of economic instruments and how to use them. In the discussions of the last two days there has been no lack of good ideas. Some can be acted on federally others are more appropriate for the provinces and local communities.

In our next steps we will:

take your ideas and explore where and how economic instruments can be used;

maintain the dialogue with academia and extend it to other stakeholders (governments cannot do this alone);

We need to start on a small scale, take 2 or 3 good ideas and develop them by working with the provinces and industries.

#### **Paul Laramee**

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In a context of budget restriction and program reevaluation, the management of the environment needs not only to account for the environmental benefits but also for the "externalities" like social and economic benefits. Therefore, we have to go further on how economic instruments add value for the whole society.

Sustainable development represents an attempt of coexistence between the environmental protection and the economic development, it's our responsibility to see if economic instruments could help program managers to efficiently achieve their goals.

This first workshop had two major goals:

To bring people involved with the SLV 2000 and GL 2000 programs together to learn more about how economic instruments relate to the other tools that are planned to be used in these programs.

To try and fill the gap between current knowledge and necessary knowledge to apply economic instruments.

In our next steps, we will have to catch the interest at the national level and have a working group (task force) that will address both programs in an economic perspective. Economic instruments are already used in different parts of the country (Atlantic region is doing some fine work, re: Yves Bourassa) and headquarters should take the lead by providing us expertise and some resources in order to create a real opportunity for all Canadians.

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#### **Economic Instruments - Next Steps**

Build on the ideas developed during the workshop

Get input from industry and non-government organizations; broaden the scope of participants to include experts in other fields (Eg. biologists).

Examine the success/failures of economic instruments at the municipal level; they have had the most experience with using economic instruments in Canada. (Eg. Tipping fees)

Obtain the guidance of economic experts to fill the gaps between our current knowledge and necessary knowledge.

Identify tools, and obtain a list of contacts and information available on the "how to's" of implementation.



## Appendix

A - Summary of Workshop Evaluations

B - List of Participants

#### **Summary of Evaluations**

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Question	Yes	No	No response
Did the workshop meet your expectations?	· 9 ·	3	2
Did the workshop provide you with adequate opportunity to express your view?	13	0	. 1
Were the presentations and case studies effective?	6	3	5
Did you like the selection of workshop presentations/ case studies?	8	- 1	5
Did you receive enough background material prior to the workshop?	.6	5	3
Were the work sessions successful in linking Vision 2000 and Great Lakes 2000 program objectives with appropriate economic instruments?	8	3	3
Were the facilitators effective?	11	.1	2
Were the resource people effective?	. 1	1	11
Were regional implementation strategies identified?	4	3	7
Would you be willing to participate in further economic instrument workshops?	13	0	1
Would you be interested in developing the scope and agenda for the next workshop?	4	5	5

Total Responses: 14

#### Written comments

#### Workshop Evaluation

- it would have been more productive to have smaller workgroups dealing with only one or two objectives that are clearly defined;
- needed more details on economic instruments;
- good discussion and lots of ideas exchanged.

#### **Presentations/Case Studies**

- presentation from J. Palmasano was instructive and interesting;
- \* the case studies were too general and theoretical;
- some were too technical considering the level of understanding of participants;
- it was good to have academic and US perspectives.

#### Workshop Organization

not enough detail on the issues to be dealt with and what is currently being done; more basic material should have been presented to participants who are beginners to ensure understanding;

should deal more with actual effects.

#### Work Groups

- good first step- initiation to economic instruments;
- we needed more details on the biological and other problems that we might overlook in developing instruments. We discussed them in general terms out of ignorance of the application to Quebec;
- the goal was wrong in that it assumed that we could use economic instruments on all the objectives and did not look at all the issues involved the discussions should have focused on maybe 3 "doable" strategies;
- it would be nice to have further dialogue on marketing economic instruments and overcoming public and political obstacles;
- worksheets were not well designed; more preparation/coordination between program people & EI "experts" before workshop would have been useful; break-out groups were too large.

#### Additional Comments:

- I think that the two day experience was worth while;
  - target industries and individuals should be involved in the decision making process;
  - good workshop...need to draw on more experienced people to give general guidelines and anecdotal evidence. I thought Yves Bourassa was extremely good;
  - it might be more effective for a small specialist group to concentrate on key issues when more is known e.g. nature of industry; persistent toxic substances use; benefits, media, life cycle, etc., to develop better detailed alternatives. ... Invite NGO's;
  - now that sites in Atlantic Coastal Action Program are reaching the remedial options stage we would like to explore possible EI for application in Atlantic Canada. Expand the case studies beyond Quebec/Ontario regions;
  - focus workshop at the regional level and involve ENGO's and Industry.

## ECONOMIC INSTRUMENTS WORKSHOP February 1 / 2, 1995

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