

Natural Capital

Securing Natural Capital and Ecological Goods and Services for Canada

Nancy Olewiler

Comments:

“Innovative Conservation Policies for Canada That Really Integrate the Environment and the Economy”
Wiktor Adamowicz

“Nature as Capital: Concerns and Considerations”
Peter A. Victor

EXECUTIVE SUMMARY

In her contribution to the CPA, Nancy Olewiler warns that Canada is facing a crisis due to the mismanagement and loss of its natural resources and habitats. She argues that in order to secure natural capital in Canada, we must put a price on the ecological goods and services that our natural environment supplies. A number of market-based mechanisms are proposed to achieve this, including a tax on carbon and air pollutants (CAP tax), the revenues of which would be used to finance a national conservation plan.

The application of incentive-based policies to secure natural capital was also the favoured approach of commentator Wiktor Adamowicz, who added that a reconsideration of policies that directly or indirectly depreciate natural capital or that increase the cost of conserving natural capital should also be considered an important aspect of policy reform. Peter Victor questioned the appropriateness of regarding natural resources as “capital” in the same sense as manufactured capital such as machinery, and cautioned that these policies will face monumental challenges with regard to coordinating the efforts of federal, provincial and municipal governments.



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SCOPE OF THE CHALLENGE

Olewiler defines natural capital as the planet's stock of renewable and nonrenewable natural resources (forests, minerals, oil, plant and animal species), environmental resources (atmosphere, water) and land. Natural capital also produces a steady flow of ecological goods and services (EGS). EGS are the social, cultural and economic benefits arising from the healthy functioning of ecosystems, including stable climates, clean air and water, biodiversity, food, energy, raw materials and esthetically pleasing landscapes.

Destruction and degradation of natural areas due to human transformation is incremental and in many cases irreversible. Yet, as Olewiler warns, "we are not fully aware of this threat to our natural heritage."

Olewiler identifies five factors that contribute to the decline in the quantity and quality of Canada's natural capital. First is a lack of comprehensive information across the country on how human activities affect the ability of natural capital to maintain EGS flows over time. This makes it very difficult to establish targets for securing natural capital. Second, markets fail to reflect the true value of natural capital, encouraging overuse of EGS and insufficient protection of natural capital. Third, policies that support nonrenewable resource industries often promote the inefficient use of natural capital in order to facilitate regional development. Fourth, there are significant financial constraints on local governments: municipalities in Canada have a limited capacity to increase their revenues or reduce municipal goods and services to support conservation, especially with regard to land use. The final threat to natural capital comes from insufficient long-term planning by public decision-makers, who must make the difficult choice between consumption today and investment in the future.

From Olewiler's perspective, two main policy challenges emerge. First, we need to be able to measure the value of EGS from natural capital and assess the costs of losing or finding substitutes for specific EGS. Second, we must address the

question of who should pay for conserving needed EGS on private land. Should private landowners incur the cost while society benefits? If society was to share the cost of protection, what policies are available to regulate this, and how would governments or nongovernmental organizations finance compensation to landowners?

OPTIONS FOR ADDRESSING THE CHALLENGE

Olewiler evaluates both regulatory and incentive-based policies for protecting natural capital. Regulatory policies control development through site-specific standards and restrictions. Incentive-based policies make it more expensive to engage in activities that damage or degrade natural capital or reduce the cost of investing in activities that enhance it.

The author lays out several criticisms of Canada's status quo regulatory policies, which include zoning, environmental impact assessment (EIA) and the establishment of protected areas on Crown land. Zoning may promote urban sprawl by pushing housing development and other activities out to regions where there are fewer restrictions and more land, while EIA typically comes at the end rather than the beginning of a process, reducing its ability to have a significant impact on a project. More importantly, EIA is project-driven rather than part of a comprehensive framework for securing natural capital.

Three incentive-based policy instruments are identified:

Purchased property rights are a way of ensuring the protection of EGS on private land, either through the use of tax incentives that encourage the donation of "eco-gifts" to government or land trust organizations, or via property tax credits to landowners who volunteer to manage the property in a way that protects natural capital. A key challenge is ensuring cost-effectiveness of these programs: Olewiler writes that the opportunity cost in terms of tax revenue forgone is not trivial.

Tradable development rights (TDRs) are designed to attach a market value to the many ecological goods and services (such as biodiversity and esthetics) that are undervalued (or not valued at all) when making development decisions. By placing a limit on the number of TDR permits issued (much the same way emission permits are limited in cap-and-trade proposals to limit greenhouse gases), governments could decide the aggregate value of EGS in a given region. Olewiler remarks that markets for TDRs can be quite complex to set up and operate. However, governments have the option to buy the rights and permanently retire them, thus protecting EGS in perpetuity.

Development impact fees (DIFs) require landowners to pay for any impact their land use has on natural capital (and on other public goods and services). DIFs have the advantage of raising revenue for the municipality, which the municipality can use to fund the protection of natural capital. A disadvantage is that Canada has little practical experience with them.

THREE PREFERRED POLICIES

Based on her assessment of the scope of the challenge, Olewiler proposes a suite of complementary policies, and emphasizes that the effectiveness of any one of them depends heavily on implementation of the others.

Canada's conservation plan

A necessary condition for an effective natural capital conservation plan is adequate knowledge of how much natural capital we have and how rapidly it is being depleted. While many governments, conservation groups and research institutes are engaged in aspects of data collection, a lack of coordination and comprehensive models for policy analysis reduces the value of their efforts. Olewiler thus proposes that the federal government take the lead in collecting data, producing natural capital indicators and standardizing approaches to estimating target levels of natural capital to be secured. Pilot programs in select regions of the country would also be implemented to analyze the effect of alternative policies on the sustainability of ecological goods and services.

THREE POLICY PROPOSALS TO ADDRESS THE NATURAL CAPITAL CHALLENGE

- ▼ **Invest in data collection efforts to catalogue Canada's stock of natural capital.** The federal government takes the lead in producing natural capital indicators and developing models for estimating target levels of natural capital to be secured and the effectiveness of alternative policies.
- ▼ **Levy a tax on carbon and air pollutants to fund conservation initiatives.** Such a conservation tax would discourage activities that harm the natural environment (particularly with regard to air quality) and provide financial resources to protect natural capital and fund conservation programs.
- ▼ **Require municipalities to implement incentive-based policies to secure natural capital.** Olewiler offers two possible mechanisms: tradable development rights, which establish a market price for ecological goods and services and allow landowners to be compensated for sustaining them, and development impact fees, which require landowners to pay for any impact their land use has on natural capital (and on other public goods and services).

Canada's conservation fund

In order to provide resources for activities that promote natural capital conservation, Olewiler proposes that the federal government increase or levy taxes on activities that degrade natural capital. She favours a new carbon and air pollutants (CAP) tax, but notes that a portion of the GST could be rebranded as a "conservation tax" if political resistance to a CAP tax is too stiff. The tax revenue would be dedicated to purchasing strategic natural capital on public and private lands as identified by the first policy proposal, and to covering the costs of voluntary incentive-based policies such as the eco-gift program and property tax credits for conservation.


Provincial incentive-based policies to secure natural capital

Under the third proposal, provincial and territorial governments would require municipalities to introduce tradable development rights or development impact fees in order to

secure natural capital in and near cities and towns. An important aspect of these policies is that they are largely self-financing and eliminate the burden on governments to fund acquisition of natural capital. TDRs are likely to be efficient where the market is large enough to ensure a sufficient number of trades.

While both commentators agreed with the notion that we need to know more about what natural capital Canada has before embarking on policies to protect it, Victor pointed out that jurisdiction over natural resources is shared across federal, provincial and municipal governments, and Adamowicz was skeptical of the government's ability to develop the kinds of ecological-economic models implied by Olewiler's proposal.

In terms of the policy suite as a whole, commentator Wiktor Adamowicz strongly supported the use of market-based policy tools, noting that while regulatory policies have the advantage of making compliance mandatory, they provide no incentive to improve natural capital beyond the enforced standard. Peter Victor, on the other hand, questioned the use of market-based policies to determine the value of EGS, which he emphasized are public goods. Prices, he wrote, may solve efficiency concerns, but they exacerbate existing inequalities in the distribution of wealth and income.



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CONCLUSION

Olewiler presents a national conservation plan as a necessary condition for securing natural capital for future generations, regardless of what additional policies are implemented. The second proposal addresses the question of funding, and the third ensures that natural capital is part of all development plans and that there is a tangible, mandatory way to secure it.

Using a comprehensive set of criteria and measures for policy evaluation, Olewiler concludes that all of her policy proposals rank above the status quo. Furthermore, they augment existing programs to increase the probability of Canada securing natural capital in cost-effective ways. While policies such as the CAP tax are a hard sell politically, she suggests that this may be less so in the current climate: "The public has repeatedly favoured voluntary policies over mandatory ones — but, again, given the current heightened concern for the environment, people might be more willing to accept policies that are binding, particularly with earmarking."

THE CANADIAN PRIORITIES AGENDA

The IRPP's Canadian Priorities Agenda project is designed to initiate a broad-based and informed public debate on policy choices and priorities for Canada over the medium term. Research papers by some of Canada's foremost scholars examine the most effective ways to address the following eight broad policy challenges:

- Human capital
- Climate change
- Natural capital
- Population aging
- Economic security
- Health outcomes
- Productivity
- Trade and globalization

Based on the results of this research, six judges, among Canada's top policy thinkers, each crafted from the eight papers a policy package of the specific recommendations that in his or her view will best enhance the economic and social well-being of Canadians.