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# SPECIAL REPORT

## TD Economics



October 2, 2013

# THE GREENING OF THE CANADIAN ECONOMY

**This report is an abridged version of a more in-depth study by the same title that is available at [www.td.com/economics](http://www.td.com/economics)**

People apply the term ‘the green economy’, to a wide range of activities – everything from cleantech and renewables, to job creation, and public policy. However, the fact remains that there is no standard definition of the green economy. Consequently, it is difficult to measure performance and assess progress. Moreover, the narrow approach of defining some economic sectors as ‘green’ and others as ‘brown’, often excludes many green activities or initiatives being undertaken in sectors outside the ‘green economy’ umbrella.

We contend that a more useful approach is to focus on ‘the greening of the economy’ as a basis for assessing the progress being made by businesses and individuals to achieve economic growth with environmental benefit. This is especially useful in the Canadian context. The purpose is not to refute the view that Canada needs to do more on conservation, emissions, sustainability – because the country does. The goal is to illustrate how heightened environmental awareness is having a positive impact on environmental outcomes. Moreover, this approach can demonstrate that economic growth and environmental initiatives need not be alternatives, but rather complements that achieve better outcomes for firms, the economy and society.

### **The environment and the economy**

Canada has a resource-abundant modern industrialized economy, which carries with it a significant environmental footprint. From fur trapping in the 1600s to modern commodity extraction, development of the resource sector has always played a key role in Canadian economic growth. Canadian households and industry also have a large environmental footprint. This partly reflects the nature of Canada as a highly urbanized and industrialized economy, with cities spread across a large geographic space that experience cold weather conditions for large parts of the year.

Over the past several decades, the world has become increasingly conscious of the environmental impact of human activities. This greater awareness has created public pressure for more environmentally-sustainable economic policies. National surveys have consistently shown high levels of concern about environmental conditions. However, Canada’s environmental policy in recent years has been criticized for not doing enough to abate the environmental impact from economic development.

The recent negative perception of Canada masks many positive developments that have been taking place across the economy. Many businesses recognize that more environmentally-sustainable policies and practices are not just good for their brand and reputation, but can also lead to cost savings and new revenue opportunities.

### **Problems with defining the green economy**

There is no consensus as to what defines a green economy. Definitions tend to agree on theme, but disagree on scope. The commonality is a consciousness for the condition of the environment and its

relationship with economic activity. The scope of green economy definitions tend to fall into one of two categories: subset definitions or systems definitions.

### Subset definitions of green economy

Subset definitions consider the green economy as a distinct portion of the economy as a whole. They have the benefit of providing an explicit definition of what constitutes the ‘green sector’ or a ‘green job’, which helps in measuring size, status, and impact. The disadvantage of subset definitions is that they are too narrow and create a green-brown dichotomy, wherein green efforts of ‘brown’ sectors become marginalized or ignored.

### Systems definitions of green economy

Systems definitions take a holistic approach. They embrace the concept that all facets of an economy are related to the environment and that efforts can be made by any sector to increase efficiency and minimize environmental impact. The advantage is that one considers the *total* impact of a technology, product or policy as opposed to only considering impact at end use. This gives a much clearer picture of where efforts in the economy are being made and identifies areas where changes in policy, technology or behaviour could be effective. The disadvantage of systems definitions is measurement, as data collection today is not done in a way that accounts for green activities across all firms in the economy.

### Towards a superior definition

In the opinion of TD Economics, we need to stop thinking of ‘*a*’ green economy or ‘*the*’ green economy and start thinking in terms of the ‘*greening*’ of the economy. That is, considering efforts to reduce environmental impact at a systems level. An appropriate definition would be:

**The aggregation of consumer, corporate and policy efforts to increase operational efficiency and minimize environmental impact while fostering economic growth, diversification and competition.**

This allows an evaluation of how Canada is adjusting its environmental performance alongside its economic performance. It captures the desirability of balanced and broad-based economic growth, rather than dependence on one particular sector. It is a broad, holistic approach that is inclusive of efforts undertaken throughout the entire economy without creating a green/brown dichotomy.

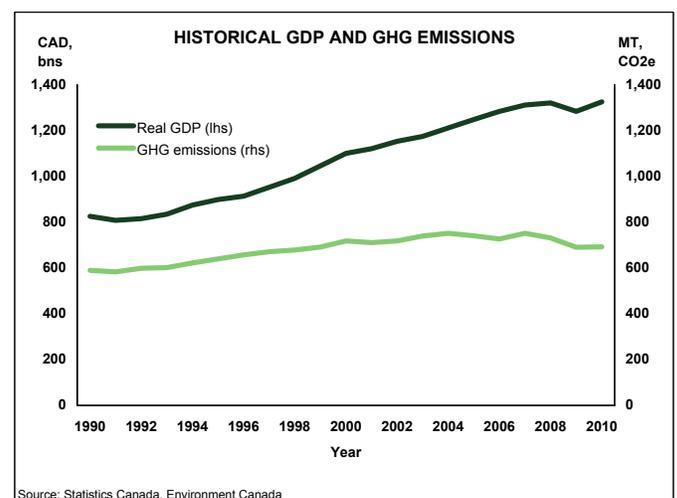
### A framework for assessing greening

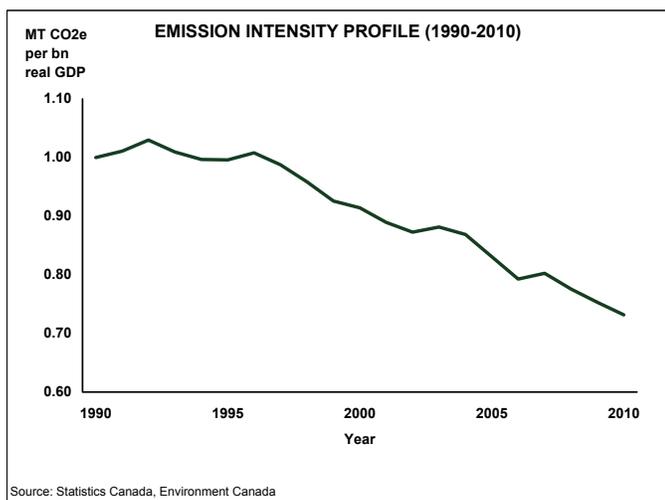
Assessing the greening of the economy requires a framework from which the relationship between the environment and the economy can be understood. Greening efforts are shaped by the three main factors:

- **Government environmental policy:** the set of policies that place appropriate constraints on economic activity, reflecting the fact that environmental considerations are not reflected in market prices.
- **Environmental and economic efficiency:** the mechanism through which economic and environmental decisions are made and how the impacts of those decisions are measured.
- **Consumer preference and corporate responsibility:** refers to the two-way relationship between consumers and corporations that influences business practice and shapes greening behaviour via public opinion and market forces.

### Evaluating performance

So how is Canada doing? At a high level, we’re witnessing a decoupling of economic growth from environmental degradation. Historically, GDP growth and GHG emissions have exhibited an incredibly strong positive correlation of almost 1-to-1. Post 1997, this correlation weakened significantly to the point where a 1% increase in GDP is associated with a 0.44% increase in GHG emissions (See chart below). Although absolute emission levels have increased since 1990, emission intensity has fallen by 30% (See chart on following page). Despite the large amount of economic growth in the past 20 years, we’ve witnessed





improvements in Canada’s air quality, water quality, recycling rate and protected lands. But, to truly understand what is happening, one must look at what is happening to the structure of economic activity.

**The greening process**

There is a four step process of greening (which usually occurs in sequence) across sectors of the Canadian economy (see diagram in adjacent column):

- (1) Regulatory compliance
- (2) Managing operational efficiency
- (3) Greening supply chain
- (4) New products and services

The level of involvement by industry varies by sector-specific market conditions, consumer demand, corporate support and economic feasibility. Cost may be a prohibitive factor in implementing these strategies, with each step more expensive than the last. The two most expensive steps – greening the supply chain and implementing new products and services— are unique since they have the potential for creating a virtuous cycle which fosters the greening in other companies or industries that would not have otherwise.

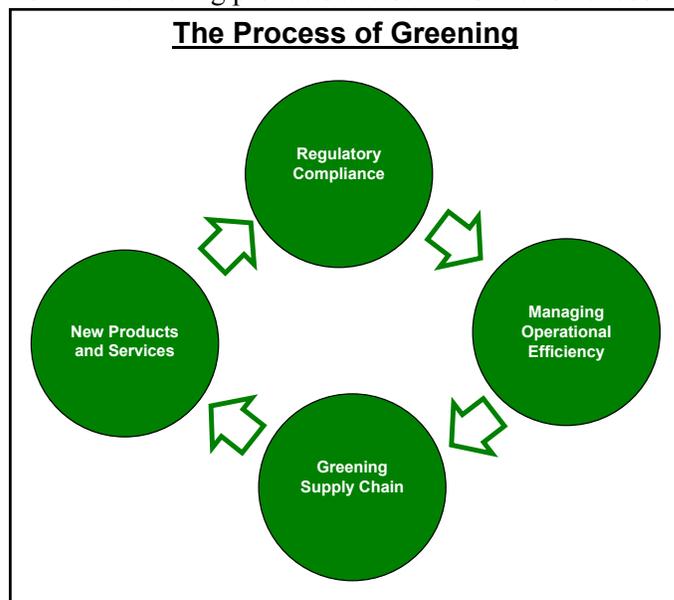
**Step 1 - Regulatory compliance:** Since regulatory compliance is mandatory, it is the first step in greening that a company takes and it is often viewed as the baseline from which greening efforts are evaluated. Important drivers motivating companies to move beyond regulatory compliance are the perceived cost advantages and branding that can be achieved through improving operating efficiency and corporate responsibility.

**Step 2 - Managing operational efficiency:** Operational efficiency refers to resource use, operating expenses, and environmental impact. The demand for transparent and consistent information on resource use and environmental performance by regulators and stakeholders has increased pressures to adopt sector-specific or universal reporting criteria. These are available from many sources, such as: Global Reporting Initiative, industry guidelines such as ‘Toward Sustainable Mining’ (Mining Association of Canada) and the Greenhouse Gas Protocol (World Resources Institute and the World Business Council for Sustainable Development).

The information collected in this process provides a basis for understanding business operations and cost implications with respect to environmental performance. With this information, companies can implement policies and procedures that improve efficiency, reduce cost and mitigate environmental impact.

There are two important implications of this behaviour. First, environmental consciousness becomes embedded into corporate decisions. Second, contrary to conventional wisdom, improving environmental performance can often create cost and competitive advantages.

Environmental management systems (EMS), which can be internal or third party systems like ISO 14001, are the main mechanism through which companies manage operational efficiency. By integrating environmental considerations into the business process, companies are able to find efficiencies in upgrading capital stock, improving waste and resource management techniques and conservation, which result in delivering products and services at a lower cost.



**Step 3 - Greening business processes and supply chains:**

The third step of the greening process involves extending policies and practices through the supply chain. Large corporations with highly structured supply chains have the ability to push greening efforts throughout the product life cycle by demanding certain criteria be met regarding the environmental aspects of their products or by making demand to their suppliers. Green supply chain techniques typically focus on reducing waste, utilizing recycled and environmentally friendly materials as well as improving logistics. These practices are proven to be beneficial for most 'Best-In-Class' businesses within the logistics, transportation, manufacturing, retail and consumer goods sectors in Canada. Green supply chain management practices also differentiate products through certification programs, such as the Forest Stewardship Council and the Ocean-Wise program.

**Step 4 - Develop new products and services:** The fourth, and most expensive step, is driving change throughout the market by developing new products, services, business models and market platforms as well as collaborative initiatives and industry associations. New technologies and materials are drastically altering the economic landscape by identifying, innovating and capitalizing on environmentally-efficient techniques that create new markets and business models. Collaborative efforts create a new platform for improving environmental performance. Industry associations can make social responsibility pre-requisites a condition for membership, while research initiatives pool the minds and resources to develop solutions for environmental issues.

**Implications of the greening process**

The four stage process suggests that:

1. Environmental considerations are increasingly embedded into corporate decision making;
2. Improving environmental efficiency frequently results in cost advantages;
3. Incentives to reduce environmental impact are strong drivers of innovation;
4. Corporate responsibility is a driver for improving environmental performance.

These conclusions are relevant for all sectors throughout Canada, but not uniformly so. Sector characteristics influ-

ence how they go about greening. In this abridged report, there is no scope to run through the details of the selected case studies done in the main report, but through qualitative analysis one can demonstrate the greening efforts taking place. This was done in the case of autos, unconventional oil and the mining sectors. In terms of the industry characteristics, we find:

1. Industries with a high level of participation in collaborative initiatives tend to incorporate a high degree of environmental stewardship into corporate conduct and R&D;
2. Foreign environmental policy can drive environmental stewardship in trade intensive industries;
3. Inelastic demand and the absence of collaborative initiatives reduce the effectiveness of corporate responsibility as a driver of environmental improvement, but this effect can be offset by industry-wide challenges or the threat of regulatory action.

**Bottom Line**

We need to stop thinking of 'a' green economy or 'the' green economy and start thinking in terms of the 'greening' of the economy. Defining this relationship narrowly paints an incomplete portrait of environmental performance. A more encompassing definition and an appropriate framework for analyzing performance reveals that Canada is doing better than popular opinion might believe. There is no doubt that Canada must do more to improve its environmental performance, but we need to be careful not to diminish the progress industry, government and citizens have made. Rather than being viewed as an impossible task that sets economic growth at odds with the environment, acknowledgement of the strides being made can be empowering. It holds out the promise that even more can be achieved. It is our hope that by changing the way we think about the relationship between the environment and the economy, we can motivate further thought about the opportunities to foster economic growth while preserving environmental integrity, thereby creating a brighter, cleaner future for Canada.

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