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Whose Logo? Sustainable Consumption and Production in North America

Research Paper

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Executive Summary

The modern North American consumer faces increasingly challenging choices in today's marketplace. Products claiming to be "green," local, fair trade, or otherwise ethical are on the rise. While eco-logos and green claims are proliferating, it isn't necessarily clear to the consumer, procurement officer, or seller what the claim to being green is based on, according to whom, or using what criteria. How is a "green" product defined, and by extension, who determines what constitutes a "green" product? If all goods and services have some impact on the environment, then the greenest product may be no product at all. Yet not only are some goods inherently necessary for human survival, all cultures and civilizations confer and derive meaning through material objects. This meaning, like art and culture, is to be celebrated. As modern sustainability and equity pressures increase, the meaning and value of goods is increasingly being modified by "green" qualifiers, with significant cultural, socio-economic and institutional implications.

A number of green claims cover only one aspect of a product's environmental impact, without consideration of the various and significant impacts over the life cycle of the product, from extraction to end-of-life. Often inextricable from environmental sustainability concerns, human health, labour conditions, and material equity concerns are also important in their own right. How to capture the environmental life cycle of a good in addition to its positive and negative social impact is a complex proposition. Nevertheless, mostly distinct from the regulatory requirements under which markets typically function, green consumerism and organizational-level green procurement policies (corporate and government) are on the rise in North America and globally. Their buying power is driving an increase in the importance of product-level environmental and social information along supply chains.

On one level, the proliferation of green claims reveals how widespread environmental and social justice awareness is becoming and how sustainability is inspiring firm, product, and social innovation. However, un- or under-substantiated claims also raise issues of "greenwashing" (deceptive use of green marketing), trust and confidence in the claims and in their originating and/or supporting organizations. In light of global supply chains and national legislation predominantly focussed at the facility level (e.g. emissions from a factory) and organized by media (such as air and water), US and Canadian federal engagement in regulations that are informed by product life cycles is currently limited. The need for environmental information to inform economic decision making at the product level is widely recognized, however, and many federally administered and/or supported eco-logos exist in Canada and the United States, including:

- Energy Star: applies to energy consumption in the product's use phase only, found in both Canada and the United States;
- WaterSense: a US-only logo for use-phase water consumption; and
- Environmental Choice: considers multiple life cycle phases and multiple environmental attributes of a product (energy, water, waste, toxicity, etc.) owned by the Canadian government but privately administered.

A “NAFTA label” has also been piloted, in which pesticides that meet the regulatory requirements of North American Free Trade Agreement countries can receive a voluntary label to allow the products to circulate freely in the North American market. Product-level social information (for example, on labour conditions and equity concerns) is not currently supported by federal level labels.

Yet government administered voluntary eco-labels do not constitute the bulk of the over 377 eco-labels on the global marketplace. In order to facilitate trade across mandatory regulatory regimes internationally, states (including the United States and Canada) have endorsed a voluntary standards system, supported by the International Organization for Standardization (ISO). The proliferation of eco-labels from civil society and business, and the shifting boundaries of responsibility of these actors, is understood as a response to the legitimacy and effectiveness of the voluntary standards system to address persistent ecological and social equity problems. Standards from civil society and business (e.g., the Forest and the Marine Stewardship Councils, the International Organics Accreditation Service, and Fair Trade Labelling Organizations International, etc.) now cover one fifth of all products traded globally. With respect to who determines what constitutes a “green” product, in an era of global supply chains, a measure of assurance is provided by a fragmented patchwork of mandatory state regulation, voluntary ISO standards, civil society-enabled standards, self-declared claims, third-party auditors, and the at-times conscientious consumer.

While producers can rarely expect to receive a price premium for greener products, interest in environmental and social information is permeating supply-chains. Consumers and purchasers are increasingly exposed to various types of sustainability-related information about products in the form of wallet cards and barcode scanning options on their personal communication devices. Some businesses are positioning their products and brand identities to include sustainability information. This presents a set of market access issues in which an organization’s green procurement policy serves as a basis for deciding who to do business with and who not to. Recognizing this, North American manufacturers and exporters have begun to lobby governments to support the development of life cycle inventory databases, from which they could draw to provide an evidence base for their product’s environmental impact. These informal market access issues are distinct from the formal, legal requirements which exporters must meet to gain access to markets in a legalistic territorial sense.

An environmental and social protection model centred on procurement and claims is a fundamental departure from the traditional model in which government sets standards (or market parameters) through regulation. The model hinges on the expectation that purchasers systematically and consistently base their decisions on social and environmental information and that this information is socially and environmentally significant – two questionable assumptions given current consumer-citizen divisions. Product-level life cycle assessment efforts can also have extensive and expensive data requirements, as new information demands affect traditional divisions of labour and boundaries of responsibility. Situating a product’s overall environmental and social impact in a system using life cycle assessment is important for achieving a holistic multi-attribute definition of green at the product level; however, applying this systems lens to

the macro-context in which products are produced and consumed is also essential if we are to effectively address persistent environmental and socio-economic problems. This is especially important when we consider that increases in the consumption of even environmentally preferable products still generally results in an overall increase in environmental impact, as absolute consumption levels increase.

When the Canada-US Free Trade Agreement was negotiated in 1987, each country was expected to enforce its own environmental laws, and sustainability was understood to represent primarily a cost for business, not an opportunity. Regulatory harmonization has occurred nevertheless in the North American market, and the growing importance of international voluntary and informal standards vis-à-vis national regulation and the widespread inclusion of environmental and social information in economic decision-making forces a re-conceptualization of this relationship at the highest levels.

Questions emerging from this paper for discussion include:

1. What are the implications of the importance of individual purchasing decisions in meeting key public policy objectives? In terms of information requirements, boundaries and roles and responsibilities for consumers, companies, and governments?

- *Consumers*: Is this a responsibility consumers (citizens?) want? Do they even know they have it?
- *Business*: Is being in compliance enough for firms anymore? What are the market access and market share implications? Civil society's role?
- *Government*: How can product choices on the market be the best-performing choices? Will current approaches be effective?

2. Should, and if so how should, the United States and Canada (and Mexico) work together to sustain our common market?

- What should be the focus of public policy concerning eco-labels, insofar as they pull the market in a context of continuous improvement? Should countries develop separate approaches or work toward a harmonized approach?
- Can life-cycle assessment mark a new way to define "green" or environmentally and socially preferable offerings?
- Can product standards be used more strategically to achieve sustainability and competitiveness in North America by bringing up the bottom?
 - Can standards rise? Can standards be made public? What is the future of standards otherwise?
 - How can standards interface with regulations in a North American context?

1. Introduction

In the Worldwatch Institute's 2010 State of the World report *Transforming Cultures*, a hopeful vision is articulated in which consuming sustainably is as easy and as natural as status quo consumption is today. In this world, sustainable choices would be the norm. Future scenarios do not often focus on the level of the individual, yet choice and the structures determining choice are of increasing importance today as we seek to stabilize and equalize global climate and socio-economic systems. Consumption's role as a main driver of economic growth and hence economic stability was made apparent by the recent financial crisis, yet the sustainability and equity dimensions of this type of economic stability remain unclear. The current imperative to restore confidence, trust, and legitimacy to economic exchanges post-financial crisis appears practically in the physical manifestations of exchange, via our trust in the sustainability and fairness of everyday consumer goods.¹

Consumer demand and standards are essential parts of any sustainability-inspired science and technology innovation strategy, especially in the commercialization phase. Consuming is also clearly very central to both our identities as individuals and to our collective North American identity as a consumer society.² Ecological modernization is the process through which industrialized societies incrementally reduce their environmental impacts over time through technological and social innovation.³ As we seek to address more complex and challenging environmental and socio-economic issues, life-cycle informed interventions are increasingly recognized to be an important next frontier in the process of ecological modernization.⁴ For example, sustainable consumption and production, with a focus on products, forms the first key priority of the United Kingdom's 2005 Sustainable Development Strategy.⁵ In 2007, the European Commission conducted large-scale simultaneous public consultations on its Sustainable Industrial Policy and on its Sustainable Consumption and Production Strategy, whose outcome document focuses on a sustainable product policy.⁶

Despite the North American Free Trade Agreement's (NAFTA) focus on goods, services, and investment, the three NAFTA countries have not yet considered our common market through an integrated systems lens that reflects modern understandings of competitiveness, market access, and sustainability, and the potential of standards and eco-labels to push and pull the market. We remain by default in the 1994 framework established by NAFTA, which set up the Commission for Environmental Cooperation as a watchdog to ensure that environmental standards (and labour standards via the North

¹ For a comparison of future transition scenarios, see Gaede (2010). For a discussion of the connection between the economic and environmental crises, see Porritt (2009), and for an analysis of market legitimacy and goods, see Abdelal and Ruggie (2009).

² Cohen (2003).

³ Murphy and Gouldson (2000).

⁴ For a review of the limitations of current approaches to sustainability in the United States, see Zarker and Kerr (2008). For Canada, see Moffet et al., (2006). Also note that neither the United States nor Canada have clear industrial development policies or strategies; see Baugh and Robson (2010, p. 5).

⁵ See United Kingdom (2005).

⁶ European Commission (2008).

American Agreement on Labor Cooperation's Commission for Labor Cooperation) would not be driven down by product, corporate, and capital mobility. While each country was expected to determine its own level of environmental protection and to enforce its own laws, unilateral regulatory action has often proved difficult, and private voluntary standards bodies and non-state market-driven standards have taken on a larger role. The profile of our environmental problems is also evolving, away from effluent-based concerns toward issues of total material flows. Traditional regulatory standards have undergone formal harmonization in North America through NAFTA technical working groups (e.g., on pesticides), and harmonization in some areas is increasingly regarded as necessary, such as in the area of climate protection regimes. In the area of labour standards and wages, the role of the Commission for Labor Cooperation is being fundamentally re-conceptualized, with the secretariat's Washington, D.C., office temporarily closing its doors until further notice on August 20, 2010.⁷

Most fundamentally, our overarching objective remains to accelerate the circulation of goods and services moving through the economy, as expressed in NAFTA's objectives and measured via the gross domestic product (GDP) indicator.⁸ While goods form the material basis of our economy, meet real needs, and are vital to individual and collective expression and identity, they also are the primary source of pressure on ecosystems, and the unequal distribution of resources contributes to a number of social problems, which also drive environmentally unsustainable activity.⁹ All cultures and civilizations confer and derive meaning through material objects; goods are how we "bring in" the world (most literally and personally in the area of food), how we project our identities back onto the world, and how we find our place within it.¹⁰ This meaning, like art and culture, is to be celebrated, as are a diversity of cultural and knowledge production systems.¹¹ As modern sustainability and equity pressures increase in the coming years and decades, the meaning generated by and conferred onto consumption and production patterns, metrics, and objectives will and must continue to adapt.

1.1 Central Question and Outline

This paper was originally conceived as an exploration of North American regional engagement in the United Nations Marrakech Process on Sustainable Consumption and Production (SCP), specifically with respect to governance, tools, and the role of public participation. The proposal was further focused by an advisory committee of expert officials from Environment Canada, Industry Canada, the US Environmental Protection Agency (EPA), and the Government of Canada's Policy Research Initiative (PRI) and later the US Department of Commerce (see list of Fulbright advisory committee

⁷ North American Agreement on Labor Cooperation (2010).

⁸ The GDP indicator is increasingly recognized as providing a narrow and inadequate information base upon which to make decisions. For a good overview, see Gertner (2010). For a more academic treatment, see recent work by the Commission on the Measurement of Economic and Social Progress (n.d.).

⁹ Wilkinson and Pickett (2009).

¹⁰ Many of the drivers and current and emerging issues associated with "green" products are especially pronounced in the area of food (e.g., safety, health, resilience, local production, labelling, and roles and responsibilities); however, this paper is a general exploration of products, and does not enter into any one product category specifically.

¹¹ Davis (2009) (also the orator of the CBC Massey Lectures); Milton (1993).

members in Appendix A). Once a question of interest was established, the bi-national advisory committee guided the research by reviewing and commenting on drafts, providing expert interview suggestions, and providing in-situ institutional context. (The research was conducted on-site in Washington, D.C., at the Worldwatch Institute and the US EPA, and in Ottawa, Canada at the Policy Research Initiative.)¹²

The question upon which the advisory committee settled was a simple one: *How is a “green” product defined, and by extension, who determines what constitutes a “green” product?* What seems on the surface to be a relatively straightforward question turns out to have many layers of complexity and sub-enquiry, each of which could merit its own discrete academic analysis, but given the policy context of this paper are treated as succinctly as possible, borrowing extensively from the literature and from experts.

After defining key terms, the first section provides a general overview of some of the major drivers of green products in North America, asking questions such as: Given the preponderance of “green” claims on the market, how are North American consumers actually responding? What is the market share for “green” products? Can a price premium be expected? What are the market access and competitiveness dimensions? Are the green procurement considerations for organizations different than those of consumers? And what is the role of government purchasing?

Once a general understanding of the current state of the green product marketplace in North America is established, the second section examines some of the current challenges associated with green products. How are green products defined? According to what characteristic or environmental or social problem and for what stage in the life cycle? What is the extent of “greenwashing”? Is “greenwashing” even a fair term? Which eco-labels do North American consumers know and trust, sponsored by which type of organization? The paper then explores how product standards (green or otherwise) are governed and by whom, taking the reader into the world of voluntary product standards and certifications as convened by the International Organization for Standardization and the I-SEAL Alliance. How this type of global standard setting connects with national regulation and North American regional governance is the final topic in this section.

The third section provides a discussion of key emerging issues of relevance to defining and generating green products. Among the developments that are identified as in their early stages are the increased ability for consumers and procurers to obtain real-time social and environmental information about products using web-based applications or cell phone text messages. Also in the technology-enabled realm is the advancement of web-based life-cycle inventory databases – such as those being developed in North America by the US National Renewable Energy Laboratory, the Sustainability Consortium, and Quebec’s Interuniversity Research Centre for the Life Cycle of Products, Processes and Services, among others – and the related emergence of corporate sector lobbying for government support of these standardized environmental metrics.

¹² Per the acknowledgements, in no way do the views expressed herein reflect those of Fulbright or the members of the advisory committee.

Last discussed, in the fourth section, are the larger scale paradigmatic changes around what constitutes an optimal exchange, and the shifting boundaries between public, private, and not-for-profit sectors, as well as a reconfiguring of traditional roles and responsibilities of consumers, citizens, business, civil society, and government. Areas for further research and questions for discussion are identified.

1.2 Definitions

“North America”: This paper focuses on the federal levels in North America as much as possible, with full recognition of the global and sub-national nature of today’s markets. The North America referred to under the North American Free Trade Agreement consists of Canada, the United States, and Mexico, whereas North America is also considered a region under the UN Marrakech Process on Sustainable Consumption and Production (SCP). In the one 2008 North American regional SCP meeting held before the time of writing, Mexico did not participate. Mexico does participate in the Latin American region’s work on SCP, and at the time of writing only one North American regional meeting had been held. Therefore, unless Mexico is specifically mentioned, “North America” will be used in reference to Canada and the United States only, as this paper focuses on sustainable consumption and production as conceptualized through the United Nations system. There is overlap between the NAFTA space and the UN space, and the analysis should also be relevant for other international forums that have the “green economy” as a relatively new high-level agenda item, such as the G-8, G-20, Organisation for Economic Co-operation and Development, and the 2012 UN Conference on Sustainable Development. For an overview of the UN Marrakech Process on SCP, see Appendix B.

“Green” and “sustainable”: The explicit objective of the paper is to answer the question: *What constitutes a “green” product, and according to whom?* This necessitates a multi-faceted exploration of what “green” means and as such is explored throughout the body of the paper. From the outset, however, it is important for the reader to understand some basic terminological distinctions and areas of overlap.

In common parlance, “green” often refers to natural factors alone, and the way we know about the natural world is primarily through science, the scientific method, and peer review.¹³ Conducted by humans, science is embedded in society, yet society is also embedded in nature, and no human civilization can be sustained without functioning ecosystems. Determining what we/society want(s) to see sustained over time involves a values-based socio-economic deliberation about desirable states, both natural and socio-economic.¹⁴ These states are characterized by the multitude of dimensions that compose any society or ecosystem, including geographic, individual and collective boundaries, roles and responsibilities, objectives, myths, lifestyles, diversity, status symbols, and

¹³ People’s willingness to support science is often dependent on how much of the knowledge-building process they not only understand (i.e., how much education they have) but also were a party to (in other words, engagement and trust). As well, not all societies use and understand science in the same way – consider indigenous traditional ecological knowledge, for example.

¹⁴ Hajer (1995) also see Dryzek (1997).

ideas of justice and health. In a product-level life-cycle assessment context, this means employing scientific information (natural), industrial process information (economic), and cultural and deliberative information and processes.

“Green,” then, begins with describing natural states, but quickly becomes dependent on change in socio-economic states.¹⁵ The concept of “sustainable development,” originally envisioned as a grand compromise between environmental sustainability and development objectives, has evolved to comprise three overlapping “pillars” or “spheres”: economic, social, and environmental. Often we are asked to “balance” the three spheres, although a balancing metaphor implies that there are inherent oppositions that need to be balanced or weighed against each other. Vestiges of socio-economic paradigms that evolved prior to our current environmental problems, modern language still does divide the three realms, hence Bruno Latour’s concept of “actants,” which denotes social as well as natural agents.¹⁶ The concepts of “green” and “sustainable” as defined in this paper do not privilege one pillar over another; rather there is an active attempt at finding a synergistic path forward that recognizes their inextricability. While it will occasionally be necessary to speak to one specific pillar, attention is paid to using specific language and to outlining the inter-linkages throughout, as made possible by an SCP lens.

An SCP lens can create policy space to address these hard-to-capture public policy issues, as was done with the United Kingdom’s Sustainable Consumption Roundtable, for example, or the European Union’s SCP and Sustainable Industrial Policy strategy. As the international community agreed that developed countries are supposed to take the lead on Sustainable Consumption and Production, it can also create a global policy space to transcend persistent North-South divides (see Appendix B). While it is certain that there can be no environmental sustainability without changes in economic activity, economic change is unlikely without social support for this change. This social support is contingent on a perception of fairness, as costs and benefits are apportioned in a wider material economic and cultural diversity context, and as roles, responsibilities, identities and aspirations shift. As well, functioning markets require confidence and trust, something that environmental sustainability, diversity and social justice considerations can bring to the governance table. Born of the concept of sustainable development, and existing in the global dialogue on sustainable development and the green economy, SCP provides a uniquely integrative systems lens connecting all environmental problems (e.g., air, water pollution, climate change, and biodiversity loss, etc.) with the economy as a system of demand (production) and supply (consumption). As we grapple with simultaneous multiple-level economic, environmental, and social problems, an SCP lens allows for the conceptualization of solutions that recognize the interdependence of these three spheres.

¹⁵ As we are immersed in these socio-economic states culturally, assessing and addressing the desirability of these states is one of the most difficult things to capture through public policy (e.g., determining what we want to see sustained). They are also perpetuated by well-worn pathways and self-reinforcing institutions, cultures frozen over time (Rydin, 2004).

¹⁶ Latour (1999); see Chapter 2: Circulating Reference: Sampling Soil in the Amazon Forest.

2. Major “Green” Product Drivers in North America

Environmental concern among the public is not a new phenomenon, and has been documented in the civil arena, as distinct from the consumer arena, for decades. Over time, research has identified “waves” of environmental concern among citizens, increasing and decreasing over time but never entirely disappearing.¹⁷ Public concern for human rights and social and material justice is also longstanding, although individual conceptions of fairness vary considerably. With the exception of consumer boycotts, a relatively recent phenomenon is the systematized expression of environmental and social justice concerns in private market consumer choices, outside (or in addition to) traditional civic, political, and democratic realms (e.g., voting, contacting elected representatives). In conceptual terms, this represents an opposite trend to the encroachment of economic rationality into other “lifeworlds,” as articulated by Habermas and others; here, public rationality is penetrating economic rationality and blurring traditional lines between citizen and consumer.¹⁸

The rise in green and/or socially conscious consumerism has been the subject of much market research and academic analysis in recent years, and it is instructive in understanding how people are responding (or not) as consumers to sustainability challenges. According to the laws of supply and demand, consumer behaviour will impact how companies position themselves. Inversely, consumer behaviour is affected by the viability of green offerings. Both of these processes have implications for how governments engage in the world of green products.¹⁹ This section will critically examine three key drivers related to the emergence of green products: green consumerism, the emergence of green procurement policies in the business-to-business and business-to-government contexts, and finally formal and informal market access issues caused by sustainability, and the risks and opportunities presented at the firm level.

2.1 Green Consumerism

As consumers, we often think that people make the same or similar consumption choices as we do, and insofar as we surround ourselves with like-minded people, the consumption choices of those around us construct how we perceive popular consumption. The evidence from the data presented in this section demonstrates that not everyone responds to green or ethical product information in the same way. The data presented here can also help understand what can realistically be expected of consumers under current configurations of roles and responsibilities.

¹⁷ Downs’ (1972) classic “issue-attention cycle” uses environmental issues as an example of how issues come and go from the public eye.

¹⁸ The penetration of economic rationality into other lifeworlds (the public sphere, the family, even the bathroom) is usually understood as being countered by a rise in deliberative democracy, or the political process; this is distinct from ethical consumption, which brings democratic concerns into economic decision making and behaviour. See Habermas (1991).

¹⁹ From a public policy perspective, questions include: Through what specific mechanisms is the market transforming? How much of the market is transforming in what areas and how quickly? Are the results verifiable? What is the cumulative effect? What dimensions of sustainability are considered?

Two main data sources will be used to describe North American public consumer behaviours. The first is the July 2008 public opinion survey from GfK Roper Public Affairs & Media and the Yale School of Forestry & Environmental Studies and the second is the Natural Marketing Institute's consumer research data, used primarily in corporate contexts. Despite the regionalized nature of public opinion and consumer research data, data is often collected nationally, yet it would be expected that some regions in Canada have more in common with some regions in the United States than they do with their national compatriots and vice versa.

GfK Roper Public Affairs & Media and the Yale School of Forestry & Environmental Studies addressed consumer attitudes toward environmentally friendly products and willingness to pay in both the United States and Canada. According to this survey, a majority of Americans and Canadians feel that it is important for the products they purchase to be environmentally friendly, and while most are willing to purchase environmentally friendly products, other considerations such as price and quality often take priority.

In Table 1 we see that the majority of Americans say that it is important that the products they purchase be environmentally friendly, such as automobiles (66% say it is important or essential to them), clothes detergent (62%), and computer printer paper (51%). However, when asked whether environmental friendliness, price, or quality is most important, only one in four Americans say that environmental friendliness is the most important. Almost double the percentage of Canadians report that environmental friendliness is more important in their purchasing decisions, but in no instance in either country is it ever more important to the majority of consumers than quality or price.

Table 1 – US and Canadian Public Views on a Selection of Green Products, 2008

	Percentage of US respondents agreeing with the statement	Percentage of Canadian respondents agreeing with the statement
<i>It is essential/important that products purchased be eco-friendly.</i>		
Automobile	66	77
Clothes detergent	62	80
Computer printer paper	51	66
Wood furniture	40	55
<i>Eco-friendliness is more important than quality or price when purchasing.</i>		
Computer paper	26	41
Clothes detergent	23	44
Automobile	17	30
Wood furniture	11	22
<i>I would definitely/probably pay 15% more for eco-friendly products.</i>		
Clothes detergent	51	65
Automobile	50	51
Computer printer paper	40	56
Wood furniture	39	49

Source: GfK Roper Public Affairs & Media and the Yale School of Forestry & Environmental Studies Survey on Environmental Issues (2008).

The literature also demonstrates a divergence between consumers' promise to purchase green products, and their actual behaviour at the cash register. Taking this into account and adding significantly to the scope, the US-based Natural Marketing Institute has conducted an annual tracking study since 2002 of between 2,000 and 4,000+ US adults in which they survey the usage patterns of over 100 product categories and product attributes, attitudinal measures, behaviours, and information sources.²⁰ Canadian data was collected in 2009 for the first time. Based on these results, the Natural Marketing Institute segments consumer populations into five different categories:

²⁰ Natural Marketing Institute (2010). High-level Canadian data was obtained afterward, courtesy of NMI's Gwynne Rogers. Nationally projectable to the US adult population and accurate at the 95 percent confidence level to +/- 1.3 percent.

1. LOHAS (Lifestyles of Health and Sustainability): Active stewards of the environment, dedicated to personal and planetary health, lifestyle-oriented, heaviest purchasers of green/socially responsible products
2. Naturalites: Secondary target for many mainstream LOHAS products, personal health motivated, more likely to use LOHAS consumables than durables, income restricts some behaviour, creating attitudinal versus behavioural disconnects
3. Drifters: Good intentions, some barriers with follow through, trendy and price sensitive
4. Conventionals: Practical, Yankee ingenuity (self-reliance), conservation oriented
5. Unconcerned: Unconcerned about the environment or society

Table 2 – Natural Marketing Institute Categories of US and Canadian Consumers

	US 2005 (% general population falling into each category)	US 2009 (% general population falling into each category)	Canada 2009 (% general population falling into each category)
LOHAS	17	19	21
Naturalites	21	15	15
Drifters	19	25	25
Conventionals	20	24	27
Unconcerned	21	17	12

Source: Natural Marketing Institute, proprietary.

As seen in Table 2, in the United States, between 2005 and 2009, Drifters and Conventionals show growth (+6 and +4 percentage points, respectively), while Naturalites and Unconcerneds show a decline in segment size (–6 and –4 percentage points, respectively) among the general population. In this same time period, LOHAS are growing (+2 percentage points). Canada does not have data before 2009, making temporal analysis impossible. However, in 2009 Canada and the United States have similar results except Canada has 5 percentage points fewer Unconcerneds than the United States, as well as 2 percentage points more LOHAS and 3 percentage points more Conventionals.²¹ As it is based on actual behaviour and purchasing data, as opposed to a stated preference, this reduced percentage of Unconcerneds appears to corroborate the GfK Roper/Yale stated preference survey that found that Canadians are two times as likely to report environmental friendliness as more important than price or quality in their purchasing decisions. However, there are likely regional and rural/urban dimensions to this aggregate data that should be taken into account – a potential area for further research.

In terms of the market share of green products, analysis demonstrates that it remains small but growing in almost all instances. Recent analysis from the US Department of

²¹ This data can likely be divided sub-regionally as well.

Commerce reveals that green products and services accounted for 1 – 2 percent of the total private economy in 2007 depending on the definitional parameters, with some specific areas identified in Table 3.²²

Table 3 – Green Products’ Estimated Range of Total Market Share, United States, 2007

	Low estimate	High estimate
Alternative fuel vehicles and hybrids	6.7%	10.2%
Hybrid vehicles only	1.8%	2.7%
Green building construction services	3.5%	4.8%
Energy-efficient appliances	40%	40%
Organic agriculture	3.8%	3.8%

*Source: US Department of Commerce (2010), Appendix Two. *In instances where the high and low estimates are the same, the data is known to be accurate and no high/low estimates are needed.*

The US Department of Commerce survey did not include Canadian data, however it is possible to contrast US and Canadian organic food sales. In 2008, US organic food sales grew by 15.8 percent to reach US\$22.9 billion.²³ In 2008, sales of organic foods in Canada were projected to be CAN\$2 billion, double that of 2006, and expected to grow 20 percent annually for the foreseeable future.²⁴ Despite these high growth rates, in 2008 organic food sales still accounted for only approximately 3.5 percent of all food product sales in the United States, and approximately 2 percent in Canada.²⁵ At 19 percent of the general population in the United States and 21 percent of the general population in Canada, the LOHAS market is significant not only with respect to its own market share (estimated at US\$209 billion in the United States in 2009) but also insofar as this category of consumers set trends in the marketplace. While a willingness to pay a price premium varies across segments, all groups are price sensitive.²⁶

2.2 Green Procurement: Business-to-Business and Business-to-Government

Policies committing institutions and companies to making the greener choice have been in existence in some companies and governments for years. For example, the US *Resource Conservation and Recovery Act of 1976* requires federal agencies to establish affirmative procurement programs for EPA-designated recycled content products, and Canada’s 1995 cabinet-endorsed *A Guide to Green Government* included commitments to green federal procurement.²⁷ However, in recent years, these types of policies are starting to take on larger profiles and increased market significance. When faced with

²² US Department of Commerce (2010).

²³ Organic Trade Association (2009).

²⁴ See TFO Canada (2009).

²⁵ Organic Trade Association, quoted in Martin (2009).

²⁶ Natural Marketing Institute (2010).

²⁷ For a recent US-based review prepared for Members and Committees of Congress, see Manuel and Halchin (2010).

large-scale problems such as climate change, rising energy prices, and chemical exposure and liability, many companies and large institutions, like many consumers, are looking to reduce risk and/or contribute positively within their own particular sphere of influence. Also, as “green” credentials become important market access determinants, greening one’s inputs is an essential step to becoming a green organization (see section 2.3).

Text Box 1: Eco-labelling as a Public Policy Tool

As a public policy tool, eco-labels are essentially an information disclosure instrument, which can then become a quasi market-based instrument insofar as that information is used in procurement, serving to expand markets for products meeting green criteria and making possible economies of scale, which bring down the cost per unit. Such economies of scale can paradoxically result in higher levels of absolute material consumption, even if the good is more eco-efficient, and can perpetuate a specialization and trade export-dependent model with weak resilience under carbon-constrained scenarios.

As symbols, eco-labels are also important insofar as they change how value is understood and defined culturally and how industry sector best practices and society-wide norms are created. Here information is brought in, through which value is created (as long as the information is credible), and this information is disseminated sector-wide and to the larger society. While immediate price premiums cannot necessarily be guaranteed, drivers of market access and other organizational and brand identity values remain (see section 2.3). Eco-labels can also be combined with tax rebates and/or other types of economic incentives. Labelling and the procurement it informs have been identified as an increasingly important combination of policy instruments, especially in light of the outcomes of the 2009 United Nations climate change conference in Copenhagen.²⁸

Major private sector initiatives such as Walmart’s supplier information requests are making waves around the world, introducing new information, measurement, and accounting requirements along supply chains, and adding a new type of criteria to procurement and contracting decisions.²⁹ An even larger purchaser than Walmart is the US federal government, whose 2009 Executive Order 13514 revitalized green procurement commitment at the federal level, as have Canada’s 2006 Policy on Green Procurement and Canada’s *Federal Sustainable Development Act* (2008).³⁰ North American green procurement and supply-chain management patterns in business-to-business and business-to-government contexts have been monitored since 2007 by TerraChoice, in collaboration with the US-based Responsible Purchasing Network, and NAFTA’s Commission for Environmental Cooperation. Their 2009 *EcoMarkets Summary Report* surveyed 587 professional purchasers in the United States and Canada whose organizations spend more than US\$68 billion each year and found that:

- Seventy-two percent of purchasers say their organization has implemented either a formal (29 percent) or informal (43 percent) “green” purchasing policy, up from 63 percent in 2008 (26 percent formal and 37 percent informal).

²⁸ Vranes (in press).

²⁹ Walmart (n.d.).

³⁰ White House (2009); Government of Canada (2006).

- Of the 28 percent of purchasers who work for organizations without a “green” purchasing policy, 54 percent indicated their organization had plans to implement one, up from 44 percent in 2008.
- Fifty-one percent of purchasers who work for organizations without plans to implement a “green” purchasing policy still planned to do more “green” purchasing in the next two years.^{31 32}

The growth of green or otherwise ethical purchasing by corporations and governments is further supported by the increase in membership in organizations like the Responsible Purchasing Network (RPN), an international network of buyers committed to socially responsible and environmentally sustainable purchasing. From January 2008 to January 2009, the RPN grew from 97 to 211 members, and sat at over 250 as of October 2010. Of interest is that even among members of RPN who share a commitment to green purchasing, only one in three organizations (33 percent) allows price premiums for environmentally or socially preferable products, and price premium allowances are declining overall (44 percent allowed premiums in the 2008 report).³³

2.3 Formal and Informal Market Access, and Firm-Level Innovation

Although the business case for sustainability is becoming more ubiquitous, and has even been called an “imperative business mega-trend,”³⁴ not all companies understand sustainability in the same way, and the role of communication and brand identity are important. Some companies take steps to reduce the environmental and social impacts of their operations and products; however, they choose not to communicate that information to consumers in a phenomenon known as “greenhushing.” Some companies such as Proctor and Gamble are not interested in appealing to the LOHAS market and would rather target the “sustainable mainstream”; others such as the Hudson’s Bay Company are not interested in “bragging” about their actions; and still others may not be confident in the significance of their actions and/or their metrics are not strong. Some may not be taking any actions at all.³⁵

There is considerable divergence in the marketplace and a distinction can be made between whether sustainability is seen to represent a cost, or whether it is seen to represent an opportunity. If sustainability is understood as a cost, it is seen as something that governments should be responsible for regulating in light of market failures, and the best strategic approach is to wait until that happens, hoping that no significant questions will be asked about a company’s goods, services, or practices beyond traditional questions of price, quality, and regulatory compliance.³⁶ Market access related to

³¹ TerraChoice Environmental Marketing Inc. (2009b).

³² How “credible” knowledge is created is a central issue beyond the scope of this paper; it is discussed here in terms of trust and legitimacy (sections 3.1 and 3.2) but less explored is the changing role of expert knowledge now that information is much more accessible on-line.

³³ Responsible Purchasing Network (2009).

³⁴ Esty and Lubin (2010).

³⁵ See Proctor and Gamble (2010); Hudson’s Bay Company (2007). For an overview of some private sector considerations when communicating green at the point of purchase, see Stratos Inc. (2010).

³⁶ Based in the belief that climate change will affect where and how profits are generated, 475 institutional investors submit carbon disclosure information requests annually to Global 500 companies via the Carbon

sustainability is understood to be primarily formal and/or regulatory in nature. If sustainability is seen to represent an opportunity, companies should want to incorporate it of their own volition. There are various drivers for this, but oft-cited are to:

- increase (eco)-efficiency
- reduce risk from rising energy and input costs and ensure supply
- reduce liabilities associated with political/policy risk
- reduce waste disposal costs
- decrease insurance premiums
- increase employee recruitment and retention
- buttress brand loyalty
- reduce liabilities from as-yet unregulated chemicals of concern
- ensure formal and informal market access
- create organizational purpose

Sphere-of-influence limitations apply here with respect to where the line is drawn in terms of responsibility (the reconfiguration of roles and responsibilities is discussed more in section 4.3) as well as with respect to the tools available to corporate entities. For example, increasing eco-efficiency per unit does not necessarily result in absolute environmental impact reductions for a company, let alone a sector or the entire economy. In the public sector, environment-as-cost and environment-as-opportunity policy and programming are also very different with respect to their posture to business; here, the same departments that are charged with regulating (environment-as-cost) are also attempting to encourage changes beyond compliance (environment-as-opportunity) through various types of programming (e.g., the US EPA's Performance Track), or by using compliance promotion as a way to promote environment-as-opportunity thinking.³⁷ Ways in which (regulatory)³⁸ departments can structure their traditional regulatory responsibilities with the "beyond compliance" imperative without creating client confusion or even conflicts of interests is an area that would benefit from further exploration. More fundamental is the issue of aligning the goals and objectives of different branches of governments to achieve consistency in policies.³⁹

Whether spurred by government action or by supply chain pressure or internal motivation, the window for companies to continue to understand sustainability exclusively as a cost and/or to wait for government appears to be closing. The increasing demand for green products at both the consumer and organizational levels is not going unnoticed by companies. Graphic 1 indicates the number of launched products marketed as sustainable since 2004 in the United States. It is clear that companies are increasingly seeking to differentiate their products and services based on "sustainable", "eco-friendly"

Disclosure Project (n.d.). Some 2,500 organizations in some 60 countries around the world now measure and disclose their greenhouse gas emissions and climate change strategies through the Carbon Disclosure Project, including US federal government departments.

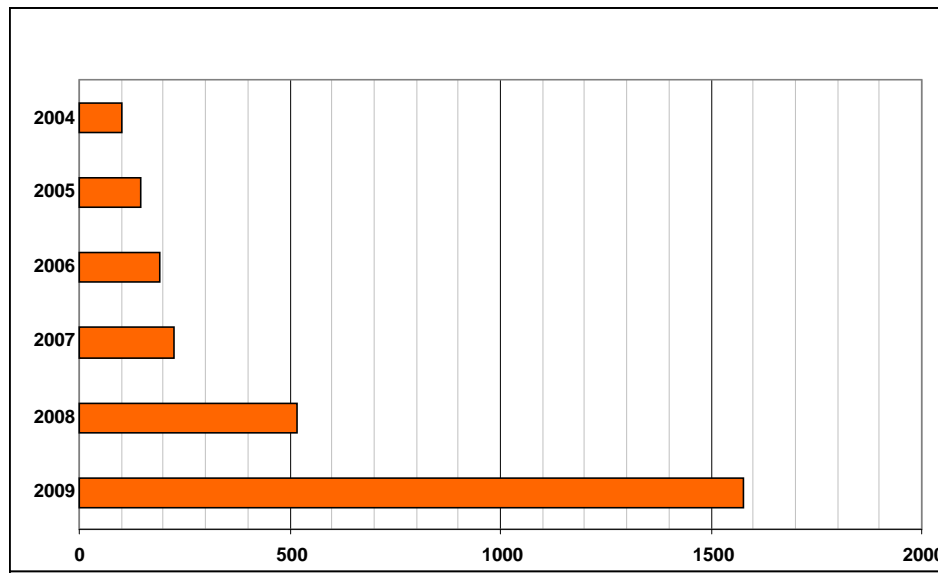
³⁷ For a review of the lessons learned from the EPA's Performance Track and Corporate Leaders programs, see Hassell et al., (2010) or Kashmanian et al., (2010).

³⁸ Note that not all departments are regulatory; for example, Natural Resources Canada is not considered a regulatory department, nor is Industry Canada.

³⁹ "Achieving consistency in policies" is a government exemplification objective of the United Kingdom's Sustainable Development Strategy (United Kingdom, 2005); see page 26.

or “environmentally friendly” criteria. Market research indicates that there are over 500,000 eco-labelled products on the market as of March 2010, and that the pool of green products continues to grow at a rapid rate. At least 377 different eco-logos exist on the market today.⁴⁰

Graphic 1 – Number of “Sustainable” Product Launches in the United States since 2004



Source: The above graphic is based on the number of new packaged good products bearing claims such as “sustainable,” “environmentally friendly,” and “eco-friendly.” Datamonitor Product Launch Analytics cited in Neff (2009).

While it is generally recognized that sustainability considerations can inspire product or process improvements that can thus increase competitiveness,⁴¹ the informal market access dimensions of proving green are less well recognized. Expressed differently, we know that sustainability can inspire product and process innovations through design changes, sourcing decisions, etc. However, the de-facto requirement of a product or component to make its green case for fear of being rejected in favour of a supplier who can is entirely different. As companies are beginning to compete based on green criteria, the strength of the “green” case can be the deciding factor in winning a contract. Again, distinction can be made between “formal” regulatory requirements, for those companies exporting to more active regulatory jurisdictions like the European Union or California, and “informal” requirements, as manifest in green purchasing policies and green supply chain initiatives, which while not regulatory, wield considerable norm-generating influence. While they maybe become regulatory eventually, they still present informal market access issues in the interim. Indeed the distinction between “voluntary” and

⁴⁰ See Ecolabel Index (n.d.).

⁴¹ Conference Board of Canada (2007).

“mandatory” standards is increasingly blurring at the international level.⁴² The format in which these non-monetary values are communicated remains largely un-standardized, leading to an inability for companies and consumers to distinguish between products or companies with any rigor in most cases.⁴³

3. Current Challenges Associated with Green Products in North America

The previous section examined three central drivers behind the emergence of green products: the rise in consumer demand, green corporate and institutional purchasing, and formal/informal market access and firm-level innovation. The movement of civic concern for the environment and social justice into the realm of mainstream consumer action has been identified as a relatively recent phenomenon, marked by the rapid expansion of green claims in the marketplace. On one level, the proliferation of green claims is revealing of an increasingly widespread support for and understanding of the need to reduce our collective environmental impact and promote social justice, and serves to communicate this imperative to consumers, while theoretically providing them with greener choices. However, there are also numerous challenges faced by consumers, procurers, businesses, and governments that emerge from this new set of arrangements, which the following section will critically examine, taking us most of the way in answering the original research question of what constitutes a “green” product and according to whom.

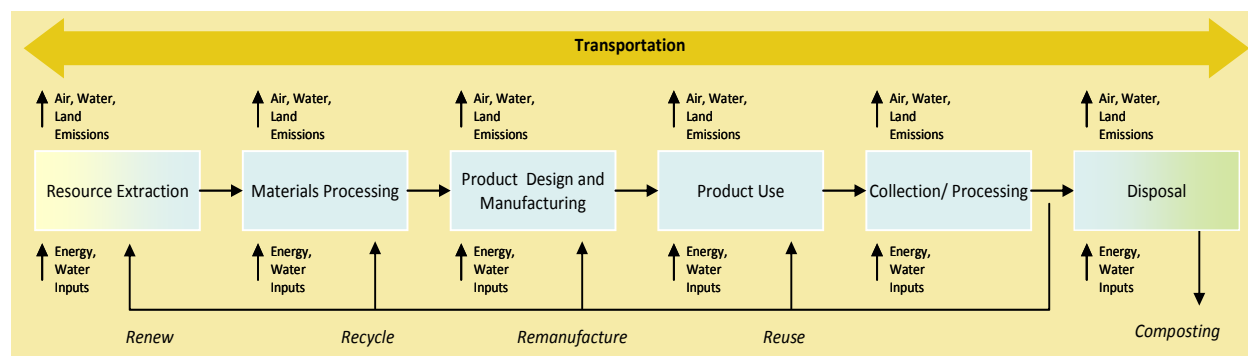
3.1 Complexity, Transference, and Greenwashing

A dilemma is presented if a critical mass of consumers and procurers want green products, but are reluctant to pay a price premium for them. Here, how “green” boundaries are delineated becomes increasingly important: What dimensions of “green” are being considered? Energy? Water? Materials? Toxicity? Social equity? What stage of the production cycle is being captured: the use phase only or upstream and downstream impacts? And who is responsible for what? Graphic 2 shows a typical product life cycle and illustrates the multiple inputs, impacts, and stages associated with a given product.

⁴² In an anarchic international system, two interesting examples of applying domestic law to ensure imported products comply with the laws of the exporting country in the forest product sector are the recent US *Lacey Act* amendments and the EU FLEGT initiative (Bernstein, personal communication).

⁴³ A key multi-stakeholder process is the Green Products Roundtable being conducted by the Keystone Center, but in terms of reporting standards at the corporate level, leaders in this area are the Global Reporting Initiative (n.d.) and Impact Reporting & Investment Standards (n.d.). ISO is currently in the final stages of developing a Corporate Social Responsibility Standard and has already standardized eco-labels at the product level. See Dee (2010).

Graphic 2 – The Product Life Cycle



Source: US Environmental Protection Agency (2009).

One of the most widely recognized “green” product logos is the Energy Star certification for energy-using appliances. Founded in 1992 by the US EPA, Energy Star is dedicated to energy conservation during the product use phase. In Graphic 2 above, this represents the fourth box from the left. The other stages in the life cycle (i.e., resource extraction, materials processing, manufacture, collection/processing, disposal, and transportation) are not considered part of Energy Star, nor are the other associated environmental impacts, such as water and materials use, which are essential for climate mitigation and adaptation. Nor does Energy Star consider the potential human health implications of the product’s inputs, or the working conditions of the people who made it.

Text Box 2: “Green” Products and Price

While upfront investments often result in cost savings in the longer term, especially with respect to energy efficiency, producing a holistic, multi-attribute, multi-phase sustainable good often entails higher costs, such as:

- research and development for new less-damaging chemical substitutes⁴⁴
- sourcing and using potentially higher cost recycled content feedstocks
- costs associated with product take-back or disassembly
- information and transaction costs associated with gathering and transmitting sustainability information along the supply chain paying for (as-yet unpriced) ecosystem services
- paying your workers more or using suppliers who pay their workers more
- paying for the third-party certification(s) themselves (if required)

Current price structures should be impacted as fossil fuel subsidies are phased out in light of recent G-20 commitments and depending on the carbon pricing structure across areas of operation. There is also increasing pressure to put monetary values on ecosystem services and natural capital through the Reduce Emissions from Forest

⁴⁴ The recently announced Green Products Innovation Institute has stated it will provide green (er) chemical information to companies for free.

Deforestation and Degradation mechanisms under the global climate negotiations, proposed landscape level eco-labelling, and the recently announced Intergovernmental Science Policy Platform on Biodiversity and Ecosystem Services.

It should be noted that the social welfare function that is occurring when we pay a price premium for a green good (if the premium can be verified to be serving a social function) can be compared with the social welfare function of taxation in terms of wealth redistribution. The equity dimension is particularly important when you consider valuing labour as a way to reduce material throughput, and the relative dimensions of the drivers of consumption – i.e., status seeking, social inclusion, and identity – and the inter- and intra-national problems of overconsumption and underconsumption.

This simple “green” metric does pull the market toward energy efficiency in the use phase, and can also reduce various other pollutants associated with electricity production. It is also one of a handful of product-oriented programs for which there is a significant body of hard evidence demonstrating results.⁴⁵ However, the attribution of responsibility for the mitigation of the host of other environmental and social impacts generated by the demand of the good is not attempted.⁴⁶ Not only does it not address the life-cycle energy or resource use, it also does not address the “rebound effect” of consumption, in which increases in efficiency result in cost and energy savings, which are then returned into more consumption. Gains currently being made in energy efficiency as a result of popular energy efficiency (and to a lesser extent natural resource) conservation efforts are being outpaced by absolute total increases in environmental impact, due in part to this narrow definition of green.⁴⁷

While there are clearly limitations to the effectiveness of Energy Star (and other single-attribute, single-stage labels), the sheer complexity of the environmental and social impacts associated with a given product should not be understated. As it currently stands, there are significant limitations surrounding the availability of the kind of data that would be required to ascertain the full multi-attribute, multi-stage impact of a given good (see section 4.2 for a discussion of life-cycle inventory data developments). The cost implications for business are also very significant, and streamlining is often pursued.⁴⁸ This streamlining should not be surprising, if what we are witnessing is essentially the transference of the elaborate network of laws and social and environmental processes performed by states onto the product level, and hence onto the company and ultimately the consumer.

⁴⁵ Sanchez et al., (2007).

⁴⁶ Especially over space and time; in the world of greenhouse gas attribution at the corporate level, scope 1, 2, and 3 emissions are being developed to help clarify attribution for disclosure. Boundary setting is further at issue with respect to the global land use effects of biofuels and food production; see Kugelman and Levenstein (2009).

⁴⁷ See chapter 5, in Jackson (2009).

⁴⁸ Forum for the Future and the Natural Step (n.d.) have developed a Streamlined Life Cycle Analysis tool; also see Bala (2010).

As roles and responsibilities shift (see section 4.3), divisions of labour also shift, and work that was once done by governments is increasingly falling to civil society, business, and consumers. This transference is not necessarily clear or obvious to all involved; however, it is a phenomenon that any conscientious consumer has experienced. As well, as environmental issues shift from end-of-pipe effluent concerns and toward total material flows, and given the relativity of risk, the appropriateness of criminalization and the use of criminal law is brought into question. For example, can it be considered criminal to buy a relatively polluting car, or to use energy in a way that some might consider wasteful? The ability of a legal liability framework to address these new dimensions of citizenship is unclear; these types of concerns are also at issue when we approach “greenwashing” as a “sin” (see Table 4).

Not only do divisions of labour shift, needs and spaces also shift. For example, there is a tension between the need for environmental claims to be rigorous, comprehensive, and comparable and the need to create enough of a space for companies to communicate the actions they are taking to the consumer and the supply chain (if this communication is deemed to be necessary to achieving sustainability objectives and/or to the companies’ value proposition and/or to the purchasing requirements in the supply chain). There is also the risk that the goodwill of consumers and procurers is eroded by the proliferation of green claims, or that those who are already sceptical will continue to be so over time if claims are not brought into a more heavily verified realm, such as happened with organic food (whose standards began as voluntary and is now subject to regulatory requirements).⁴⁹

As we have seen in sections 2.1 and 2.2, the price premium cannot generally be expected, but the supply chain pressure and/or desire to appear to be doing something sustainable remains, and the temptation to make green claims that are un- or under-substantiated increases. A 2009 TerraChoice survey of 2,219 consumer products in North America revealed that over 98 percent committed at least one of TerraChoice’s “Seven Sins of Greenwashing” (Table 4).

Table 4 – TerraChoice’s “Seven Sins of Greenwashing”

1. Sin of the Hidden Trade-Off	“Green” label is based on a narrow set of environmental attributes; e.g., the product might be energy efficient in the use phase but was produced with coal, or may contain neurotoxins such as mercury, etc.
2. Sin of No Proof	Environmental claim cannot be substantiated by easily accessible supporting information or by a reliable third-party certification.
3. Sin of Vagueness	Claim is too broad or poorly defined; e.g., “natural”
4. Sin of Irrelevance	Claim is truthful but unimportant or unhelpful; e.g.,

⁴⁹ Organic food regulation in Canada involves the Canadian Food Inspection Agency designating “conformity verification bodies” to assess, recommend for accreditation, and monitor “certification bodies,” which are then responsible for the organic certification of agricultural products and organic product packaging and labelling certification. See Organic Product Regulations, 2009, under the *Canada Agricultural Products Act* (2009).

	claims pointing out that a product is free of a certain legally prohibited substance.
5. Sin of Lesser of Two Evils	Claims that are true within the product category, but the product category as a whole is harmful; e.g., organic cigarettes, fuel-efficient sport utility vehicles.
6. Sin of Fibbing	False environmental claims; e.g., using a label such as Energy Star without permission.
7. Sin of Worshipping False Labels	Some marketers create images that look like the product has been third-party certified when it has not.

Source: TerraChoice Environmental Marketing Inc. (2009a). Thanks also to reviewers Jessica McClay and Jeffrey Bell for modifying this table.

While the language of “sin” is not necessarily reflective of the complexity of any “green” statement, it does illustrate some of the common challenges raised by “green” in the context of marketing. Since consumers and procurers are used to making choices based on price, performance, and convenience, adding a whole additional ethical level is challenging for even the best informed. In addition to what they already know about the impact of a given product category (e.g., food and cars), consumers generally have only whatever appears on the package and label as a basis for their decision, and with over 325 different eco-labels on the market, familiarity with the meaning of the eco-label and the degree of confidence in it are therefore very important.

Table 5 – US and Canadian Familiarity with Various Eco-Labels

	Percentage of the US population who are very/somewhat familiar with the eco-label	Percentage of the Canadian population who are very/somewhat familiar with the eco-label
Organic label (e.g., Quality Assurance International certified organic)	62	71
Energy Star label	58	73
Fair Trade label	36	48
Sustainable Forestry Initiative	19	17
Forest Stewardship Council	12	17

Source: GfK Roper Public Affairs & Media and the Yale School of Forestry & Environmental Studies Survey on Environmental Issues (2008).

Table 5 indicates that the most recognized eco-labels in both Canada and the United States are the Organic label, the Energy Star label, and the Fair Trade label. Not only is familiarity important, but the question of trust is as well. Eco-labels are sponsored by numerous organizations, including environmental groups of all kinds, industry groups, and government agencies. When asked how trustworthy labels from each of these groups are, Americans show a clear preference for environmental groups (75 percent say such groups are “very” or “somewhat” trustworthy) and fewer say that government agencies

or industry groups are trustworthy (55 percent and 51 percent, respectively). While roughly the same percentage of Canadians as Americans trust eco-labels sourced by environmental groups (79 percent vs. 75 percent), a greater percentage of Canadians place somewhat more trust in government than do Americans (61 percent vs. 55 percent), and less trust in industry groups (44 percent vs. 51 percent).⁵⁰ It is certain that all of these actors have roles to play in the system, if these roles are evolving. The ways in which these groups interact, with the consumer/citizen, is the subject of the following section.

3.2 Product Standards, Certifications, and Legitimacy

At a fundamental level is the normative question posed at a recent National Academies conference: Should communities continue to allow unsustainable products in the marketplace when viable sustainable alternatives exist?⁵¹ This depends on the definition of “community” and the definition of “sustainable.” If we understand communities at the nation-state level, under the commonly accepted model of state-industry relations and citizen-consumer divisions based on *homo economicus*, consumers and industry are assumed to function in self-interested ways (profit-seeking and cost-saving), and citizens, through their representative governments, set parameters around that self-interest through political and legislative processes. As globalization has disembedded markets from territorial control and as the speed of innovation and information has increased, the ability of communities to set those parameters through political and legislative processes has diminished, with a corresponding rise of the voluntary standards system.⁵²

Standards affect most products and services we encounter in our daily lives.⁵³ In the United States the American National Standards Institute (ANSI) oversees the development of voluntary consensus standards for products and services. A private non-profit organization formed in 1918, it is not accredited by government, but governed by a board elected by its members. The National Institute of Standards and Technology (NIST) is a non-regulatory federal agency, part of the Department of Commerce, whose mission is to “promote US innovation and industrial competitiveness by advancing measurement science, standards, and technology.” In 2000, a Memorandum of Understanding between ANSI and NIST was signed to clarify roles and responsibilities, in recognition of the need for “better communication within and between the private sector (*ANSI*) and Federal Government (*NIST*) on voluntary standards and conformity assessment.”⁵⁴ In this division of labour, ANSI represents the United States in global and regional standard-setting bodies, and NIST coordinates affected federal department engagement, as stakeholders.

⁵⁰ GfK Roper Public Affairs & Media and the Yale School of Forestry & Environmental Studies Survey on Environmental Issues (2008). Less at the product level specifically, it should also be noted that there has been a marked increase in third-party verification of corporate sustainability claims; for example, in order to be listed on the Dow Jones Sustainability Index (n.d.), one must undergo a verification audit by Deloitte.

⁵¹ National Research Council of the National Academies and National Academies Press (2010).

⁵² Abdelal and Ruggie (2009).

⁵³ Standards Council of Canada (various dates).

⁵⁴ See Memorandum of Understanding between the American National Standards Institute and the National Institute of Standards and Technology (2000); italics added.

In Canada, the task of setting standards for goods and services was delegated by the Canadian federal government to the Standards Council of Canada (SCC) in 1970. The SCC is a Crown corporation that reports to Parliament through the Minister of Industry Canada. The SCC does not actually develop standards, but rather accredits standards development organizations.⁵⁵ Once standards development organizations receive accreditation, they develop standards privately using volunteers; the standards are not made mandatory unless they are incorporated by reference into legislation (as determined on a case-by-case basis), nor are they available free of charge to the public. Note that some standards can be viewed by the public in a document centre or library setting. SCC has an on-site document centre, open to the public by appointment, which maintains a number of different standards collections (Canadian, US, and international standards development organizations). In this setting, standards are made available for reference purposes only, and cannot be copied or printed. There are other libraries (public and university) across Canada that maintain standards collections as well. In the United States, NIST's National Center for Standards and Certification Information has a library in which standards can be referenced by the public.

Canada has directives and the United States has laws in place that state that voluntary standards should be used in lieu of regulation whenever they exist.⁵⁶ Government departments can participate in standards development processes, again as stakeholders, and while the SCC is officially the Canadian international representative, Canada is often represented by one of its private accredited standards setters depending on the technical committee.⁵⁷ Often these standards are determined to not be stringent enough for responsible purchasing policies, and standards set by organizations not affiliated with either traditional standards developers or governments are on the rise.⁵⁸ Operating in sectors that represent one fifth of all products traded globally, "non-state market-driven" standards systems have proliferated to address collective action problems in areas including forest stewardship (Forest Stewardship Council), fisheries depletion (Marine Stewardship Council), food production (International Federation of Organic Agriculture Movements), tourism (Sustainable Tourism Stewardship Council), rural and community poverty (Fairtrade Labelling Organizations International), inhumane working conditions

⁵⁵ The SCC approves the National Standards of Canada; not all of the private standards meet its criteria.

⁵⁶ In Canada, it is the *Cabinet Directive on Streamlining Regulation* (Government of Canada, 2007), and in the United States, it is the *National Technology Transfer and Advancement Act* (Public Law 104-113; 1995), which states: "all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments." Another way to legitimize standards is to incorporate them by reference into legislation, in about 40 percent of cases in Canada. Note that incorporating legislation can also include language that references the most current version of a standard, as in the case of LEED, thus allowing for market dynamism, something traditional regulation does not do well.

⁵⁷ Canadian Standards Association, personal interview.

⁵⁸ At a March 23, 2010 EPA Resource Conservation Challenge workshop, a representative of the RPN said that ISO standards are considered "the floor" (Responsible Purchasing Network, 2010). Stringency is difficult to ascertain given that the standards are not free to the public.

(Fair Labor Association), and the environmental impacts of buildings (US Green Building Council and the Leadership in Energy and Environmental Design – LEED).⁵⁹

These non-state market-driven standards are not exclusively civil-society based, nor are they exclusively disconnected from government. For example, while technically a non-profit organization, the US Green Building Council has been described as an industry association, comprising more than 18,000 member companies and organizations.⁶⁰ As well, organic certifications are now regulated in many major economies. While many may have started as principled responses to a dysfunctional system, overall non-state market-driven certifications have moved beyond tactics of agitation and public naming and shaming, and rather seek to establish governing mechanisms with sufficient legitimacy to be recognized as authoritative in the sector or policy area in question.⁶¹

As governments seek to use their purchasing power and leadership-by-example influence to achieve sustainability objectives, they are often in a position where doing this means abiding by or endorsing third-party standards or their equivalents; e.g., the widespread use of LEED standards by governments, or the disclosure of the greenhouse gas emissions generated by government departments (in the United Kingdom and now in the United States) as part of the Carbon Disclosure Project (see footnote 37 for an explanation of the Carbon Disclosure Project). Occasionally, governments are put in a position where their greening objectives may contradict their political or regulatory positions, such as when attempts to reduce pesticide use on federal property contradicts regulatory positions on the safe use of pesticides, or when the 2007 US *Energy Independence and Security Act* prohibited US federal agencies from procuring fuel with life-cycle emissions higher than conventional fuel, potentially including that of the Canadian oil sands.⁶² When large domestic retailers start to certify to non-government standards, as happened recently in Canada when Loblaw Companies Ltd. announced that it would only source Marine Stewardship Council-certified wild-caught fish by 2013, the role of the regulator to set market parameters becomes less obvious.⁶³

Often the legitimacy of any non-mandatory standard (whether ISO or non-state market-driven) is said to be derived from the process that created it; namely, if the process was “representative” and “consensus-based” and if adherence to the standard is verified by an “independent third party.” For example, the Forest Stewardship Council has three chambers representing the economic, social, and environmental interests relevant to forest-use standard setting. The ISO standards also use what the organization considers to be a representative and consensus-based process. Another issue is that of scale, with many standards providers claiming to be the most global and the most authoritative in their sector in question.

⁵⁹ Auld et al., (2009). The one fifth figure was derived by the authors by dividing the total amounts of products traded under sectors represented in the Appendix by the total amount of all products traded globally using World Trade Organization 2003 statistics, see p. 187.

⁶⁰ See US Green Building Council (n.d.).

⁶¹ Bernstein and Cashore (2007); also see Diermeier (2009).

⁶² Harper and Stewart St Arnaut (2008).

⁶³ Loblaw Companies Limited (2010).

The original (if territorially based) representative consensus-based process *par excellence*, of course, is the regulatory system. An essential component of democracy and the social compact in both the United States and Canada is the regulatory process, which links the legislative, judicial, and executive functions.⁶⁴ Under traditional divisions of labour, in terms of state-industry relations and citizen-consumer roles and responsibilities, the windows of public consultation found in both countries' regulatory processes (steps five and six in the US regulatory process and *Canada Gazette* I and II publications in Canada) are the specific times when citizens are asked to pay attention to see if they are in agreement with the proposed regulation. They can also contact their representative to make their voices heard. Today, consumers (as citizens) are now being asked to pay attention every time they make a purchase.⁶⁵

3.3 North American and Global Dimensions

US and Canadian standards bodies work at the international levels with the International Organization for Standardization (ISO), which has a "strategic partnership" with the World Trade Organization (WTO) in which signatories to the WTO Agreement on Technical Barriers to Trade commit themselves to promoting and using international standards of the type developed by ISO.⁶⁶ ISEAL Alliance, which is the network of non-state market-driven certifications identified above, has also taken pains to ensure that its standards are WTO compliant. Standards in theory allow for global supply chains to function with some level of assurance that products or components will interface and that someone has undertaken quality assurance somewhere. As such, their value should not be understated. However, in high-profile, high-immediate risk areas such as food and drug regulation, this level of assurance has not been deemed adequate, and as of 2009 the US Food and Drug Administration (FDA) has set up overseas offices in China, India, the Middle East, Europe, and Latin America.⁶⁷

Canada and the United States do not necessarily have such high levels of concern with respect to each other's practices, yet our economies are inextricably linked, with the equivalent of US\$1.6 billion a day in goods crossing the border.⁶⁸ While other regional trading blocs such as the EU and Mercosur in South America push for a harmonization of standards to ensure that goods in free circulation in the common market meet a certain standard, the harmonization of standards was never explicitly part of NAFTA.

The two main objectives of NAFTA's supplemental agreement on environmental cooperation were to (1) recognize the right of parties to establish their own levels of

⁶⁴ The configurations vary in each country, with the executive and the legislative branches being fused in Canada.

⁶⁵ Paying a premium for a reduced risk has equity dimensions not fully explored here, but is important to note.

⁶⁶ For the "strategic partnership," see International Organization for Standardization (2008). Regional standards bodies include the European Committee for Standardization, the Pacific Area Standards Congress, the Pan American Standards Commission, the African Organization for Standardization, the Arabic industrial development and mining organization, and others.

⁶⁷ US Food and Drug Administration (2008).

⁶⁸ The North American Agreement on Labor Cooperation was set up to serve the same function for labour; see Bowles et al., (2006).

domestic environmental protection, and (2) to require each party to effectively enforce its environmental laws.⁶⁹ The Organisation for Economic Co-operation and Development notes when examining regional trade agreements and the environment: “the obligation for parties to enforce their own environmental laws is included mainly in agreements with the United States and Canada.”⁷⁰ NAFTA’s approach has been described as a significant retreat from efforts to harmonize global environmental standards.⁷¹ It also perpetuates the idea that profit-seeking economic activity should and can be separated or “disembedded” from territorial political contexts whose democratic legal institutions provide(d) the essential functions of: legitimizing transactions, setting parameters around them (e.g., minimum wages, environmental laws, addressing market failures), and other functions such as wealth redistribution – functions that are now increasingly taking place at the level of the transaction through labelling.⁷²

While NAFTA’s environmental side agreement attempted to enshrine the idea that each country had the right to establish its own levels of domestic legal protection and the responsibility to enforce its own laws, NAFTA’s Chapter 11 investor-state dispute mechanism provides investors the right to sue national governments for actions “tantamount to expropriation.” These actions have often been in the area of environmental protection.⁷³ Dealing with a fragmented patchwork of regulators, companies operating in the North American market are empowered to use Chapter 11 to take issue with protective actions. Despite the initial presumption that environmental protection could remain nationally set and enforced, over time regulatory harmonization between Canada and the United States has occurred “as a dynamic process unfolding in discrete if partially overlapping stages...producing considerable convergence in environmental regulations.”⁷⁴

Text Box 3: A Strategic and Sustainable North America?

Created as the institutionalizations of the environmental movement, Environment Canada (1971) and the US Environmental Protection Agency (1970) are empowered primarily via legislative authorities (no taxation authorities or purview over industrial or economic strategy) and reorganized around specific media (air, water), substances (toxics), or issues such as wildlife preservation. Historically, environment agencies have undertaken these tasks without regard to the product life cycle. As the ecological burden shifted from end-of-pipe toward systemic material flow issues and toxics in products, a shift away from facilities toward corporate and product-level interventions has been

⁶⁹ Nadal Egea (1995), p. 16.

⁷⁰ Organisation for Economic Co-operation and Development (2007), p. 2.

⁷¹ Attik (1995-1996). For an analysis of market legitimacy and goods, see Abdelal and Ruggie (2009).

⁷² In addition to John Ruggie’s work on disembedded markets, an interesting discussion is provided in James Meadowcroft’s (2005) chapter “From Welfare State to EcoState” in John Barry and Robyn Eckersley’s edited book *The State and the Global Ecological Crisis*. To expand, globally, we are trying to implement eco-state measures (carbon pricing, cap and trade, etc.) without first moving forward on welfare state functions (wealth redistribution, etc.).

⁷³ [NAFTA - Chapter 11 cases - Investment](#), Foreign Affairs and International Trade Canada.

⁷⁴ Rugman et al. (1999), p. 84.

occurring in industrialized economies since the 1990s as part of a process of ecological modernization.⁷⁵

During this time in North America, while many advances have been made on a number of fronts (at the time of writing the EPA is currently amending its greenhouse gas reporting rule to move from the facility level to the corporate level), a majority of our collective energy and investment has been dedicated to research and development for new technologies and cleaner production programs. The demand side of the system has been supported by demonstration projects, a measure of green procurement (which as section 3.1 demonstrated have little clarity for their green criteria), the ad-hoc regulatory harmonization process, the voluntary standards-setting process as employed by the American National Standards Institute and the Standards Council of Canada, and a fragmented eco-labelling market. Yet since NAFTA was negotiated and the Commission for Environmental Cooperation was created as a watchdog, no strategy toward standards, sustainability, innovation, and competitiveness has been articulated.

At the same time, the US National Export Initiative's goal to double US exports in five years does not appear to include any recognition of the role of standards and sustainability in market access. Neither do attempts at restoring confidence in the financial system recognize the importance of the people's trust in the physical manifestations of economic exchange. Financial products and services are not the only products in which trust needs to be restored; that ISO was rejected as the forum for financial sector "regulation" should hold lessons for broader questions of market legitimacy.⁷⁶

Sustainability as a driver of innovation and a determinant of market access was not a strategic reality in 1994 when the parties negotiated NAFTA, an extension of the 1987 Canada-US free trade agreement. At the time, environmental management and regulation were viewed as harmful to both national-level and firm-level competitiveness, and it was expected that companies and countries would try to avoid them. This implicit approach is reflected by the very existence of the North American Commission for Environmental Cooperation's Citizen Submission Process, in which citizens of any North American country (including Mexico) can bring forward complaints to the commission in such instances where laws were "persistently" not being enforced, as was the fear in Congress at the time of NAFTA's passage, and a "factual record" may be produced.⁷⁷ Indeed, according to trade theory more generally one should not discriminate based on the process and production methods of goods as this can form the basis for discriminating against foreign producers.⁷⁸ The presumed irrelevance of this information results in the

⁷⁵ See Rubik and Frankl (2005).

⁷⁶ See International Organization for Standardization (2009).

⁷⁷ Bowles et al., (2006).

⁷⁸ Life-cycle assessment may offer a way out of this bind, insofar as companies submit the environmental impacts of process and production methods into databases (called "unit processes" in LCA terminology), which can then be aggregated to ascertain the environmental impact of a given product. The more site-specific the LCA information, the more sensitive the data could be to local environmental conditions, scarcities, and abundances. The practice of social LCA is also advancing. For a good discussion of process and production methods (which many consider at the heart of the trade-environment nexus), see

omission of key environmental and social information related to production, which is finding its way along the supply chain anyway via the proliferation of eco-labels.⁷⁹

NAFTA's regional structure was not designed to encourage direct public scrutiny, transparency, or continuous improvement in the area of standards.⁸⁰ This is likely to become more of an issue not only as demands for standardization in sustainability information increase and the (in)formal market access dimension solidifies, but also, for example, if rising energy costs make long-distance trade less viable, and regional trade more important than it already is.⁸¹ US-Canada harmonization is increasingly apparent in measures to mitigate climate change, such as the recently announced harmonized fuel efficiency standards for automobiles⁸² and calls for a North American carbon trading market.⁸³

One area where harmonization was explicitly pursued is in the area of pesticides through the NAFTA Technical Working Group on Pesticides, established in 1996 under the NAFTA provisions on sanitary and phytosanitary measures. Composed of the regulatory agencies of the three countries, the Technical Working Group on Pesticides' goal is to "serve as a focal point for addressing pesticide issues arising in the context of liberalized trade among the NAFTA countries."⁸⁴ The first "NAFTA label," announced on January 31, 2007, can be affixed to pesticides as a way to indicate that the pesticide has met binational regulatory requirements and can therefore flow freely across northern NAFTA borders. The product of many years of work, the label itself is voluntary and uptake is proving less popular than anticipated.⁸⁵ With respect to pesticide residue levels on produce, the harmonized North American standard was not harmonized upwards; in this instance, Canadian standards decreased in order to meet US standards.⁸⁶

4. Emerging Issue Areas for Green Products in North America

Not only is overall market legitimacy a growing issue, but as green purchasing at both the consumer and the organizational levels take hold, the stakes are becoming increasingly high for businesses to "prove green," and for governments to ascertain their appropriate role in light of shifting roles and responsibilities, new technological applications, and rapidly changing international market and regulatory conditions. This section will examine three emerging issue areas for green products in North America: (1) technology-supported, real-time, product-level environmental, social, and health

International Institute for Sustainable Development and the United Nations Environment Programme (2005), section 5.1.

⁷⁹ Bluestein (2009) tells an engaging story about how the "development" term was inserted into the title of the current round of global trade negotiations.

⁸⁰ Clarkson (2008).

⁸¹ Rubin (2009).

⁸² Keenan, Chase, and Vanderklippe (2010).

⁸³ Selin and VanDeveer (2009).

⁸⁴ See Health Canada (2009).

⁸⁵ For the NAFTA label, see US Environmental Protection Agency (n.d.). As of January 2010, no new NAFTA labels had been proposed in 2009 and few, if any, "candidates" were being considered; see Pates (2010).

⁸⁶ *Ottawa Citizen* (2007).

information stories, further empowering the purchaser; (2) lobbying for public support of standardized product life-cycle impact data; and (3) paradigmatic changes related to what constitutes an optimal exchange and shifting roles and responsibilities between socio-economic actors.

4.1 Science- and Technology-Enabled (Real-Time) Product Impact Stories and Data

In meeting demands for more comprehensive and meaningful product-level information for consumers and institutional buyers, two significant technology-supported developments are happening now. The first is the advancement of web-based databases of product-level information, which are now available for use at the time of purchase, either through smartphone applications or through text messages. The second is the large-scale multi-sectoral global effort to build life-cycle inventory databases, from which companies could draw data to conduct comprehensive life-cycle assessments of their products. This would provide standardized and comparable data on the environmental (and potentially eventually social) impacts of products to purchasers.⁸⁷

While surveys demonstrate that consumers appreciate the information provided by eco-labels, environmental and social information is often complex and multifaceted, involves trade-offs, and depends on values that are relative and on information that is rapidly changing. The complexity of information is often impossible to communicate using a simple logo,⁸⁸ regardless of the trustworthiness of the source; what is more, enormous networks of information provision are needed to gather current and comprehensive data. In order to better arm consumers with information, several free, NGO-initiated web-based tools have emerged, including:

The GoodGuide: Founded in 2008 as a “for-benefit” start-up (to be explained in section 4.3), GoodGuide is a database of over 65,000 products that provides detailed information and ratings on the health, environmental, and social responsibility dimensions of products in the areas of personal care, household chemicals, toys, and food products. The GoodGuide’s iPhone application allows consumers to scan barcodes in the store to get real-time information, and allows consumers to prioritize according to their values, such as animal welfare and water management.

Ecolabel Index (formerly Ecolabelling.org): Founded in 2007 also as a for-benefit company, this site provides a database of eco-labels to help companies and consumers understand what they mean and how to use them.

Skin Deep: Launched in 2006, Skin Deep is a database that provides consumers easy-to-navigate safety ratings for nearly a quarter of all products on the market, some 55,409 products with 9,002 ingredients. It is a project of the non-profit Environmental Working Group, founded in 1993 “to use the power of public information to protect public health and the environment.”

⁸⁷ See Jorgensen et al., (2010).

⁸⁸ Scot Case (2010) from TerraChoice has done extensive thinking about the effectiveness of different formats of eco-logos, and much is to be learned from nutrition labels.

Members of the ISEAL Alliance and Big Room (which operates Ecolabel Index) convened recent meetings to discuss the possibility of a web-based open-source and open-access environmental and social information platform that would allow for global networks to contribute real-time information that could then be transmitted to and accessed by consumers.⁸⁹ Some private sector companies such as Dole are not waiting, and have developed a web site where purchasers of their organic bananas can type in a producer code to access profile information on the farmers who grew their bananas and can see and download the organic certification.⁹⁰

Another significant initiative, coming more from the supply chain side, is based on the desire for standardized, comparable, “neutral” life-cycle information upon which purchasers and materials selectors can make decisions. This type of information is standardized through ISO, and represents a Type III eco-label, or Environmental Product Declaration⁹¹:

Type I (ISO 14024): These are multi-attribute labels (i.e., they relate to various environmental issues associated with a product) developed by a third party and are based on life-cycle considerations, but not a full life-cycle assessment (e.g., Canada’s Eco-Logo, or the Nordic Swan). They are often only given to the leaders in a given product category.

Type II (ISO 14021): These are self-declared claims, which do not have to be multi-attribute or independently third-party verified. The standard applying to these claims contains a lot of language stating how claims should be accurate and not misleading and unlikely to result in misinterpretation, and also provides guidance on the use of symbols. Both the US Federal Trade Commission and the Canadian Competition Bureau have introduced guides to green claims, which also emphasize that the data should be available and accurate.⁹² Forest Stewardship Council’s international standard references ISO Type II eco-labels; it is unclear if it is categorized as such by ISO.⁹³

Type III (ISO 14025): This is a label, or data set, that is used to communicate a full life-cycle assessment (LCA) of a product, the methodology for which has also been standardized by ISO (14040/44). LCAs form the basis of an Environmental Product Declaration, which provides “neutral” environmental inventory information for a product in a particular product category, but does not compare it with another, or claim that it is more “green” than another, unlike Type I claims.

⁸⁹ The Global Sustainability Standards and Information Initiatives Landscape workshop and reception was hosted by ISEAL Alliance and Big Room (2010) on April 12, 2010, at the United Nations Environment Programme Regional Office for North America, Washington, DC.

⁹⁰ Dole Food Company, Inc. (n.d.).

⁹¹ Note that ISO standards are for fee and the author was not able to access them as part of this research; therefore, the explanation provided is based on publicly available information.

⁹² Both the US Federal Trade Commission and the Canadian Competition Bureau have published guidelines with respect to green claims. For Canada, see Canadian Standards Association (n.d.) and for the United States see US Federal Trade Commission (2007).

⁹³ Unlike ISO, the Forest Stewardship Council (2004) standard is publicly available.

The potential of standardized LCA to bring scientific and technical rigor to understanding the environmental and social impacts of our everyday choices is increasingly recognized across governments and the private sector around the world. Life-cycle inventory databases exist in many countries at various levels of development.⁹⁴ In North America, a US federally funded database was introduced in 2003, after a meeting of interests hosted by the Ford Motor Company, at which an eventual North American database was envisioned.⁹⁵ In May 2010, the province of Quebec's Minister of Sustainable Development announced the development of a life-cycle inventory database for the province.⁹⁶ This database will build on the Swiss database in a Quebec context, recognizing the importance of place-based or site-specific approaches in ascertaining things like acidification, eutrophication, smog formation, land use, and water use.⁹⁷

Some of the largest and most influential corporate and academic leaders in North America are now involved in the Sustainability Consortium, a group of scientists and engineers from leading academic research institutions who engage with other researchers from the industrial, NGO, and governmental sectors to "build a scientific foundation that drives innovation to improve consumer product sustainability."⁹⁸ They are attempting to build an open, transparent, scalable, life-cycle-oriented, web-enabled data infrastructure to reliably assess the environmental sustainability of products. Walmart provided the major initial funding, but has since been joined by Best Buy, Safeway, Procter and Gamble, Unilever, General Mills, Pepsi, and Colgate Palmolive. Consortium members include the universities of Harvard, Stanford, Berkeley, and Duke, along with Seventh Generation and the EPA.

How risk is mitigated, how roles and responsibilities are aligned, how funding is sustained, and how data requirements can be met and standardized under an LCA model vis-à-vis a traditional territorial regulatory model are areas worthy of further study.

4.2 Lobbying for Standard Data while Eco-Labels Proliferate (Especially Carbon Labels)

Despite years of governments trying to pave the way for unfettered market access, location-specific environmental and social information is clearly reappearing as a market access issue. Recent years have seen the emergence of lobbying from major business actors like the Ford Motor Company and the Canadian Manufacturers & Exporters association, which would like to see public sector support for life-cycle inventory databases that their members could then draw from to prove their green case.⁹⁹ From the US perspective, there have also been public expressions of support for

⁹⁴ Curran and Notten (2006).

⁹⁵ National Renewable Energy Laboratory (2003).

⁹⁶ Francoeur (2010); Quebec Ministry of Sustainable Development (2010).

⁹⁷ Most LCA studies are limited to their inventory data, which remains site generic; see Bare (2009).

⁹⁸ See Sustainability Consortium (n.d.).

⁹⁹ National Renewable Energy Laboratory (2003); Canadian Manufacturers & Exporters in association with the Athena Institute (2010).

developing an infrastructure to implement ISO Type III Environmental Product Declarations.¹⁰⁰

The relatively non-coercive nature of eco-labels has led to their emergence as a public policy tool of choice not only by civil society and business but also by governments. Sometimes, compliance with a regulation or set of regulations can be made visible with a label, such as the EU's CE logo (certifying a product meets EU safety, health, and environmental directives), or NAFTA's fledgling pesticide label (section 3.3). While eco-labels proliferate, there is also increasing recognition that this is resulting in market confusion, with Canada's Competition Bureau and the US Federal Trade Commission coming out with guidance on green claims in the marketplace. Jurisdictions like the United Kingdom are beginning to prosecute misleading green claims more actively.¹⁰¹ Carbon footprint labels have already appeared on consumer products in the United Kingdom, Switzerland, and Japan, and a proposal was included in the US *Waxman-Markey Clean Energy and Security Bill*:

Requires the Administrator of EPA to establish a voluntary product carbon disclosure program. Requires EPA to issue a report to Congress regarding whether a national product carbon disclosure program and labeling program would be effective in reducing greenhouse gas emissions and other related matters. Requires EPA to establish a voluntary national product carbon disclosure program, which may include a voluntary product carbon labeling program.¹⁰²

Appendix C provides a diagrammatic overview of elements of a product policy cycle, based on a life-cycle approach, courtesy of the EPA. Other US-based draft legislation includes the *Eco-labeling Act* (2008), proposed by Senator Feinstein, whose objective is to create a multi-attribute, holistic national eco-labelling program run by the EPA. There is also the *Household Product Labeling Act* (09/23/09), proposed by Senator Franken, which would require all household cleaning products to have a health impact related label. Finally, at the state level is the consumer product labelling amendment (2009) to the *California Global Warming Solution Act* (2006), which would bring a carbon footprint product label to California.

The multi-attribute/single-attribute divergence is clear at the federal levels in both countries. Eco-labels administered within the EPA alone include: the Energy Star certification for energy-using products, which also exists in Canada; WaterSense for water-using products (note the life cycle is not considered in either system); Design for Environment for products using less harmful chemicals; the Electronic Product Environmental Assessment Tool, which looks at 53 environmental criteria in the area of electronics; and the EPA-Certified Smart Way for vehicles. In Canada, despite Canada's multi-attribute eco-logo program, in existence since 1988 and administered by TerraChoice, the Council of the Federation (a coordinating institution of Canadian

¹⁰⁰ Schenck (2009).

¹⁰¹ See the United Kingdom Department for Environment Food and Rural Affairs (2010).

¹⁰² *Waxman-Markey Clean Energy and Security Bill* (200). Note this labelling component is not in the Senate bill but could be included as part of the eventual reconciliation.

provincial and territorial premiers) recently called for the development of the implementation of a Canada-wide water efficiency logo.¹⁰³

4.3 Paradigmatic Change and Roles and Responsibilities

More fundamentally, the addition of environmental and social considerations into what was predominantly self-interested economic decision making can be understood as part of a larger paradigmatic shift related to what constitutes an optimal exchange, and where and when others are considered (including the natural environment). The basic *homo economicus* tenet that our primary motivation is rational self-interest is being challenged by new business models that blur lines between the public and private good, and by the consideration of a broader set of values at the point of exchange. Increasingly, the optimality of a given exchange or enterprise is understood not only by its contribution to one actor or a limited set of actors, but to a broader range of stakeholders and communities as well as to the natural environment. This “triple bottom line” mentality is distinct from traditional economic thinking which held that exchanges freely entered into would lead to positive social outcomes, under certain idealized conditions (e.g., markets exist for all possible goods, market participants have perfect information, transaction costs are negligible, etc.), and in which the state would set appropriate market parameters and address externalized collective action problems.

New business models such as “for-benefit” companies (for-profit companies with an inherent social objective) are emerging and are being legally endorsed by state-level governments (e.g., Maryland and Vermont) in the United States.¹⁰⁴ This is necessary because corporations currently function under legal requirements to make as much profit as possible for shareholders, and this legislation provides them legal space to also consider the community, the environment, and employees. The overriding dominance of the profit motive is further being challenged by the rise in the number of organizations claiming charitable status. In the United States, the number has grown more than 60 percent in one decade to 1.1 million.¹⁰⁵ Further challenging *homo economicus*, behavioural and environmental economics are increasingly being turned to for answers to problems that traditional economics do not adequately address.¹⁰⁶

Despite these paradigmatic change signals, legal requirements for publicly traded companies to make as much quarterly profit as possible for their shareholders remain, and, as we have seen in the area of green consumerism and procurement, the price signal is still paramount. Nevertheless, the importance of this information for decision making remains, and roles and responsibilities are changing. With respect to consumers, if there is a social welfare function that is being served every time he/she chooses to make a green purchase (or more broadly takes a green action outside the realm of purchasing,

¹⁰³ See the Council of the Federation (n.d.).

¹⁰⁴ On April 13, 2010, the State of Maryland (2010) signed the first benefit corporation legislation in the United States. Vermont passed benefit corporation legislation on May 19, 2010. See B Corporation (n.d.).

¹⁰⁵ Strom (2007, 2009).

¹⁰⁶ Sunstein and Thaler (2008).

such as making transportation choices), how is this benefit being (1) captured or (2) structured as part of a rational program of citizenship?¹⁰⁷

Not only are responsibilities for consumers being reconfigured, but companies are increasingly placed in difficult positions when they are asked to make quasi-regulatory decisions in areas where they may not necessarily have adequate information, nor where an expert consensus is clear; for example, when retailers were faced with pressure to remove products from their shelves that contained bisphenol-A before a regulatory decision was made.¹⁰⁸ Companies are also facing new costs associated with certifying to standards, such as LEED or organic, as well as costs for participating in the bodies that are setting the standards and essentially developing public policy.

Future business leaders are now taking an oath to “create value responsibly and ethically” when they graduate from MBA programs, yet defining this proposition remains difficult.¹⁰⁹ How do we distinguish between an inherently socially and environmentally beneficial function and one that is not? Should consumers be behaving as citizens in the marketplace? What is the role of the corporation in public education for sustainability? Who is ultimately accountable? As we seek to stabilize global climate and socio-economic systems, solutions are being proposed from the vantage point of paradigms predicated on assumptions that are being increasingly called into question. Such solutions include eliminating tariffs on trade in environmentally preferable goods and services, or utilizing border-tax adjustment measures as a recourse for the “dumping” of goods produced under lax climate regimes.¹¹⁰ While making connections with the frameworks governing our global economy is important, neither appear to recognize the core institutional issues of disembedded markets, equity concerns (so prominent in the last round of climate negotiations), life-cycle understandings of “green,” or the implications of shifting roles and responsibilities for how value is created and sustained. These issues warrant broad societal discussion to shape the policy space.

5. Conclusion, Areas for Further Research, and Questions for Discussion

Market research and public opinion data were used to identify the extent and composition of green consumerism in North America, revealing important information about how North American consumers are and are not taking environmental and social considerations into account as part of their economic decision making. Perhaps more significantly, there is also evidence of growth in organizational and supply chain-level green purchasing policies, including green procurement requirements from major purchases such as Walmart and governments. Despite these drivers, price premiums were found to not generally be expected for environmentally or socially preferable products. While a price premium should generally not be expected, environmental and

¹⁰⁷ Homer-Dixon (2010); also see the discussion of personal carbon budgets in the United Kingdom in Jowitz (2009).

¹⁰⁸ Gunther (2008).

¹⁰⁹ Anderson and Escher (2010).

¹¹⁰ See World Trade Organization (n.d.); this appears to be less of an issue within NAFTA countries as tariffs are already gone.

social considerations are permeating supply chains, informing business decisions (in areas such as contracting and investment) and presenting informal market access issues.

From a market access perspective, the stakes for defining green are therefore increasingly material, yet in answering the question of what constitutes a “green” product in North America, it was found that no common definition of “green” exists. A product life-cycle perspective was used to illustrate what a multi-attribute, multi-stage definition of green would consider, informed by scientific, industrial, and socio-economic data. While “green” often implies environmental factors at the product level (increasingly understood through the lens of carbon), the importance of socio-economic dimensions is also apparent with respect to working conditions, material equity, and transparency of criteria. Despite the potential of life-cycle assessment to inform green product claims, most of the green claims on the market are not actually supported by life-cycle assessment, and the purchaser is then left to base his/her decisions on the many hundreds of eco-labels on the market.

A review of the public’s trust in and familiarity with various eco-labels and their sponsoring organizations (business, civil society, and government) led to an exploration of the world of product standards, shedding some light on how product-level sustainability is (or is not) currently governed and by whom. The legitimacy of a product is traditionally determined by the legal compliance of the producing company to national laws. As markets have become disembedded from territorial states in an era of global supply chains, the voluntary standards system has evolved to support global trade, and has been structurally deferred to by regulators. Subsequent widespread questions of legitimacy have created the conditions for the proliferation of eco-labels, and a significant reconfiguration of traditional roles and responsibilities of consumers, citizens, business, civil society, and government. If more citizen-consumers are now considering the environmental and social implications of their daily choices, these daily choices matter exponentially more now that states’ traditional engagement is reconfigured.¹¹¹

Sustainability as a driver of market access, innovation, and competitiveness was not a strategic reality in 1994 when NAFTA was negotiated. From an environment-as-cost perspective, a common North American economic market in which sub-jurisdictions each enforce its own environmental and social laws has resulted in a fragmented patchwork, competing for mobile investment, further disempowered by NAFTA’s Chapter 11 investor-state panels. From a market legitimacy perspective, the convening of actors in private spaces to set standards (i.e., convening business and civil society through ISO or non-state market-driven standards) raises fundamental questions of roles and responsibilities in a democracy, and results in processes of harmonization several degrees removed from democratic institutions. From an environment-as-opportunity perspective, if environmental and social considerations fall much more directly to firms and consumers than was the case in 1994, North America’s current institutional infrastructure provides little or no acknowledgement of this, or strategic support for this information.

¹¹¹ See National Advisory Council for Environmental Policy and Technology (2008).

Many firms recognize the importance of this information to their value propositions, and are increasingly working with civil society, which in turn is having to look to new business models in order to be sustainable financially. Yet at the product level, no segment of society (civil society, business, or government) – either together or in isolation – is currently in a position to ascertain the true “greenness” of a given product, because the life-cycle assessment infrastructure is not in place to be able to support such claims. How and where is risk assessed in an Life-cycle assessment (LCA) model? How does it interface with a regulatory model, and how are roles and responsibilities conceptualized? These questions are identified as areas of further research.

Additional areas for further research relate to the application of life-cycle approaches by governments to support and make clear particular policy positions and assumptions, such as when the US EPA published a life-cycle assessment in support of its renewable energy policy.¹¹² This type of systems lens would also be well applied in the context of low-carbon transition planning, specifically with respect to the dilemmas of relative vs. absolute decoupling of the environment and the economy, the rebound effect, and the viability of specialization-and-trade development models under carbon-constrained future scenarios. Projecting potential implications of the reformulation of traditional roles and responsibilities would also likely be of value, as would an analysis of how bureaucracies can better structure their environment-as-cost vs. their environment-as-opportunity programming, including an exploration of the lessons learned from the NAFTA pesticide label.

Questions for discussion include:

1. What are the implications of the importance of individual purchasing decisions in meeting key public policy objectives? In terms of information requirements, boundaries and roles and responsibilities for consumers, companies, and governments?
 - *Consumers*: Is this a responsibility consumers (citizens?) want? Do they even know they have it?
 - *Business*: Is being in compliance enough for firms anymore? What are the market access and market share implications? Civil society’s role?
 - *Government*: How can product choices on the market be the best-performing choices? Will current approaches be effective?
2. Should, and if so how should, the United States and Canada (and Mexico) work together to sustain our common market?
 - What should be the focus of public policy concerning eco-labels, insofar as they pull the market in a context of continuous improvement? Should countries develop separate approaches or work toward a harmonized approach?
 - Can life-cycle inventory databases mark a new way to define “green” or environmentally and socially preferable offerings?
 - Can product standards be used more strategically to achieve sustainability and competitiveness in North America by bringing up the bottom?

¹¹² US Environmental Protection Agency (2010a).

- Can standards rise? Can standards be made public? What is the future of standards otherwise?
- How can standards interface with regulations in a North American context?

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Appendix A – Acknowledgements

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Steven Bernstein, University of Toronto, Department of Political Science, March 19, 2010

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Susan Pecman, Environment Canada, Chemical Sector, Products, February 12, 2010

Stephan Sylvan, US EPA, National Office of Environmental Innovation, January 12, 2010

Vanessa Timmer, One Earth, March 29, 2010

Wayne Trusty, Athena Institute, February 17, 2010

Erik Veldman, Canadian Standards Association, February 9, 2010

List of Conferences Attended (Selected)

Behavior, Energy and Climate Change Conference, American Council for an Energy-Efficient Economy, Washington DC. November 15–18, 2009

The New Green Economy: Aligning Science Education Markets, National Council for Science and the Environment, Washington DC. January 21, 2010

Life-cycle Assessment in Government, US EPA, Washington DC. March 2, 2010

Resource Conservation Challenge Workshop 2010, US EPA, March 23, 2010

Can Consumers Save the Planet? A Trans-Atlantic Consumer Dialogue, Washington DC. April 28, 2010

UN Commission on Sustainable Development, Sustainable Consumption and Production sessions. New York, NY, May 5–7, 2010

Roundtable on Green Finance, US Department of Commerce Washington DC. May 21, 2010

Our Common Future 2.0, International Institute for Sustainable Development and Corporate Knights, Toronto, ON. June 21, 2010

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Appendix B – The UN Marrakech Process on Sustainable Consumption and Production

Since the recent global financial crisis, much attention has been paid to how to create a green economy, with new programs of work appearing across the Organisation for Economic Co-operation and Development, G-20/G-8, the North American Commission for Environmental Cooperation, etc. “Sustainable Consumption and Production” (SCP) as a concept and phrase first came to prominence at the 1992 UN Earth Summit in Rio de Janeiro. Of significance in Rio, and in most international environment and development (and economic) negotiations is the question of responsibility for global environmental problems and their connection to poverty (especially obvious in the last round of climate negotiations).¹¹³ Rio’s famous final plan for action, Agenda 21, included this on SCP:

Poverty and environmental degradation are closely interrelated. While poverty results in certain kinds of environmental stress, the major cause of the continued deterioration of the global environment is the unsustainable pattern of consumption and production, particularly in industrialized countries, which is a matter of grave concern, aggravating poverty and imbalances.¹¹⁴

Since Rio, SCP has consistently been framed as an area where developed countries must take the lead. In the language of negotiations, SCP has become synonymous with developed world action on the environment – recognition that our own development model has implications for global sustainability and poverty. Again at the 2002 World Summit on Sustainable Development (WSSD) in Johannesburg, all countries were called on to “... promote sustainable consumption and production patterns, with the developed countries taking the lead and with all countries benefiting from the process.”¹¹⁵

To achieve this goal, the WSSD called for the development of a 10-Year Framework of Programs (10YFP) on Sustainable Consumption and Production. The WSSD’s original objective for the 10YFP on SCP was to “...accelerate the shift towards sustainable consumption and production to promote social and economic development within the carrying capacity of ecosystems by addressing and, where appropriate, de-linking economic growth and environmental degradation through improving efficiency and sustainability in the use of resources and production processes, and reducing resource degradation, pollution and waste.”

All of these key concepts (e.g., de-linking, improving efficiency, reducing waste) remain central to the process and collectively they present a grounding vision.¹¹⁶ As a Framework of Programs, however, the process also calls for regional, national, and

¹¹³ Brundtland (1994). [Summary](#).

¹¹⁴ See United Nations Conference on Environment and Development (1992), *Rio’s Agenda 21*, Chapter 4, section 4.3.

¹¹⁵ See Johannesburg’s *Plan of Implementation* (United Nations World Summit on Sustainable Development, 2002).

¹¹⁶ United Nations Environment Programme and United Nations Department of Economic and Social Affairs (2007).

localized collective visioning and democratic deliberation in order to reciprocally define and move toward sustainability in situ. This is most important for sustainability because it is by definition about a desired future state, which cannot be determined without democratic deliberation. North America was the last region in the world to engage in this process. The Marrakech Process is a global process to support the elaboration of a 10YFP on SCP, whose goals are to:

- assist countries in their efforts to green their economies
- help corporations develop greener business models
- encourage consumers to adopt more sustainable lifestyles.

The United Nations Environment Programme and the United Nations Department of Economic and Social Affairs are the lead agencies of this global process, with an active participation of national governments, development agencies, and civil society. In order to support the implementation of concrete projects and capacity building, seven Marrakech task forces have been created, championed by volunteer countries, as partnership initiatives with the participation of experts from developing and developed countries. These task forces and their champions are:

1. Sustainable Lifestyles (Sweden)
2. Cooperation with Africa (Germany)
3. Sustainable Public Procurement (Switzerland)
4. Sustainable Products (United Kingdom)
5. Sustainable Tourism (France)
6. Sustainable Buildings and Construction (Finland)
7. Education for Sustainable Consumption (Italy)¹¹⁷

In addition to the task forces, 45 national cleaner production centres are supporting developing countries in their efforts to raise awareness about sustainable production, train local experts and build local capacity, provide technical assistance to individual enterprises, support development of projects on cleaner development, disseminate technical information, and provide policy support to governments.

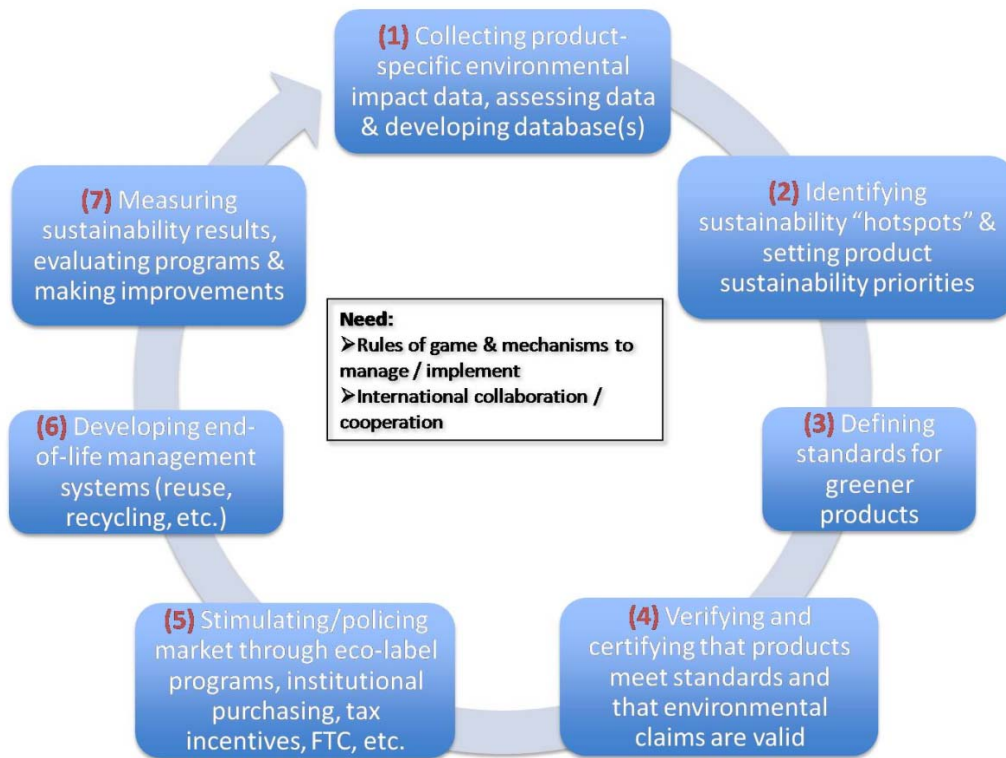
Regional SCP implementation networks have been launched in all regions engaging all interested stakeholders. Institutional mechanisms are supporting implementation projects and capacity-building efforts in line with established regional priorities.

The draft of the 10YFP on SCP is now in its third version, and is up for negotiation at the UN Commission on Sustainable Development in 2011.¹¹⁸ The planning occurring now for the 2012 Earth Summit, Rio + 20, has as its focus the green economy, and it can be expected that similar developed vs. developing country divisions will emerge again, and calls for technology transfer and North/South payments will be heard again. Focusing on how money and value are created in the first place, and what it means to be “developed,” must be the focus of Rio + 20 if progress is to be made.

¹¹⁷ For more information on the work of the task forces, see the [Marrakech Process](#)

¹¹⁸ Ibid.

Appendix C – Graphic Depicting the Elements of a System to Produce Sustainable Products Based on the Product Life-cycle Approach



Source: US Environmental Protection Agency