

ACCOUNTANTS FOR BUSINESS

Canada and the green economy

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About Accountants for Business

ACCA's global programme, *Accountants for Business*, champions the role of finance professionals in all sectors as true value creators in organisations. Through people, process and professionalism, accountants are central to great performance. They shape business strategy through a deep understanding of financial drivers and seek opportunities for long-term success. By focusing on the critical role professional accountants play in economies at all stages of development around the world, and in diverse organisations, ACCA seeks to highlight and enhance the role the accountancy profession plays in supporting a healthy global economy.

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Canada has a complex relationship with the global efforts to move to a green economy. Its policymakers and business leaders need to balance the country's vast natural resources and the economic growth that they can foster, with the need to develop in a low-carbon, resource-efficient and socially inclusive manner.

This report explores what the green economy means to Canada, with a particular focus on Canadian companies and the accountancy profession.

Canada and the green economy

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Contents

Executive summary	5
1. Introduction	7
2. A green future for Canada?	13
3. Case studies in the green economy	17
4. The role of the accountant	23
5. Conclusion	28
Endnotes	29

Executive summary

'In its simplest expression, a green economy can be thought of as one which is low carbon, resource efficient and socially inclusive.'

UNEP, TOWARDS A GREEN ECONOMY: PATHWAYS TO SUSTAINABLE DEVELOPMENT & POVERTY ERADICATION, 2011.

This report explores the green economy and Canada. It covers:

- what the green economy means
- what it requires
- how Canada may contribute
- where the country's strengths and weaknesses may lie
- what Canadian business and the accountancy profession can do to facilitate the transition.

Drawing on expertise at two roundtables on Canada and the green economy, held in Toronto and Vancouver in March 2012, this report highlights activities across five pillars of green economic thinking as identified by the Green Economy Coalition, a multi-stakeholder group with the mission of accelerating the transition to a new economy.

1. Improving governance and measurement (GM): giving businesses, regulators and a host of other stakeholders the ability to take charge of, and be accountable for, their sustainability performance through the uptake of metrics, standards and clear long-term planning.
2. Investing in natural capital (NC): efforts are under way to obtain better valuations of the economic contribution of biodiversity and ecosystem services – such as the provision of water supply, crop pollination and carbon storage – and to ensure the effective maintenance and management of such assets.
3. Driving investment and financial flows (FF): shifting monetary patterns from short-term to long-term value creation, including environmental and social value, through investment transparency, subsidy reform and new approaches to taxation, public sector finance and asset valuation.
4. Investing in people (IP): enabling communities and societies by giving them the skills and training to play their part in a greener economy, while equitably allocating the costs and benefits of transition.
5. Greening economic sectors and services (SS): developing enterprises that generate green jobs and sustainable value, for instance within renewable energy, energy efficiency, public transport, sustainable agriculture, ecosystem and biodiversity protection, and land and water conservation.

Canada is active across all five pillars of the green economy and plays an influential role on the global, national and provincial stages. Even so, it is also a major global player in key aspects of the established old economy – notably fossil energy, and Athabasca oil sands in particular – and has a complex relationship with global efforts to move to a green economy. Making significant progress will depend on Canada's simultaneously increasing greener activities and phasing out less sustainable ones.

CASE STUDIES

This report helps show the way with a series of case studies on the green economy, linking across the five pillars.

Walmart

Walmart's Balzac refrigerated food distribution centre near Calgary, is one of the greenest commercial buildings in the country, combining renewable power with smart design to reduce its environmental footprint substantially.

Better Place

Better Place's Ontario pilot is helping to bring sustainable motoring to Canada through an integrated approach to electric vehicles, batteries, financing and charging infrastructure.

Loblaw

Loblaw's commitment to sustainable fish procurement and retailing, has expanded the use of sustainability certification across many different species of seafood and earned the company significant recognition for its comprehensive efforts.

Domtar

Domtar has made great efforts to ensure the sustainability credentials of its products and provide a full suite of sustainability information to buyers through its innovative Paper Trail online tool.

Vancity

Vancity supports its customers' sustainability choices through auto loans, home improvement loans and green business financing that favours greener options.

THE ROLE OF THE ACCOUNTANT

One of the most important roles discussed in the report is the role of the accountant in bringing about the green economy. The accountancy profession will play a central role in facilitating a transition to the green economy by:

- improving the professional understanding and application of materiality to include risks and opportunities inherent in a green economy
- helping enterprises select performance indicators, measure their progress, manage data and improve processes

- supporting the integration of business reporting, including environmental, social and governance as well as financial performance
- innovating improved assurance criteria and methods to deepen enterprise responsiveness to the green economy agenda
- motivating stakeholder engagement – and the use of best practices and standards – to give better understanding of the views and the actions of all those affected by the green economy
- driving thought leadership in the area of challenges and opportunities posed by the green economy through focused research and skills-development.

Participants at the 2012 Toronto and Vancouver roundtables were surveyed on what they and their organisations most need to help them prepare for, and participate in, the green economy. Their priorities included:

- more guidance and tools from relevant industry or professional bodies to improve the practical knowledge and skill of practitioners
- market insights and trends analysis to clarify how the green economy is developing in today's world
- better understanding of national and regional policy contexts and implications and their convergence with each other and with the private sector.

With sustainability issues becoming a growing focus of management and investor attention, and their place on the public agenda set to remain prominent, the green economy will demand attention, communication and action across the public and private spheres. In coming years, the green economy may reach a tipping point in Canada. In many ways, the direction in which the balance tips will depend as much on the global market and its appetite for Canada's raw materials, as on national and provincial priorities, choices and treaties.

The accountancy profession has a critical role to play in ensuring that when the tipping point is reached, the direction will be to the benefit of the people of Canada, future generations and the natural world on which all depend. To this end, the accountancy profession has particular expertise in ensuring appropriate indicators, accurate measurement and due attention to risk. Its role will be to use this expertise to ensure that all factors, especially natural capital, are appropriately factored into the balance of decision making, and that judgements are always made on the basis of full and complete data. The professionalism and skill of the accountant will be both a driver and a source of innovation as we reach, ever closer, for the green economy.

1. Introduction

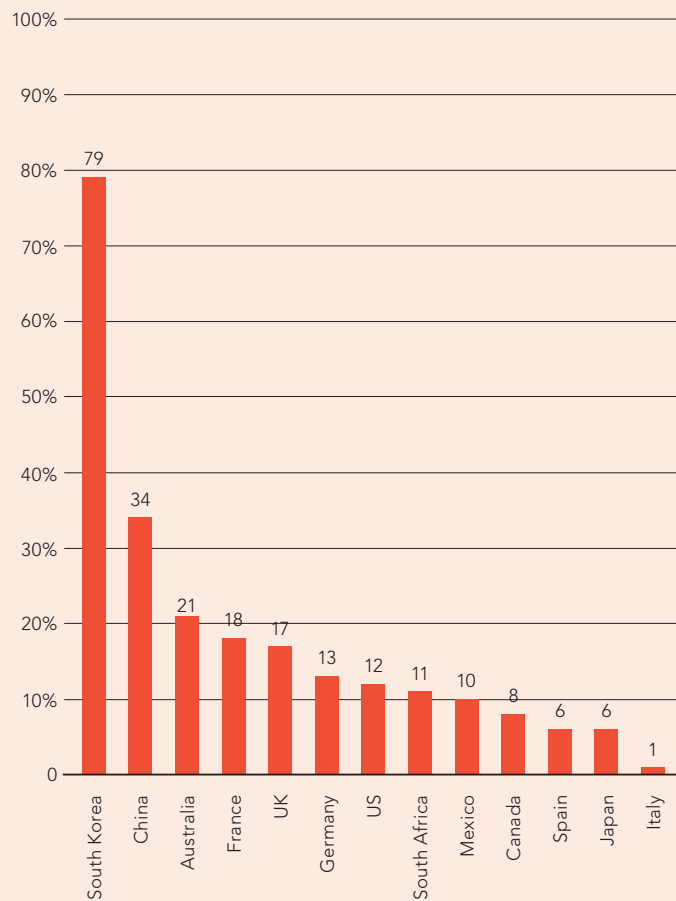
Meeting the challenges of global sustainability will require ingenuity, commitment, and alignment between governments, businesses, civil society and individuals on a national and global level. The world faces a series of major environmental and social challenges, such as:

- the need to produce more food to feed growing populations
- the management of competing demands on global fresh water supplies
- the significant and expanding challenges of climate change.

At the same time, the world's economies face the need for massive, new sources of growth, in the face of fiscal and economic instability. Whether win-win solutions are possible remains to be seen, but the green economy is increasingly an aim of policy makers and business leaders alike.

The green economy is at the heart of economic recovery. In the wake of the 2008 economic crash, the United Nations Environment Programme (UNEP) reported that some 15% of the estimated US\$3.1 trillion in global stimulus funds were green in nature, with South Korea and China leading the world's largest economies in the proportion of stimulus funds being invested in environmental projects.¹ Figure 1 shows the percentages committed by 13 world economies.

Figure 1: Percentage of economic stimulus money committed to environmental projects



THE GREEN ECONOMY HAS BEEN ELEVATED ONTO THE INTERNATIONAL AGENDA

The 2012 UN Conference on Sustainable Development (UNCSD), at the Rio+20 Earth Summit – in spite of many criticisms – issued a declaration, *The Future We Want*, which had a particular focus on encouraging countries to introduce green economy policies to tackle poverty without adding extra strain to food, water and energy supplies. The summit also agreed to start talks on sustainable development goals to augment the existing Millennium Development Goals, which expire in 2015.³

In the balance

The economic gains of shifting to a green economy are well documented, as are the perils of doggedly adhering to business as usual. They are outlined below.

Costs of delay

In 2006, Lord Stern⁴ – in a review for the UK government – described climate change as the greatest and widest-ranging market failure ever seen. He estimated that it could result in a cost of 5–20% of global gross domestic product (GDP) per year, but would only cost 1% of GDP (later revised to 2%) to avoid. He forecast that shifting the world onto a low-carbon path could eventually benefit the economy by US\$2.5 trillion a year and saw carbon pricing, technology policy and energy efficiency as key levers for change.

Economic value of nature

A report by PricewaterhouseCooper (PwC)⁵ for the World Economic Forum in January 2010 estimated that the annual economic cost of biodiversity loss and ecosystem degradation through 'business as usual' was US\$2–4.5 trillion in 2008 (3.3–7.5% GDP). Specifically, PwC reported that half of wild marine fisheries are now fully exploited and that all of the world's commercial fisheries are likely to collapse in less than 50 years on the current consumption path. Further, it stated that severe soil degradation is increasing globally at a rate of 5m–10m hectares annually, or 0.36–0.71% of arable land, and that, in the last 300 years, global forest area has shrunk by 40%.

Unsustainable resource consumption rates

WWF's 2010 Living Planet Index⁶ has charted a 30% overall decline in the health of the planet's ecosystems since 1970 and extrapolates: 'The business as usual scenario predicts that humanity will be using resources and land at the rate of 2 planets each year by 2030 and just over 2.8 planets each year by 2050.'

Impacts on human well-being

The World Health Organisation⁷ (WHO) has identified diverse and global health impacts from climate change, which will be difficult to reverse. The WHO describes the issues in the following terms. Climate change effects include:

- increased risks of extreme weather events
- effects on infectious disease dynamics
- rising sea levels leading to salinisation of land and water sources.

These effects are related to four climate-sensitive health-related outcomes:

- crop failure and malnutrition
- diarrhoeal disease
- malaria
- flooding.

The biggest impacts will be on young children.

The WHO estimates that improvements in environmental conditions could reduce the global disease burden by 25%.

Better allocation of investment

A recent UNEP report, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – A Synthesis for Policy Makers*,⁸ describes the overarching challenge of transition as one of redressing the 'era of capital misallocation' that has characterised the world economy over the last two decades, where investments 'poured into property, fossil fuels and structured financial assets with embedded derivatives', but not into the more sustainable enterprises of 'renewable energy, energy efficiency, public transportation, sustainable agriculture, ecosystem and biodiversity protection, and land and water conservation'. UNEP's report concludes: 'Existing policies and market incentives have contributed to the problem of capital misallocation because they allow business to run up significant social and environmental externalities, largely unaccounted for and unchecked.'

A PATHWAY FOR PROGRESS

In *Towards A Green Economy*, UNEP goes on to describe a pathway to 2050 that could redress unsustainable practices and the misallocation of capital to create better GDP growth, while also mitigating risks from climate change, excessive resource use and environmental degradation. UNEP describes 'the central challenge' of transition as the need 'to decouple growth absolutely from material and energy intensity' via policies, investments and practices that drive the development of natural capital and renewables, while also improving energy efficiency and waste reduction. Key components of UNEP's pathway include the following.

- An annual investment of 2% of global GDP is required to facilitate a green economic transition.
- Half of that investment should be allocated to energy efficiency – particularly in buildings, industry and transport – as well as the development of renewable energy. The remainder would be devoted to improved waste management, public transport infrastructure and investment in natural capital-based sectors, such as agriculture, fisheries, forestry and water supply.
- National, regional and international regulatory and policy initiatives are needed, framed to prime markets by setting standards and greening government procurement, taxing damaging products, investing in training for transition, and putting limits on spending that depletes natural capital – the intrinsic economic value of ecosystems.

- Unsustainable subsidies for energy, water, fisheries and agriculture – currently 1–2% of global GDP – should be carefully reformed with attention given to supporting key communities through the change.
- Higher annual growth should be forecast within 5–10 years, helping to redress the 2% GDP annual investment.
- Net job creation will result as short-term to medium-term job losses in the current economy are offset by job creation in sustainable business models that are forecast to be more labour intensive.

The Green Economy Coalition⁹ similarly sets out an overarching framework for creating a green economic system. Such a system would be underpinned and framed by governance structures that value the natural world and seek to influence financial flows, markets and the development of people and societies in ways that foster and reward green enterprise and value creation across all economic sectors.

EVIDENCE OF TRANSITION

Around the world, there is evidence of a green economy emerging in a variety of markets. The evidence often seems piecemeal at national, regional and global levels, but as the author William Gibson has observed: 'The future is already here – it's just not very evenly distributed.'¹⁰ Taking each of the five systemic components identified by the Green Economy Coalition, it is possible to identify examples of progress around the world.

Improving governance and measurement

Improving governance and measurement to create a green economy will mean that governments, businesses and consumers are empowered and enabled to be accountable for their environmental and social sustainability. This will require vision and leadership as well as appropriate metrics, standards and clear long-term planning. At global, country, community and corporate levels, there are many examples of efforts to achieve change.

- While global initiatives – such as the UNCSD Rio+20 Earth Summit, the UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Treaty – are frequently criticised for their failures, they do still represent concerted efforts by key sections of the international community to discuss the profound dilemmas and challenges faced by the planet and society. Global institutions may be flawed, but they still continue to provide a forum for collective consensus, negotiation and progress.

- Many countries have their own national targets and commitments to take a more rounded approach to economic development than straightforward GDP. China's most recent five-year plan includes prominent energy efficiency and carbon intensity targets and introduces emissions trading as an innovative policy tool to be tested. It draws on lessons from the EU – which has the largest emissions trading system in the world – as well as Australia, California and New Zealand.¹¹
- At a corporate level, a growing number of companies are embedding sustainability concerns into their governance and management structures. Every year, the numbers of companies reporting on their sustainability performance against the Global Reporting Initiative¹² framework is rising. Corporate leaders articulate clear board-level responsibilities, key performance indicators and processes to drive sustainability into their business models and value chains, while also taking care to reflect green and socially responsible credentials in their brand proposition. Walmart's introduction of a sustainability index to assess performance across its entire global supply chain will eventually mean that all its consumers can take the environmental and social impacts of its products into consideration at point of purchase (See Chapter 3: Case studies in the green economy). Modern technology – such as the Good Guide's iPhone app – is playing a central role in making environmental and social data increasingly accessible to consumers and others.

Investing in natural capital

Investing in natural capital involves valuing and taking care to protect and restore the biodiversity and ecosystem services that are fundamental to human lives and economies, from water supply to pollination and carbon sinks. It is also about enabling and empowering communities to play their part in managing natural assets.

- At the UNCSD Rio+20 Earth Summit, more than 80 organisations from the private sector – including ACCA – and 50 countries committed to boosting natural capital accounting, which has been advocated by the World Bank as a means to factor the value of assets – such as clean water and forests – into business decisions and governments' national accounting systems.¹³ The Natural Capital Initiative¹⁴ was launched as a collaboration of multinationals to develop a methodology for assigning value to the world's forests, freshwater and marine systems as a step towards enabling companies to decouple their growth from resource use. Thirty-nine CEOs of financial institutions – including banks, investment funds, and insurance companies – also launched the Natural Capital Declaration, a commitment to work towards integrating natural capital considerations into their products and services.¹⁵
- At Rio+20, several stock exchanges, including the Nasdaq group, Brazil's BM&F Bovespa and the Johannesburg stock exchange, also pledged to boost efforts to encourage companies that are listing with them to disclose more about their environmental and social performance.¹⁶ The London Stock

Exchange announced that it will require all listed businesses to report total greenhouse gas emissions for the year beginning in April 2013.¹⁷

Driving investment and financial flows

Driving investment and financial flows from short-term opportunism to the creation of long-term environmental and social value requires greater transparency in the area of investments and impacts on natural capital (as discussed above), as well as subsidy reform and new approaches to taxation, public sector finance and the valuation of assets.

- At the UNCSD Rio+20 Earth Summit, the UN Secretary General Ban Ki-moon announced an ambitious public-private sector partnership called Sustainable Energy for All. Its aim is to bring electricity and clean cooking fuel to billions of people currently without them by 2030. The partnership will involve public funding from governments and bodies such as the World Bank, with further investment leveraged from the private sector. The plan has already seen a commitment of US\$2.4 billion from the Brazilian government to connect its remaining citizens to the national grid by 2014. Corporations have pledged a further US\$50 billion of investments round the world.¹⁸
- Along similar lines, the Asian Development Bank has announced a consortium of banks and corporations aiming to spend US\$175 billion over the next decade on sustainable transport systems across the developing world, including rapid-transit bus networks, railways and fuel-efficient vehicles.¹⁹

- Members of the investment community are increasingly seeing the need to incorporate environmental and social impacts in their decision making. In 2006, the UN Principles for Responsible Investment (UNPRI) were established and a network of international investors was convened, who are committed to 'incorporate ESG [environmental, social and governance] issues into their decision making and ownership practices and so better align their objectives with those of society at large.'²⁰ There are currently some 915 signatories with a total of US\$30 trillion in assets, approximately 20% of the world's capital.
- The Equator Principles²¹ (EPs) are a credit risk management framework for determining, assessing and managing environmental and social risk in project finance transactions, where total project costs exceed US\$10m. The Principles are based on International Finance Corporation (IFC) Performance Standards on social and environmental sustainability and on World Bank Group environmental, health and safety guidelines. Currently 77 financial institutions in 32 countries have adopted the EPs, covering over 70% of international project finance debt in emerging markets.

Investing in people

Investing in people is about enabling communities and societies to play their part in a greener economy through training and re-skilling, and by allocating the costs and benefits of transition to empower people and the green economy in ways that are fair and equitable.

- In 1999, the German government increased taxes for engine fuels, electricity, oil and gas in small foreseeable steps up to 2003. The revenue was directly used to reduce non-wage labour costs by lowering the social partner's contribution to the pension fund. An impact study by the German Institute for Economic Research found that if the eco tax had not been introduced, the contribution to the pension fund would be 1.7% higher. The effect of reduced non-wage labour costs was estimated to have created an additional 250,000 full-time-equivalent jobs and cut CO₂ emissions by 3% in 2010.²²
- When Indonesia reduced its energy subsidies and raised fuel prices in October 2005, the government established a year-long programme to transfer unconditional quarterly payments of US\$30 to 15.5 million poor households. This was repeated when fuel prices were raised again in May 2008. The method used to identify poor households when reforming the subsidies was subsequently used in the government's design and trial of a cash transfer programme – the 'Hopeful Family Program' – intended to increase education and health for eligible families in poor communities.²³
- The Grameen Foundation²⁴ works to provide microfinance to some of the world's poorest communities, especially those living on less than US\$1.25 per day. By providing poor families – targeting women in particular – with access to capital via micro-loans, Grameen supports the creation of micro-businesses that can enable families to escape poverty and build a better future for their children.

Greening economic sectors and services

Greening economic sectors and services is about developing enterprises that generate green jobs and sustainable value through the use of appropriate regulation and incentives across the supply chain. UNEP has identified key green economy sectors as: renewable energy; energy efficiency; public transport; sustainable agriculture; ecosystem and biodiversity protection; and land and water conservation.

- The removal of subsidies for fossil fuels is regarded by many as a critical part of greening the global economy. Fossil fuel subsidies have nearly tripled since 2009, despite a pledge by G20 countries to eliminate them. According to the International Energy Agency (IEA), governments spent US\$409 billion on artificially lowering the price of fossil fuels in 2010, forecast to rise to some US\$660 billion by 2020.²⁵ The IEA estimates that phasing out such subsidies by 2020 would cut annual global energy demand by 5% and carbon dioxide emissions by nearly 6%. It had been hoped that a clause on phasing-out fossil fuel subsidies would be included at the UNCSO Rio+20 Earth Summit, but oil producing countries – including the US, Venezuela and Canada – blocked the clause.²⁶ Sunset credits have been proposed as an alternative approach, whereby subsidies are given as credits which can be redeemed against fossil fuels or applied to the purchase and installation of clean energy technologies.²⁷

- Feed-in tariffs, much like preferential pricing, guarantee payment of a fixed amount per unit of electricity produced from renewable sources, or a premium on top of market electricity prices. Feed-in tariffs have been implemented in more than 30 developed and 17 developing countries. Kenya, for instance, introduced a feed-in tariff on electricity from wind, biomass and small hydro-power in 2008, and extended the policy in 2010 to include geothermal, biogas and solar energy resource-generated electricity. This is estimated to stimulate some 1,300MW of electricity generation capacity in coming years, or nearly double installed capacity.
- Case studies and examples in Chapter 3 of this report illustrate how companies are embedding sustainability considerations into their business models and balance sheets.

SURVEY RESULTS

ACCA undertook surveys of delegates at two roundtables held on Canada and the green economy in Toronto and Vancouver in March 2012.

- Government policy was cited by 50% as the most important driver of the green economy; followed by consumer demand (46%), new market opportunities (36%) and pressure from investors (32%).
- Most delegates regarded their companies as involved in some aspect of the green economy, particularly performance reporting (74%) and energy efficiency (77%), although far fewer were seen to be engaged in debates on public policy (53%).
- The most critical challenges posed by the green economy for business in the next 5–10 years were thought to be adaption and transition from existing business models (46%), clarity about global and national frameworks and targets (35%), consumer engagement (31%) and access to investment (29%).
- Over 70% of delegates were strongly or reasonably confident that their respective organisations would successfully adopt a green economic model over the next decade, while far fewer were confident about making a successful transition over the next year (21%) or next 2–3 years (37%).
- Most delegates felt their companies would benefit from more professional guidance (83%), case studies (60%) and better insight to market trends (75%) and policy at national, regional and global levels (68%).

2. A green future for Canada?

Canada faces its own particular challenges and opportunities when it comes to transitioning to a green economy. While the country has an immense wealth of natural capital, it is also a highly diversified economy and has proved resilient to external shocks. The finance and manufacturing sectors are the two largest contributors to GDP, with the automobile and aircraft industries being of particular importance. The manufacturing sector, based in central Canada, was hard hit by the 2008 financial crisis, but did weather a decline. By contrast, the banking and finance sector has proved more resilient. This has been attributed to well-capitalised banks and strong

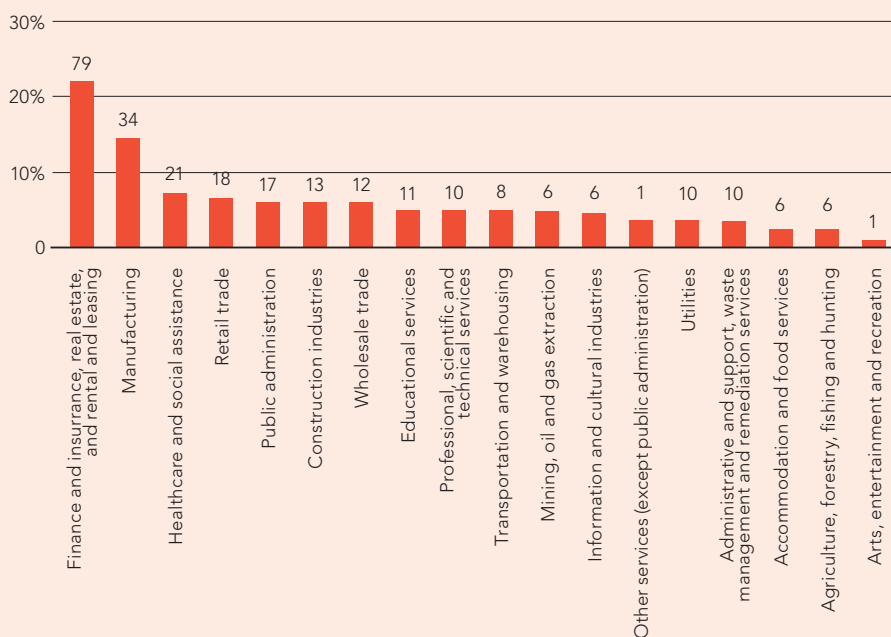
central regulation that helped mitigate the extremes of the sub-prime mortgage crisis suffered elsewhere.²⁹

According to *The Economist*: 'The biggest threat to Canada's economy is its intrinsic vulnerability to the outside world. With a population of 30 million, the country does not consume enough on its own to maintain output if foreign demand dries up: its exports make up one third of GDP.'³⁰ In 2009, 58% of Canada's total exports were accounted for by agriculture, energy, forestry and mining, with the US serving as the country's largest trading partner, taking 73% of its exports.³¹ Now, the current government is keen to diversify

beyond the US and plans to look increasingly to China and Asia, particularly for Canada's growing energy exports.³²

Given Canada's geographic scale, it is important to recognise the distinctive economic nature of its different provinces, each of which tends to be defined by its particular boon in natural resources. For instance, in British Columbia the forestry industry is of great importance, while the oil and gas industry is important in Alberta, Saskatchewan, Newfoundland and Labrador. Northern Ontario is home to a wide array of mines and the fishing industry has long been central to the

Figure 2: Canadian economy annualised GDP by sector (Jan 2010)



Source: canadabubble.com²⁸

Atlantic provinces, although this is in decline. While these primary industries may be decreasingly important to the overall economy – employing only 4% of the population and accounting for just 6.2% of GDP³³ – they are still paramount in their particular locations. Service sectors often grow up around particular primary activities, such as a mine. Canada’s sizeable pulp and paper sector, for instance, is clearly linked to its primary forestry resources and logging industry.

While it is typically quite straightforward to standardise manufacturing and service industries across regions, natural resources and their associated economic structures tend to vary greatly by province. The Economist sums up the challenge: ‘If parts of eastern Canada resemble Europe in economic terms, the west looks more like Brazil. Its mines, oil and gas producers and farmers have benefited from the commodity boom brought about by China’s appetite for raw materials. This boom brings a problem: it is helping to drive up the Canadian dollar, which risks making life more difficult for manufacturers back east.’³⁴

In spite of this regionalism, many of Canada’s resources are exported and so tie it directly to the global marketplace, whereas a member of the G8, Canada plays an influential role. Given these tensions and complexities, debates about the green economy present an array of challenges for the country on its global, national and provincial stages.

Looking at the five criteria of the Green Economy Coalition, it is possible to identify some of the dilemmas and initiatives with which Canada is grappling on its path to progress.

IMPROVING GOVERNANCE AND MEASUREMENT

A key part of national governance – particularly when it comes to stewardship of the environment and global commons – is the role played by a country in facilitating and supporting international treaties, as well as enabling progress within its own boundaries. Hence, 2011–12 has been challenging for Canada.

In November 2011, Canada withdrew from the UNFCCC Kyoto Climate Treaty, which had committed it to cutting greenhouse gas emissions by 5% by 2012, compared with 1990 levels, while the country’s actual emissions had risen over 30%. Peter Kent, Environment Minister, said that as Kyoto now covers less than 13% of global emissions, excluding the US and China: ‘It is now clear that Kyoto is not the path forward for a global solution; instead, it is an impediment’.³⁵

The recent UNCSD Rio+20 Earth Summit was similarly challenging. Canada was seen to be among the oil-producing countries that blocked a clause on phasing out fossil fuel subsidies. Canada was also criticised for its reservations about a commitment to recognising the human right to water until a condition was added clarifying

that it does not relate to ‘transboundary water issues’. The stance reportedly arises from concerns about potential legal problems surrounding any effort to export Canadian water abroad.³⁶

Nonetheless, many of the provincial administrations are tackling some of the governance challenges, and these are discussed in more detail in some of the following examples.

INVESTING IN NATURAL CAPITAL

Joe Oliver, Canada’s minister for natural resources, has said: ‘Natural resources have been the backbone of our economy and our standard of living from Canada’s earliest days, and that is still the case. The debate about the responsible development of our natural resources is truly transformational. It is, without exaggeration, about the future of Canada.’³⁷

Canada’s great wildernesses are legendary, and it has the world’s largest area of forest at third-party sustainable forest certification. This means that any harvested areas are re-forested, laws are obeyed, and no unauthorised logging takes place. Certification also promotes sustainable forest management by ensuring the conservation of biological diversity, the maintenance of wildlife habitat, soils, and water resources, and the sustainability of timber harvesting. (Nonetheless, 90% of logging in Canada still occurs in primary and old-growth forests, which are rich in biodiversity and wilderness value.)³⁸

Canadians, including Ontarians, are among the biggest consumers of water in the world, partly because freshwater reserves are so abundant – with average household water use being almost double the European equivalent. In November 2010, the Ontario Legislature passed the Water Opportunities and Water Conservation Act to help foster growth in water technologies and services via the creation of a technology hub called the Water Technology Acceleration Project (TAP). The Act establishes ‘aspirational targets’ for water conservation, but has been criticised for not addressing issues such as water pricing (Canadian water is among the cheapest in the world), efficiency in industrial water use, and the need for clear water conservation targets.

DRIVING INVESTMENT AND FINANCIAL FLOWS

Canada is well served with responsible investment initiatives and innovative approaches to enable the creation of its own emissions-trading programmes and more sustainable markets.

Some CAN\$530.9 billion of Canadian assets are currently responsibly invested, comprising 20% of all the country’s managed assets, with a large proportion drawn from institutional investors and retail SRI funds.³⁹

Although Canada is not a participant in Kyoto, there are significant collective provincial initiatives to foster carbon markets. The Western Climate Initiative

(WCI) was created in 2007 and, since the end of 2011, has included British Columbia, California, Ontario, Quebec and Manitoba. These are actively working together to develop and harmonise their emissions-trading programme policies.⁴⁰

INVESTING IN PEOPLE

Across all its economic activities and investments, Canada seems to embody a dilemma facing all people and countries round the world. Its communities and provinces have been endowed with a unique wealth of exceptional landscapes and natural resources that inspire deep conservation values. Green economic investments are clearly present and generating jobs and income for many. At the same time, the country has an immense excess of fossil fuels for which world markets are hungry, generating the promise of a vast number of Canadian jobs and investments in decades to come. How the Canadian people weigh and exercise the difficult choices that are posed by ‘business as usual’ versus transition to a green economy remains to be seen.

Warren Mabee, director of the Queen’s Institute for Energy and Environmental Policy in Ontario, has said: ‘Our economy is becoming ever more dependent upon the riches of the oil sands and other energy products. Ultimately, either we’ll run out [of these fossil fuels] or the world will decide it doesn’t want them anymore. The latter option is much more likely.’⁴¹

GREENING ECONOMIC SECTORS AND SERVICES

Canada’s green economy is estimated to be some 2–5% of GDP and worth some CAN\$32–80 billion.⁴² A variety of initiatives for greening economic sectors are evident, particularly at a provincial level.

Ontario’s Green Energy and Green Economy Act has taken a two-pronged approach to creating a green economy: the first aims to bring more renewables to the province, and the second to encourage greater energy efficiency. The Act is credited with having spurred the development of local renewable energy enterprises, including over CAN\$9 billion in private sector investment and the creation of some 20,000 new jobs.⁴³

Canada has no national renewable energy target for electricity generation, although there are several initiatives at the provincial level (see Table 1). Certain provinces also make the most of their rich water resources: British Columbia, Manitoba and Quebec generate more than 75% of their power through hydroelectricity and in 2004 Canada was the top hydro-power producer in the world.⁴⁴

Table 1: Green power provincial targets and policies⁴⁵

Province	Policy tool	Renewable energy as % of total generation
Nova Scotia	Renewable Portfolio Standard	5% by 2010 Additional 10% by 2013
New Brunswick	Renewable Portfolio Standard	Additional 10% by 2016
Prince Edward Island	Renewable Portfolio Standard	15% by 2010 (already exceeded)
Ontario	Directive	Additional 10% (2700MW) by 2010
Alberta	Target	3.5% by 2008
British Columbia	Target	90% of new generation 100% net zero GHG emissions by 2016
Province	Policy tool	Minimum renewable energy capacity
Newfoundland	Target	50MW of wind power
Quebec	Target	4000MW of wind power by 2015
Manitoba	Target	1000MW of wind power by 2014
Saskatchewan	Target	100% new generation net zero GHG emissions

While there are some reports that Canada is not currently perceived to be a big investor in renewable energy – currently ranked behind China, Brazil, US, UK, Italy and Germany⁴⁶ – there is some contrasting evidence of future growth in Canada’s cleantech sector. Ernst & Young’s quarterly Global Renewable Energy Country Attractiveness Indices Report estimated that global renewable energy transactions in Canada increased by 41% from Q4 2011 to Q1 2012.⁴⁷ Ernst & Young further forecasts robust growth across the Canadian renewable energy industry between now and 2015.⁴⁸

Ultimately, any steps by Canada towards a green economy need to be seen in the context of its development of the oil sands in Athabasca, which are forecast to support some 700,000 jobs a year over the next 25 years and contribute CAN\$3.3 trillion to the country’s GDP over the same period. Canada currently has the third-largest proven oil reserves in the world after Saudi Arabia and Venezuela, and technological innovation could see its reserve estimates eventually exceed 300 billion barrels, giving Canada the largest oil reserves in the world. Environment Minister, Joe Oliver, has

acknowledged that strong governance is imperative and that Canada’s current regulatory regimes are too complex, unpredictable and duplicative. Oliver says a new system must be developed to ‘protect Canadians and promote environmental stewardship while supporting Canada’s competitive advantage’.⁴⁹

3. Case studies in the green economy

READING THE CASE STUDIES

Each of the case studies demonstrates different activities in the green economy:

- GM** Improving governance and measurement
- NC** Investing in natural capital
- FF** Driving investment and financial flows
- IP** Investing in people
- SS** Greening economic sectors and services.

A growing number of companies globally are responding to the challenges of a green economy – from minimal activities that allow basic compliance, to leadership initiatives where companies are innovating new products and seeking to create new markets to help sustainable societies thrive.

Business has a unique role to play in creating the conditions for the green economy, in concert with broader society. Organisations across the private sector are the drivers of new product development, supply chain models, sustainable raw materials and the innovative thinking necessary to bring the green economy to life.

As Matt Loose, director at Stratos, said at ACCA's Toronto roundtable on Canada and the green economy, 'the extent to which corporate Canada will take up the challenge depends on the existence and strength of a variety of drivers, namely cost, customer demand and regulation'. For most businesses, cost pressures are perhaps more compelling than almost all others, at

least for short-term decisions, given a difficult economic environment. Loose pointed out that innovation and investment effort will be limited where there are no compelling cost drivers – for instance, municipal water rates are very low in many Canadian cities, which is unlikely to spur a great deal of effort towards water efficiency, in spite of the growing global water crisis.

Nonetheless, the growth of the clean technology sector continues unabated, and if Canada is to become a leading player, it will need to carry on this process, and find ways to evolve its core sectors to serve this new, global and growing market. Matt Loose reported that the cleantech sector in Canada already accounts for some 44,000 jobs, only just behind the numbers employed in the oil and gas and mining sectors in Canada today. Even as the natural resources sectors continue to play an influential role in the Canadian economy, in some cases these sectors are finding new and innovative ways to transform their offers to the world to meet the imperatives of the green economy. The Canadian forest products industry, to give one example, has been undergoing a transformation, expanding its involvement beyond the traditional pulp and paper products, to supply all manner of biomaterials, bioplastics, biomass energy and others.

Companies may not, however, always explicitly think of themselves as contributing to a green economy and may instead use the language of corporate responsibility and sustainability to explain their strategies and activities. The typical company approach to sustainability – whether or not undertaken with an aim of participating in or leading the green economy – runs through a series of steps. These steps have progressively

greater impact on the ability to generate value for both society and markets:

The incremental step involves improvements in processes and compliance through efforts such as improving energy efficiency and collecting and reporting key environmental and social performance data to improve processes and transparency, but keeping the basic product and business intact.

In the innovation step, companies may seek to provide new products or processes that not only minimise environmental or social impacts, but also actually work to improve performance and enable consumers to reduce their impact, and to win new market share.

The final step, the transformational step, is the epitome of the green economy and is taken by companies and organisations that are shaping and creating new sustainable ways for societies and markets to work, beyond the traditional boundaries of products and the usual limitations of individual companies.

What distinguishes green economy efforts from other corporate responsibility initiatives is their ability to catalyse impact and behaviour beyond individual companies to wider markets and policy actors. The green economy is about the potential for long-term and comprehensive transformation toward sustainable solutions.

Case study 1:

Walmart Canada's Balzac fresh food distribution centre

GM

SS

Walmart, the world's largest retailer, currently has some 8,100 stores in 15 countries and generates US\$401 billion revenue annually. The company first set its own sustainability targets in 2006, partly as an effort to improve its controversial reputation. In mid-2009, Walmart went further and announced plans to develop a sustainability index, which would involve assessing its 100,000 global suppliers against 15 key performance criteria in areas of energy and climate, natural resources, material efficiency, and people and community. The results were intended to enable the company to develop a global database of information on product lifecycles – from raw materials to disposal – and to enable the development of a simple index at point of purchase to inform consumer decision making. In February 2010, Walmart became the first global retailer to set a specific target – to eliminate 20 million tonnes of carbon dioxide emissions from its supply chain by 2015.⁵⁰

As part of this strategy, Walmart Canada opened a new distribution centre in November 2010 in Balzac, Alberta, designed to be highly energy efficient and technologically advanced. Located just outside Calgary, the facility is a hub for fresh and frozen foods destined for stores throughout the west of the country. It is one of Canada's largest refrigerated buildings.

It has also been designed with some of the highest environmental specifications in the industry, incorporating hydrogen fuel cells, solar heating and wind power, design features that minimise heating and cooling loss, and even innovative inventory management processes that reduce time and environmental impacts.

It has the following key features.

- The facility's entire fleet of 71 pallet trucks is powered by hydrogen fuel cells.
- The warehouse and parking areas are lit with low-energy LED lighting, saving both electricity and excess heat generated by traditional forms of lighting.
- Refrigeration systems use ammonia rather than ozone-depleting chemicals, and draw electricity during off-peak hours.
- Two 30kw wind turbines and 16 solar thermal panels provide renewable electricity and heat.
- Docking areas for transport vehicles are designed to minimise loss of refrigerated air.

Walmart estimates the facility will operate some 60% more energy efficiently than its traditional refrigerated centres, and will save

around US\$4.8 million in energy costs through to 2015. It is hoped that the centre may also serve as a hydrogen hub and have a green halo effect in the local economy by making it easier for other businesses and fleets to make a similar move towards fuel cells. Nonetheless, the Balzac centre also serves to illustrate some of the infrastructure challenges of cultivating a green economy in a country of Canada's scale: the hydrogen needed by the vehicles in Balzac is produced in Quebec and then shipped the vast distance to Alberta.

While Walmart's efforts have received much praise for the ambition they embody, many have complained that the achievement is limited, as initiatives such as the sustainability index have not actually changed Walmart's own buying patterns or supplier selection. Some also question whether the scale of its eco efforts has been too modest to dent the company's overall impacts. This debate serves to underscore the importance of clear information and agreed standards as part of the shift to the green economy, discussed in more detail in Chapter 4.

Case study 2:

Better Place



Better Place is a leader in the development of integrated sustainable transport systems worldwide. A venture-backed company based in Israel, with operations in countries around the world, Better Place has initiatives supporting renewable energy and electric vehicles (EVs), linked together with the underlying systems that will make sustainable transport a reality.

The visionary founder of Better Place, Shai Agassi, realised that for EVs to take hold, he needed to overcome the three traditional main challenges that had plagued them in the past: high vehicle costs, limited driving range and inconvenience associated with battery charging. Better Place's innovative breakthrough was to separate vehicle ownership from battery ownership, thus reducing the initial cost of buying an electric vehicle by US\$10,000 or more, with the batteries rented out to car owners. Separating out battery ownership also allowed the limited driving range of EVs to be tackled through a network of charging and swapping stations, which operate much as traditional fuel stations do. In markets where Better Place has set up a presence and infrastructure, motorists can go about using EVs almost exactly the way they do petrol-powered cars, at the same or better price.⁵¹

The company is working to fulfil this vision through:

- advanced battery technology, enabling high performance, long range, safety and recyclability
- battery swap stations and charging facilities around towns and cities, allowing motorists to refuel their EVs as easily as they would a conventional car
- in-car software and driving technologies to optimise the driving experience
- technology for managing demand on electricity grid providers and increasing the capacity for EVs to serve as a distributed storage mechanism for renewable energy
- innovative electric car subscription service business models, working across a variety of networks, allowing efficient and easy access to mobility
- working with industry partners to standardise technology for EV charging infrastructure.

With integrated services operational in a range of countries, Better Place has conducted a pilot study in Ontario in partnership with the government of Ontario and Bullfrog Power with the support of Macquarie Group. The pilot study involved developing an EV demonstration and education centre in Toronto, along with a plan for developing an EV charging network and timeline.

While the pilot study is intended to speed up the adoption of EVs in Ontario, Better Place has already deployed in Israel, Denmark and Australia, with further development efforts underway in China, Japan and Europe in addition to North America.

Better Place addresses sustainable transport in an integrated way, linking power generation with automobile design and manufacture, together with the charging infrastructure network. The established automotive transport industry is fragmented across individual companies, each of which addresses only a piece of the overall puzzle. Better Place's comprehensive model allows for breakthrough scaling up of new technology by ensuring that the overall transport experience is fully functional and suited to the needs of motorists, even as it is underpinned by more sustainable technology. The business model is predicated on a lower overall cost to consumers, with EVs priced similarly to traditional internal combustion engine vehicles, but with the cost of electricity to the consumer projected to be cheaper than that of comparable amounts of petrol.

The Better Place model is a highly collaborative one, built on open standards, in partnership with a wide range of electricity companies, automotive companies, technology providers, local authorities and others. It recognises the need for strong standards agreed across participants in the industry, as well as for a supportive policy environment.

Case study 3:

Loblaw and sustainable fish

GM, SS, NC, IP



Canadian retailer Loblaw made a sweeping commitment in 2009 to sell fish solely from certified sustainable sources by 2013. The commitment applies to all fish – canned, frozen or fresh – whether farmed or wild caught, and is part of the company's broader commitment to corporate responsibility, comprising its goals of:

- respecting the environment
- sourcing with integrity
- making a positive difference in the community
- reflecting the nation's diversity
- being a great place to work.

To meet the 2013 deadline, Loblaw is working closely with WWF to:

- expand the use of certification systems for fish, including the Marine Stewardship Council (MSC) for wild-caught fish and seafood, and WiseSource aquaculture for farmed salmon
- engage with the supply chain via seafood-purchasing questionnaires for vendors and dialogue with national brand vendors about integrating sustainability criteria into their fish products

- participate in developing standards for seafood sustainability, such as the development of an Aquaculture Stewardship Council (ASC) certification programme, and work toward development of responsible tuna procurement methods

- raise awareness and enthusiasm for sustainable seafood among the store's customers.

For 2012, the company has further committed to:

- convert, or have an action plan to convert, all outstanding own-brand products to MSC sources where there is an MSC-certified fishery
- establish MSC Chain of Custody Certification for the company's fresh seafood counters in corporate stores and distribution centres
- join the International Fishmeal and Fish Oil Organization (IFFO) and begin conversion to 100% feed, with fishmeal and fish oil, certified against the IFFO Responsible Supply standard for all own-brand aquaculture programmes
- launch ASC-certified WiseSource Tilapia

- complete the vendor questionnaire and analysis process to identify remaining high-risk species and stocks and vendors unable or unwilling to meet the company's criteria.

While there have been some criticisms of aspects of the company's approach or its effectiveness (including concerns that the WiseSource salmon farming methods remain vulnerable to many of the environmental problems associated with traditional fish farming), Loblaw has been honoured for its comprehensive efforts. The company won the top ranking in Greenpeace's 2011 survey of Canadian supermarkets for fish sustainability for the third year running.

In spite of its additional sustainability efforts, Loblaw sells some 40% of all the seafood in Canada. Interestingly, the company claims that the increased sustainability credentials have not had an adverse impact on consumer prices – and that sustainability itself provides protection against price shocks. Paul Uys, Loblaw's vice president, sustainable seafood, says: 'That's because the fisheries are now being managed more appropriately (for these species) and there are much more stable stocks. The volatility has been taken out of it, because we've stabilised the situation.' Uys claims that, by contrast, several fish species considered at risk because of unsustainable fishing practices have seen major price rises thanks to unreliable supplies. Loblaw has taken these species off its shelves.

Case study 4:

Domtar's sustainable paper



Domtar, one of the world's largest paper manufacturers, with a history beginning in the mid-19th century, has steadily transitioned into an integrated manufacturer and marketer of sustainable paper. The company's sustainability efforts are centred on its partnership with the Rainforest Alliance (RA) to increase the sustainability of its fibre sourcing.

Among its commitments, Domtar pledged to obtain Forest Stewardship Council (FSC) certification for all its owned, operated and managed forests. This certification, developed by an external non-governmental organisation (NGO) consortium, is a mark that reliably indicates forest products produced in such a way as to preserve the forest ecosystem and limit damage associated with traditional pulp and paper.

Working together with RA over a number of years has provided a platform for more sustainable product development and industry leadership, notably:

- achievement of FSC certification by RA's SmartWood programme
- receipt of RA's Sustainable Standard-Setter and Green Globe awards for the company's contributions to environmental conservation and sustainability
- a collaboration agreement to encourage responsible paper production and fibre sourcing, including display of the RA and FSC logos on the company's EarthChoice line of papers.

The company has also been recognised by Corporate Knights as one of the top three of the 50 Best Corporate Citizens in Canada, on the basis of an analysis of environmental, social and governance criteria publicly reported by the company.

A notable innovation is the company's Paper Trail tool, designed to help customers and consumers understand more about paper products and the environmental impacts of their own choices. The Paper Trail, on the Domtar website,

allows users to see the origins of the specific Domtar products of their choosing, together with clear information about the mill that made the paper and its specific environmental characteristics. Users can calculate the precise environmental footprint of their purchasing decisions by entering information about the product of their choice and quantity. Paper Trail then generates specific information on water, shipping distance, greenhouse gas emissions in manufacture, waste and renewable energy. For each product, the company provides an analysis of its successes in environmental management as well as its challenges and future commitments.

The Paper Trail is especially advanced because the information it provides is based on actual measurements of mill-specific performance, not industry averages. Data is periodically updated to keep it reliable, and expanded to cover more products and more manufacturing sites.

Case study 5:

Vancity customers put their money where their values are

FF

SS

IP

Vancouver-based Vancity Savings Credit Union – the largest in British Columbia – has long been one of the region's and the country's pioneers in sustainable business, and North America's first carbon-neutral financial institution. While many may assume that financial institutions have relatively trivial environmental footprint, Vancity has shown that it is not about using recycled paper for their statements, or renewable energy in buildings – though they do those things, too – rather it is about giving depositors, borrowers and investors an opportunity to do something good with their money. As Karen Hoffmann, Vancity's senior vice president, governance, risk and compliance, and corporate secretary said at ACCA's Vancouver roundtable: 'From the very start, we did things a bit differently.'

As a cooperative, Vancity is run in the interests of its members. This includes giving members access to preferential financial services with a sustainable purpose, such as the following.

- Attractively priced auto loans for more environmentally friendly car purchases: for purchases of cars that emit at least 50% less CO₂ than average, Vancity provides a loan rate of 1% above prime and for vehicles that emit at least one-third less than the average

the rate is 2% above prime. The credit union maintains an up-to-date listing of vehicles that qualify.

- Home renovations financing for energy savings: Vancity provides low-rate loans for energy use, heating efficiency and related home-improvement investments. These are made in conjunction with a certified energy adviser, who provides advice showing the best ways to reduce home energy use, and any recommended renovations are eligible for financing.
- Finance for green business: enterprises can take advantage of eco-efficiency loans to make investments in improving their environmental footprint. There are also green building grants available for not-for-profit customers looking to make environmentally innovative renovations or retrofits, advance green building policy or regulatory change, or advance education about green building to others. Small business start-ups can be eligible for micro-loans for green business start up or expansion.

Vancity supplements its financial products and services with knowledge and skill related to running a green business. Through its

own efforts to reduce its carbon footprint, source sustainable energy, improve its environmental purchasing, invest responsibly and collaborate with government and other organisations to spread knowledge and good practice, the credit union gives its members the benefit of its experiences. Through its sustainable banking offerings, Vancity uses financial services to provide incentives for better and more sustainable decisions for individuals and enterprises, while providing financial benefit at the same time. In so doing, Vancity has also challenged the belief that sustainable business runs in opposition to shareholder value. Karen Hoffmann put it thus: 'Don't shareholders have an interest in having an organisation that's sustainable and profitable, with a good business model?'

A sustainable service offering means Vancity helps move many more people and organisations closer to a sustainable reality, which in the end is far more effective than the internally focused, feel-good initiatives many other service industries prefer to focus on. It is one example of a green initiative working to create larger-scale change beyond what an individual organisation can do by itself.

4. The role of the accountant

Business and government each have significant roles to play in the achievement of the green economy, and must work together to do so successfully. Critical to their success will be the ability to identify, source, collate, value and leverage accurate and relevant quantitative information and data, which is the unique forte of the modern accountancy profession.

Creation of more sustainable enterprises will require the adaption of specific processes and functions. The corporate body politic will need to be enabled to make a series of systemic shifts and adaptations in relation to all the core elements of the green economy as highlighted earlier:

- governance and measurement
- investing in natural capital
- driving investment and financial flows
- investing in people
- greening economic sectors and services.

Management must deal directly with the green economy consequences of: strategy and planning, risk management, innovation, product development, internal accounting, reporting, engagement, and more. Changes to tax regimes and subsidies will play a part in how governments motivate desired corporate behaviours. These will work alongside evolving regulatory requirements for businesses to provide specific types of information and data to inform thinking on sectoral policies, risks and opportunities.

Accountants will be pivotal to the process of identifying, sourcing and managing the information necessary to achieve a green economy. Some of the ways in which accountants will assist include:

- helping to develop new metrics to shape how businesses are evaluated on green performance criteria
- identifying, collecting and auditing the data relating to relevant green economy initiatives
- enabling the integration of financial and sustainability information and reporting
- operationalising policy instruments such as emissions trading or environmental taxes
- assisting in identifying the pertinent data and information flows that will serve to bring together thinking about organisational strategy, governance and performance across traditionally isolated management domains.

Overall, the skills of accountants will play a unique role in supporting and enabling the green economy to develop, in Canada and throughout the world. The accountant's core strengths and services are critical to ensuring informed decision making and appropriate resource allocation and investment in support of strategic goals – including green imperatives – at corporate and public policy levels. These strengths and services are clustered primarily around the pillars of governance and measurement, and are driving investment and financial flows,

though the accountancy profession has a contribution to make across all the pillars. As Chris Ridley-Thomas of KPMG put it at ACCA's Vancouver roundtable: 'More than any other profession, accountants are equipped with a set of skills that are very powerful in capturing, managing and reporting business-relevant information in a way that capital markets understand and find credible.'

PRIMACY OF INFORMATION

Without accurate and relevant information, business and governments acquire no insight and are unable to make informed and reliable decisions, so the identification and provision of pertinent information is proving to be the common factor underpinning most drives to develop a more sustainable economic model. The following are examples (related to the five pillars of green economy using the same abbreviations as for the case studies).

- Governments are putting in place the metrics and analytical functions to help assess and value natural and human capital. These include GDP+ measures that seek to identify the range of variables needed to assess the complete well-being of a society, beyond the traditional solitary measure of financial performance (GM, FF).
- New approaches are being developed to map and value natural ecosystems and the services they provide – such as water, drainage, pollination, carbon sinks and biodiversity. So-called ecosystem services underpin all economies and businesses, and yet few are adequately accounted for (NC).

- Pollution credits and markets, such as emissions-trading schemes, are increasingly common in major markets worldwide, serving to encourage efficiency and emissions reduction by large companies (FF, SS).
- Investor demands for environmental, social and governance (ESG) information are hitting the mainstream and driving more disclosure and analysis of corporate risks and how they are managed – for instance information about corporate exposure as a result of climate change impacts, carbon pricing, water access and human rights (GM, FF).
- Increasingly, the focus of attention is not limited to a particular business but to vulnerabilities throughout systems and supply chains, shining the spotlight on smaller businesses and practices that may have previously felt themselves beyond the reach of stakeholder scrutiny or significant regulation (GM).

While the political environment for green economy policies remains fluid, and varies from one country to the next, markets are becoming more clearly aligned to more green and sustainable principles. As this trend continues, the accountant's unique role as an intermediary between markets and business information will come ever more to the fore.

INVESTOR NEEDS

Investors are becoming increasingly specific about their requirements for non-financial ESG information as part of their investment analysis. Investors need to know how complex sustainability issues – such as climate change, access to water or human rights – will affect a company's ability to do business and the implications for its business model, financial performance and investment value. Identifying and providing the relevant information plays clearly to the accountant's strengths. KPMG's Chris Ridley-Thomas challenges: 'If you don't tell people what they need to know about the business, they're going to be uncomfortable investing'.

The International Federation of Accountants (IFAC) has identified a number of specific contributions that accountants can make toward satisfying investors' ESG information requests. In its 2012 paper *Investor Demand for Environmental, Social and Governance Disclosures: Implications for Professional Accountants in Business*, IFAC recommends⁵² that should:

- work to understand investors' ESG information needs in a structured and systematic way, with an eye toward what creates and sustains company value over time (FF)
- endeavour to embed ESG factors in management and reporting processes, leading to reliable and high-quality information for internal decision making as well as investors' expectations (GM)

- enhance understanding of the link between financial and non-financial drivers of performance and value, particularly via integrated reporting (GM, FF)
- ensure that ESG disclosures are material in nature, timely, consistent and comparable to improve their usefulness and aid transparency (GM)
- work to integrate processes, systems and data across organisational functions and to extend them along the supply chain (SS, FF, IP).

Some companies can be quite resistant to taking on ESG issues that they perceive might qualify or compromise successful and profitable 'business as usual'. It can be profoundly challenging to lift the corporate blinkers and provide CEOs and CFOs with the information and data that will drive insight to the company's pressing sustainability challenges, build appreciation of opportunity as well as risk, and catalyse change. Those blinkers are being lifted, however, by visionary business leaders, by investors and also increasingly by consumers and shareholders who are determined to challenge the status quo.

ACCOUNTANCY FOR THE GREEN ECONOMY

Accountants have a raft of tried and tested techniques and tools for managing information and data successfully to give insight. Implementing the green economy in the business context will require bringing many of these established tools and practices to bear to help companies with the particular challenges of embedding and accounting for sustainability. The profession's established tools and knowledge may be employed to help companies:

- understanding and identifying material ESG risks (GM)
- ensuring robust indicator selection, measurement, data management and process improvement (GM)
- enabling integrated reporting, assurance and stakeholder engagement (GM)
- providing effective thought leadership and advocacy on the green accounting challenges and opportunities ahead (IP).

These activities are discussed in more detail below.

Materiality and its application (GM)

Accountants have long been familiar with the concept of materiality, which pertains to the significance of reported information to the decisions and actions of people relying on it. While materiality is a mainstay of financial accounting methods, it is also a key concept in sustainability management. This is because investors, government, employees and other stakeholders need tools to understand whether progress toward the green economy is happening in the right places at the right pace. Knowing which issues are material in which circumstances and for which businesses helps provide this insight.

A materiality appraisal is already an essential step for companies to help them identify the content of their sustainability reports – to ensure the reports provide information on the issues that are most important to their company and their stakeholders. Guidance on materiality of ESG factors is available from the Global Reporting Initiative (GRI) sustainability reporting guidelines, the AA1000 Assurance Standard and the WBCSD/WRI Greenhouse Gas Protocol, among others. In practice, however, there is currently insufficient consistency in approach or application of materiality principles, such that materiality decisions remain idiosyncratic and inconsistent across organisations. Greater consistency, scalability and replicability are urgently needed to increase the rigour and reliability of materiality appraisals and decisions. Accountants have the skill and the responsibility to work toward creating these conditions. Deloitte Research has proposed the use of decision sciences to improve materiality processes;⁵³ more such research is required, as is collaboration across organisations to systematise the resulting practices.

Indicator selection, measurement, data management and process improvement (GM, FF)

Creating the green economy will require good measurement and the selection of key performance indicators (KPIs) that reflect the goals of management, stakeholders and the wider green economy agenda. While there is no shortage of things to measure and KPIs that may be of use, they are often poorly selected, poorly measured and poorly applied.

Accountants can use their knowledge and experience to make sure the right indicators are selected and are used effectively, particularly with regard to the material ESG issues identified for a specific business. Analysing options from sources such as the GRI guidelines (used as the basis for over 150 Canadian reports during the 2010–11 reporting years), ensuring that what is being measured cascades and dovetails coherently from site to corporate, to national and global level, and educating clients on how KPIs should be most appropriately interpreted are all core offerings for accountants.

The insights and results coming out of sustainability measurement, management and reporting exercises can provide an invaluable resource for improving the performance of management systems. Accountants can use their expertise to link data and reporting exercises to the management of issues and impacts, and help to advise organisations on how to adjust and overhaul their activities to get the most favourable results and the biggest impact for their green economy efforts. It is likely that the green economy will require a variety of process innovations and change management efforts for organisations, which accountants can help access and maximise in practice.

Integrated reporting (FF, IP)

The system of reporting on corporate financial performance – vital to an adequate understanding of company strategy, performance and value – has been the focus of constant innovation and upheaval over the centuries. While many companies are only beginning to report to markets and stakeholders about their sustainability strategies and performance, many experts are already advocating a shift to reporting frameworks that bring together sustainability reporting with annual financial reporting. Integrated reporting is already a requirement for companies listed on the Johannesburg stock exchange and for large companies listed in Denmark. Quite apart from legal disclosure requirements, companies are making plans to issue integrated reports in response to the clear and growing interest in integrated management and performance among investors.

If integrated reporting is to become a reality and succeed in serving the green economy, it will require accountants – working with companies, regulators and others – to set clear standards. This effort is currently being led by the International Integrated Reporting Council (IIRC), a partnership between the GRI, the Prince of Wales' Accounting for Sustainability (A4S) programme and IFAC. The 2012–13 pilot programme, involves report preparers working to translate the principles of integrated reporting into workable and tangible outputs. Accountants can play a significant role, by advising these report preparers on the selection of indicators, performance tracking and interpretation of results that accurately

and adequately reflect the principles of integrated reporting. Canada's Vancity is one of over 70 companies and organisations currently piloting the IIRC's integrated reporting principles for future development into integrated reporting standards.

Assurance criteria and methods (GM, FF)

Assurance services are the bread and butter of many accountants, and their value applies equally in the sustainability sphere. From integrated reporting to emissions trading schemes to product certification initiatives, the green economy will require the wide variety of assurance processes already being implemented to be made available across greater dimensions of activity. Assurance services must continue to be reliable and trustworthy sources of knowledge and insight about an organisation's activities and impact, and they must innovate and evolve to serve the green economy agenda as it deepens.

In addition to providing assurance services, accountants should work together, and with professional and public bodies, to define the necessary assurance tools, methods and criteria to implement green economy-related programmes. This may involve assurance approaches that embrace stakeholders' views and participation, or that seek to provide a more reliable picture for future assessment (rather than backward analysis). These, and other non-traditional approaches, all require the participation of the accountancy field to ensure their rigour and reliability.

Stakeholder engagement (GM, IP)

One of the core challenges of the green economy is to identify those stakeholders who are most affected by the transition and issues arising, and work to understand their needs and concerns. Stakeholder engagement has become a key management tool across many different disciplines. It is essential for building mutual insight, trust and credibility at different stages of doing business – from identifying material issues to ensuring their effective and transparent management. Stakeholder engagement provides inputs to product innovation and involves engagement about reporting and the implementation of evolving assurance processes. Stakeholders in businesses – from consumers to activists, civil society and community representatives – are increasingly vocal, well informed, and prepared to challenge and engage with business face-to-face, via social media, at AGMs or in specially facilitated forums that allow an open exchange of views.

Accountants should work to ensure both they and their clients understand and undertake stakeholder engagement in the right ways, using the best available standards and tools for the purpose. Good stakeholder engagement will typically go beyond reaching out to the usual suspects who will endorse the status quo, and rather seek out those groups who can bring in novel and challenging perspectives that go beyond business as usual.

Accountants should take care to integrate the results of stakeholder engagement into their own analysis and ensure that the resulting decisions

accurately and rigorously reflect stakeholders' views as appropriate. Crucially, the green economy will depend not on what stakeholders say, but on what they do – the decisions they make to support or reject certain behaviours, to buy or not buy products or stocks – and accountants should help develop reliable tools for measuring these decisions.

Thought leadership (IP)

Beyond the role of the individual accountant or accountancy firm, professional bodies have the knowledge and contacts to help drive the profession broadly. Organisations including ACCA have made sustainability, ESG disclosures and green economy services a core part of their research platforms and skills-development offerings. Working together with other such bodies will make the professional basis for green economy services in the industry much more reliable, rigorous and rapidly developed.

While the accountant's existing tools have a strong and relevant role to play today in bringing about the green economy, they must constantly be upgraded, challenged and refined to fill the needs of tomorrow that cannot be fully predicted today. Ridley-Thomas told the Vancouver audience: 'the role of the accountant clearly has to change to remain relevant.'

Participants at the ACCA Canada green economy roundtables in 2012 were asked to explain what they and their organisations most need to help them prepare for and participate in the green economy. Their feedback included the following points.

- more guidance and tools from relevant industry or professional bodies: a call for ACCA to put the practical know-how in the hands of practitioners
- market insights and trends analysis: better tracking of real-world trends in support of the green economy
- better understanding of national and regional policy context and implications: a convergence of understanding across the public and private sector spheres.

The green economy will not happen overnight, nor will it happen by itself. With sustainability issues becoming an ever-greater focus of management attention, and its place on the public agenda set to remain high for the foreseeable future, the green economy will increasingly demand the professionalism and skill of the accountant, and will be a continuous source of innovation in the field for years to come.

5. Conclusion

So, is Canada ready for the green economy? This question cannot be answered simply. Canada, along with many other states, continues to evolve its industries and society via both the public and private sectors, in the face of many global challenges, but the question must be: is the evolution happening sufficiently, and fast enough, to make a significant positive impact?

At present and for the foreseeable future, Canada's economy looks set to remain closely tied to the development of its natural resources, and particularly fossil fuels. Michelle de Cordova, director of corporate engagement and public policy at NEI Investments, told ACCA's Vancouver roundtable that:

'Nine out of 10 of the biggest oil and gas companies in Canada currently operate in oil sands and the major gas companies are all doing hydraulic fracturing as well. This isn't great from a sustainability perspective. At the same time, many of the big renewable energy companies aren't performing well. This is the reality we face.'

De Cordova emphasises that active involvement by investors is essential to ensure that sustainability considerations are consistently communicated to encourage change in the 'old' economy and investment in new and alternative business models.

Darcy Dobell of WWF Canada, vice president Pacific region, similarly told the ACCA Vancouver roundtable that:

'While there is clearly a need for a green economy in Canada, its delivery will take real vision. We need a transformation in how we think about corporate success in sustainability and prosperity. Much of the leadership and vision must come from accountants: those who are entrusted not just with defining success, but who have the expertise and clarity to apply meaningful metrics to this new definition, so that it becomes a real part of daily corporate practice. So the extent to which Canada is ready for the green economy rests, in large part, with you.'

This report has provided a variety of examples of how some of today's Canadian businesses are seeking to embed and innovate more sustainable practices and products to meet the demands and expectations of their customers, both locally and globally. The report has also given selected examples of provincial regulatory and voluntary initiatives that encourage development of local green economies, such as the creation of regional carbon markets, innovation in renewable technologies and greater water conservation. Fundamentally, the report has highlighted how Canada is currently grappling with the significance of its immense fossil fuel resources – particularly the Athabasca oil sands – and the associated implications for its global policy positions, for instance, its recent withdrawal from its climate commitments under Kyoto and its resistance to fossil fuel subsidy reform at UNCSD Rio+20.

In many ways, the coming years will see Canadian businesses, policymakers and societies at a tipping point in their relationship with the green economy. There is so much in the balance – one of the most spectacular landscapes in the world, endowed with natural assets almost beyond compare, and a richly diverse population and culture. In many ways, how the balance tips will depend on the global market and its appetite for Canada's raw materials, as much as on national and provincial priorities, choices and global treaties.

The accountancy profession has a critical role to play in ensuring that any tipping of the balance is not to the detriment of the people of Canada, future generations or the natural world on which all depend. To this end, the accountancy profession – with its particular expertise in ensuring appropriate indicators, accurate measurement and due attention to risk – will play a crucial role in ensuring that all factors, especially natural capital, are appropriately factored into the balance of decision making, and that judgements are never made on the basis of partial or incomplete data.

Throughout the ACCA Vancouver and Toronto roundtables, there was a real sense of the accountancy profession holding the key to accurately valuing and embedding natural assets within prevailing economic models as a means of inspiring and enabling transformation and change. To this extent, in Canada's preparedness for a green economy, its accountants are now better briefed, equipped and more ready to play their part than ever before.

Endnotes

1. Reuters, 'Stimulus is Greenest in South Korea and China', *New York Times*, 24 September 2009, [online article], <http://www.nytimes.com/2009/09/25/business/global/25green.html?_r=1&pagewanted=print>, accessed 1 August 2012.
2. Ibid.
3. www.guardian.co.uk/environment/2012/jun/28/rio-green-economics-hope
4. www.hm-treasury.gov.uk/Independent_Review/stern_review
5. *Biodiversity & Business Risk: Global Risk Networks Briefing*, PwC.
6. *Living Planet Report 2010 – Biodiversity, Biocapacity & Development*, WWF, 2010.
7. *Health Impacts of Climate Change*, WHO, 11 March 2009.
8. *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication – A Synthesis for Policy Makers*, UNEP, 2011..
9. www.greeneconomycoalition.org
10. www.npr.org/templates/story/story.php?storyId=1067220
11. www.guardian.co.uk/environment/2012/apr/24/china-climate-change-carbon-emissions
12. www.globalreporting.org/Pages/default.aspx
13. www.ft.com/cms/s/0/2ed22f80-bc87-11e1-a470-00144feabdc0.html#axzz2071uZLnS
14. www.naturalcapitalinitiative.org.uk
15. www.naturalcapitaldeclaration.org
16. www.ft.com/cms/s/0/2ed22f80-bc87-11e1-a470-00144feabdc0.html#axzz2071uZLnS
17. sd.defra.gov.uk/2012/06/compulsory-greenhouse-gas-emissions-reporting-for-listed-businesses
18. www.guardian.co.uk/environment/2012/jun/28/rio-green-economics-hope
19. www.guardian.co.uk/environment/2012/jun/28/rio-green-economics-hope
20. www.unpri.org
21. www.equator-principles.com/index.php/about-the-equator-principles
22. *Towards a Green Economy – Eco-taxes: a double dividend for jobs & environment*, UNEP.
23. *Towards a Green Economy – Examples of Energy Subsidy Reform*, UNEP.
24. www.grameenfoundation.org/who-we-are
25. www.forbes.com/sites/justingerdes/2012/06/30/could-sunset-credits-help-eliminate-fossil-fuel-subsidies
26. www.reuters.com/article/2012/06/19/us-un-climate-idUSBRE85H19320120619
27. www.bloomberg.com/news/2012-06-21/end-the-subsidies-of-fossil-fuel.html
28. <http://canadabubble.com/bubble-article-list/826-the-canadian-economy-at-a-glance.html>
29. www.economist.com/blogs/americasview/2011/08/canadas-economy
30. www.economist.com/blogs/americasview/2011/08/canadas-economy
31. www.census.gov/foreign-trade/statistics/highlights/top/top0512.html
32. www.ft.com/cms/s/0/41b71cbe-afee-11e1-ad0b-00144feabdc0.html#axzz2071uZLnS
33. www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/gdps04a-eng.htm
34. www.economist.com/node/16059938/print
35. www.ft.com/cms/s/0/cdb66522-2519-11e1-8bf9-00144feabdc0.html#axzz2071uZLnS
36. www.ft.com/cms/s/0/5df78530-b930-11e1-9bfd-00144feabdc0.html
37. www.thestar.com/opinion/editorialopinion/article/988489--green-economy-canada-s-opportunity-for-prosperity
38. www.conferenceboard.ca/hcp/details/environment/use-of-forest-resources.aspx#other
39. www.socialinvestment.ca/document/CanadianSociallyResponsibleInvestmentReview2010_English_final.pdf
40. www.westernclimateinitiative.org/organization
41. www.guardian.co.uk/environment/2011/dec/13/canada-condemned-kyoto-climate-treaty

42. Matt Loose, director of Stratos, presentation to ACCA, March 2012.
43. www.thestar.com/opinion/editorialopinion/article/988489--green-economy-canada-s-opportunity-for-prosperity
44. www.pembina.org/re/sources/hydro-power
45. www.pembina.org/re/canada/policies
46. www.unep.org/pdf/BNEF_global_trends_in_renewable_energy_investment_2011_report.pdf
47. www.newswire.ca/en/story/999349/cleantech-m-a-activity-up-41-in-q1-2012-ernst-young-report
48. www.polecat.co/blog.php, 'Cleantech Investment in Canada', 18 July 2012.
49. www.troymedia.com/blog/2012/05/11/natural-resources-powering-canadas-economy
50. www.ft.com/cms/s/0/f981e2c2-224a-11df-9a72-00144feab49a.html#axzz1vm4LW6np
51. James Boomis, Ann Racek, Justin Turner and Brian van Abel, *Better Place: Charging into the Future?*, William Davidson Institute, University of Michigan, 2010.
52. International Federation of Accountants, *Investor Demand for Environmental, Social and Governance Disclosures: Implications for Professional Accountants in Business*, February 2012.
53. Deloitte Research, *Disclosure of Long-term Business Value: What Matters?*, Deloitte Development LLC, 2012.

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