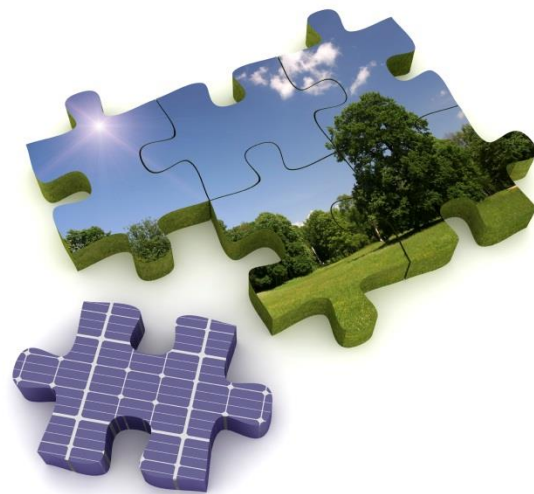




# GREEN ECONOMY ROADMAP



## CONSERVATION AUTHORITIES IN A CHANGING ECONOMY: A GREEN ECONOMY ROADMAP

PREPARED BY GREEN ANALYTICS

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GREEN ANALYTICS



Conservation  
**ONTARIO**  
*Natural Champions*

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## Preamble

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Green Analytics was commissioned by Conservation Ontario to develop a Green Economy Roadmap for Conservation Authorities in Ontario. To start the process of developing the roadmap, a group of 9 Conservation Authority (CA) and Conservation Ontario (CO) staff were brought together along with Green Analytics staff on January 24, 2012 to discuss the needs, objectives and priority business areas for such a roadmap (see Appendix A for workshop agenda).

Through discussions with CO and CA staff members during and subsequent to the January workshop, the following outcomes for the Green Economy Roadmap for Conservation Authorities in Ontario project were identified:

### 1. A Green Economy Roadmap for Conservation Authorities in Ontario

- A document that outlines focus areas, assets, actions and partnerships that will enable CAs to be the partner of choice for growing Ontario's green economy.

### 2. Inventory of Existing Conservation Authority Green Economy Programs and Initiatives

- Develop an inventory of green economy program and initiatives that CAs are currently engaged in.

### 3. Green Economy Assessment Guide for Conservation Authorities in Ontario

- A “how-to” guide to help CAs identify, prioritize and execute green economy initiatives.

This document is the *Green Economy Roadmap for Conservation Authorities in Ontario* (the first outcome listed above). It describes the focus areas, assets, actions and partnerships that will help establish Conservation Authorities in Ontario as leaders in the green economy. A great deal of the information presented in this roadmap document was obtained through a survey conducted in the fall of 2012 on the current and potential role of CAs in Ontario in the green economy. The detailed survey (see Appendix B) was distributed to 36 CAs in Ontario and a total of 16 responses were received.

The inventory of existing green economy programs and initiatives (second outcome listed above) was compiled through a survey of 36 CAs in Ontario during the late summer of 2012. Information on the

initiatives was collected via a survey template, which is provided in Appendix C. The results of the survey have been compiled into an excel spreadsheet and have informed the existing green economy examples presented later in this roadmap document. A listing of these initiatives has also been provided in Appendix C.

The *Green Economy Assessment Guide for Conservation Authorities in Ontario* (third outcome listed above) provides direction on how to identify and prioritize green economy initiatives and tools and the steps involved to implement the initiatives. It is included here as Appendix D.

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## 1. A Green Economy Roadmap for Conservation Authorities in Ontario - Introduction

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The goal of the *Green Economy Roadmap for Conservation Authorities in Ontario* is to help CAs take a leadership role in Ontario's green economy. Conservation Ontario's strategic directions report for 2011 to 2015 articulates the vision to be "the partner of choice for managing and adapting to climate change and growing the green economy." Specifically, Strategy 2.3 seeks to "advance and promote innovative technologies, programs, and perspectives for the strategic development of the green economy."

Strong links already exist between Conservation Authorities and the green economy, given their mandate of promoting conservation in Ontario. In fact, in a survey of CAs completed in the fall of 2012, 100% of survey respondents stated that their CA is *already* advancing and promoting green economy initiatives. This Green Economy Roadmap describes a number of specific green economy projects that Conservation Authorities in Ontario currently have underway (see Chapter 3 on current green economy initiatives). In addition, Conservation Authorities in Ontario are currently leading a number of broader initiatives that relate to the green economy. These include, for example, an initiative related to climate change,<sup>1</sup> a great lakes initiative,<sup>2</sup> and integrated watershed management.<sup>3</sup> However, as the provincial economy in Ontario continues to evolve, new thinking, reframing and articulation of the work of Conservation Authorities is required within the context of a green economy. This includes the identification of new and emerging opportunities required for CAs to remain leaders in this area. All CAs who responded to the survey indicated greater opportunities exist for their CA to advance and promote green economy initiatives.

Thus, this roadmap document serves two purposes. First, it identifies a number of green economy strategic focus areas as well as associated actions and activities for Conservation Authorities and

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<sup>1</sup> For more information see [http://www.conservation-ontario.on.ca/climate\\_change/climate\\_change.html](http://www.conservation-ontario.on.ca/climate_change/climate_change.html)

<sup>2</sup> For more information see [http://www.conservation-ontario.on.ca/great\\_lakes/healthy\\_great\\_lakes.html](http://www.conservation-ontario.on.ca/great_lakes/healthy_great_lakes.html)

<sup>3</sup> For more information see <http://www.conservation-ontario.on.ca/resources/reports/index.html>

Conservation Ontario. Second, it recommends next steps that will position CA's and CO to continue to expand their leadership roles in Ontario's green economy in the future.

This roadmap document is organized around the following chapters:

### **Defining the Green Economy - *A Definition for Conservation Authorities***

- This first chapter describes the desired destination. It defines and describes what is meant by the green economy in the context of Conservation Authorities in Ontario.

### **Green Economy in Action – *Current Conservation Authority Initiatives***

- This second chapter describes the starting point in the green economy journey from the perspective of CAs in Ontario. This chapter describes the green economy initiatives that CAs are already pursuing.

### **Multiple Green Economy Avenues –*Focus Areas for Conservation Authorities***

- This chapter describes the key focus areas and the ways CAs can and do engage in the green economy. Key opportunities, actions/activities, challenges as well as data and information needs are described for each focus area.

### **Green Economy Roadblocks – *Do Conservation Authorities have the Necessary Assets?***

- This chapter explores the assets that will facilitate and enhance CA engagement in the green economy as well as identifying those assets that are currently lacking within CAs.

### **Overcoming Roadblocks – *The Role of Partners***

- This chapter describes how the development strategic partnerships can be important in overcoming the roadblocks that currently challenge CA engagement in the green economy.

### **Overcoming Roadblocks - *Financing***

- Like the previous chapter, this chapter describes ways to overcome challenges currently limiting CA engagement in the green economy. This chapter focuses on alternative financing options that can help overcome financial roadblocks.

### **Continuing the Green Economy Journey – *Conclusions and Recommendations***

- This final chapter summarizes the key messages of the roadmap document and makes a series of recommendations designed to enhance the role of CAs as they continue their green economy journey.

## 2. Defining the Green Economy - A Definition for Conservation Authorities

For the purposes of this project, the green economy has been defined as a growing component of the broader economy that seeks to re-configure businesses and infrastructure to deliver a better return on natural, human, and economic capital, while using fewer resource inputs, reducing waste outputs, and improving social well-being. Other definitions of the green economy have been put forth from various experts and organizations around the world. Some of these are presented in the table below.

Entity	Definition
United Nations Environment Program <sup>4</sup>	A green economy results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.
Department for Environment, Food and Rural Affairs, United Kingdom (UK) Government <sup>5</sup>	The green economy of the future will grow sustainably and for the long term. Growth in the economy will be achieved and wealth generated while emissions and other environmental impacts are reduced. Natural resource use will be efficient. The economy will be more resilient. The UK will have a reduced reliance on fossil fuels whilst maintaining secure supplies of energy and other natural resources. UK businesses will be well placed to take advantage of the expanding markets for greener goods and services.
British Columbia's Green Economy <sup>6</sup>	Any economic activity that grows our economy and creates jobs, while also preserving or enhancing our environment. It is not separate from our economy at large, but rather a growing trend of activities across all of BC's most important sectors.
Green Economy Coalition <sup>7</sup>	A resilient economy that provides a better quality of life for all within the ecological limits of the planet.
Green Economy Network <sup>8</sup>	An economy that transforms the mode of production and consumption, ensures energy is available and affordable, and makes jobs more environmentally sustainable, while simultaneously

<sup>4</sup> <http://www.unep.org/greeneconomy/AboutGEI/WhatIsGEI/tabid/29784/Default.aspx>

<sup>5</sup> <http://www.defra.gov.uk/environment/economy/>

<sup>6</sup> <http://www.bcge.ca/>

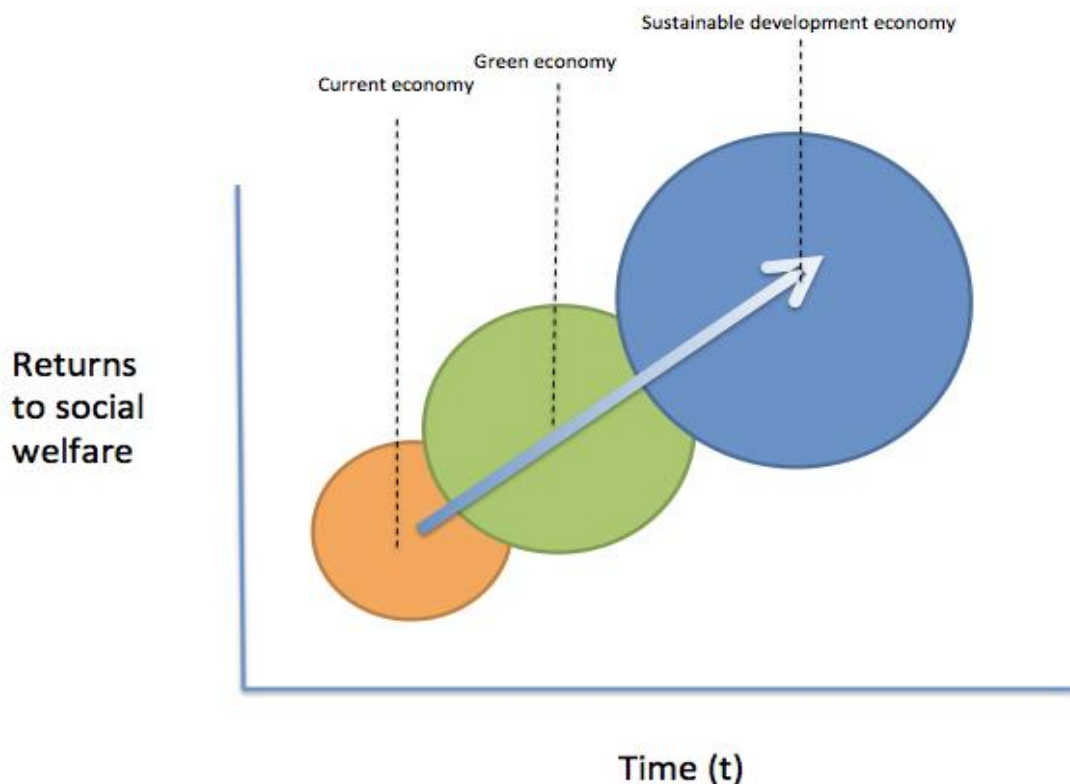
<sup>7</sup> <http://www.greeneconomycoalition.org/>

<sup>8</sup> <http://www.greeneconomynet.ca/>



creating new decent paying green jobs and providing just transition programs.

The definitions presented above demonstrate the lack of a broad, global consensus on a definition for the green economy. While some definitions position the green economy as a sub-set of the larger economy, others position it more as a trend in the current economy towards sustainability. In this context, the green economy is considered a 'transitional' state of the economy sandwiched between two rather different economic structures: 1) the current (status quo) economy that relies on fossil fuels and suffers from a number of deficiencies such as inefficiency, inequality, centralization, and short-sightedness, and 2) a fully sustainable economy that is built on renewable fuels, efficient use of resources, equality, and long-term planning and stability (figure below). Put differently, the green economy is a means to an end and not an end in and of itself.



*Figure 1. Role of the green economy in societal development*

Regardless of the specific definition employed, there are a number of themes that are common across the definitions, namely, the focus on environmental impacts, the focus on jobs specifically or the economy more generally, and the focus on social conditions, human well-being or equity. In this context, the green economy can be thought of as a paradigm in which environmental, social and economic outcomes are compatible, complementary and mutually reinforcing. The table below provides examples of such outcomes.

Environmental Outcomes	Economic Outcomes	Social Outcomes
<ul style="list-style-type: none"> <li>✓ Conserves land</li> <li>✓ Reduces emissions</li> <li>✓ Increases awareness</li> <li>✓ Reduces water or other resource consumption</li> <li>✓ Improves water quality</li> <li>✓ Reduces waste generation</li> <li>✓ Increases resiliency to climate change</li> <li>✓ Climate change adaptation</li> </ul>	<ul style="list-style-type: none"> <li>✓ Raises revenue</li> <li>✓ Reduces costs</li> <li>✓ Internalizes (operationalizes) environmental costs</li> <li>✓ Sends a price signal</li> </ul>	<ul style="list-style-type: none"> <li>✓ Creates jobs</li> <li>✓ Improves social cohesion</li> <li>✓ Improves life satisfaction</li> <li>✓ Improves health</li> </ul>

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## 3. Green Economy in Action - Current Conservation Authority Initiatives

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Conservation Authorities in Ontario have already introduced a number of green economy initiatives targeted at a wide range of environmental, social and economic outcomes. In fact, when asked to rate a number of ways that CAs can be involved in the green economy, CAs identified the provision of incentives (e.g. grants to assist with implementation of new best management practices) 53% of the time. CAs also identified being very involved in using land to demonstrate alternative or innovative land use practices (e.g. innovative agricultural practices, low impact development, renewable energy production), and developing and implementing programs designed to achieve triple (environmental, economic and social) bottom line outcomes, 21% and 20% of the time, respectively.

Specific examples of CA driven green economy initiatives were obtained through a “Green Economy Baseline Survey” of Ontario CAs in the fall of 2012. A number of the examples obtained are presented here to help demonstrate the multiple outcomes associated with green economy initiatives. Renewable energy initiatives, for example, have been introduced by a number of CAs including Central Lake Ontario Conservation Authority (solar), Mattagami Region Conservation Authority (wind and solar) and North-Bay Mattawa Conservation Authority (solar). From an environmental perspective, these projects lower greenhouse gas and other emissions. From an economic perspective, the projects reduce energy costs to Conservation Authorities and in the case of the North-Bay Mattawa project, renewable electricity is supplied to the transmission grid resulting in additional cost savings for the CA.

A number of land-based initiatives are also currently in place. The Credit Valley Conservation Authority, for example, introduced a habitat compensation scheme in 2011. In this case, the CA works with developers and individuals seeking development permits as well as the Ministry of Natural Resources and local municipalities to deliver the initiative. From an environmental perspective, this initiative results in a net gain of habitat in the Credit Valley watershed. From an economic point of view, developers and landowners are encouraged to recognize the financial value of habitat. In addition, social benefits result from increased recreational opportunities.

There are numerous examples of fleet management initiatives that have been undertaken by CAs in Ontario. Such programs are in place in Kettle Creek CA, Maitland Valley CA, Quite Conservation and Nottawasaga Valley CA. The Quite Conservation initiative was introduced in 2003 to reduce consumption of fuel and encourage other agencies to do the same. The CA received funding from a local charity to help subsidize the purchase of new fuel efficient vehicles and purchased five hybrid vehicles in 2003. Cost savings result from reduced fuel consumption and the environmental outcome of the program is a reduction in emissions and improved local air quality which in turn leads to health improvements. The program has a strong educational component and it is now a general expectation that the CA will continue to invest in energy efficiency vehicles.

The Maitland Valley CA has introduced a naturalization program aimed at reducing maintenance costs, reducing use of fossil fuels and improving habitat. This CA is working with community groups to replace traditional turf grass with “Eco Lawn” and to plant native wildflowers, trees and shrubs in previously turfed areas. The “Eco Lawn” is a low maintenance grass mixture able to withstand drought conditions. The reduced maintenance means less fossil fuel consumption and saving staff time resulting in cost savings. Reduced greenhouse gas and other emissions lead to improved local air quality.

## Green Economy Examples:


Conservation Authorities in Ontario are already pursuing green economy initiatives. Examples of well-developed initiatives include the use of “Eco Lawn” by the Maitland Valley Conservation Authority. This CA has reduced fossil fuel consumption, which means lower greenhouse gas and other emissions, fuel cost savings, improved habitat, lower maintenance costs.

The North-Bay Mattawa Conservation Authority owns seven forests that are managed under the Ontario Managed Forest Tax Incentive Program. Environmental outcomes resulting from this initiative include enhanced greenspace and environmental protection. From an economic point of view the forests provide a potential revenue source and from a social perspective there are increased recreational opportunities which result in improved health and well-being.

The Nottawasaga Valley Conservation Authority introduced a nutrient trading program in 2012. Reduces phosphorus loading has resulted in cost savings to the local municipality of \$10 million while \$1 million has been spent on landowner stewardship and nutrient reduction projects. Two thousand new homes have been built resulting in employment and living opportunities.

An example of a forestry-oriented green economy initiative currently in place is the North-Bay Mattawa CA forest management initiative. Seven forests owned by this CA are managed under the Ontario Managed Forest Tax Incentive Program (MFTIP). The CA works with the Ministry of Natural Resources, the Ontario Forestry Association and the Ontario Woodlot Association to ensure the forests are managed to meet the MFTIP requirements. Environmental outcomes include enhanced greenspace and environmental protection. Economic outcomes include a potential revenue source (from the supply of biomass for bioproducts and bioenergy) and the economic value associated with forest ecosystem goods and services. From a social outcome perspective, recreational opportunities have increased.

The final example of an existing CA green economy initiative is Nottawasaga Valley Conservation Authority's nutrient (phosphorus) trading program that was introduced in 2012. Key partners in this initiative are the Ministry of Environment, the town of New Tecumseth and rural landowners. The trading program is designed to offset additional phosphorus loading from new developments. Rural land owners have reduced phosphorus releases through manure management, livestock exclusion and erosion control allowing for the development of approximately 2,000 homes. The reduction in phosphorus loading has resulted in cost savings to the local municipality of \$10 million while \$1 million has been spent on a landowner stewardship and nutrient reduction project. The 2,000 new homes will lead to employment and living opportunities and the trading program has resulted in increased awareness and understanding of the importance of stream health and protection.



## 4. Multiple Green Economy Avenues - Focus Areas for Conservation Authorities

The examples presented above as well as other means by which CAs can engage in the green economy have been categorized into a number of focus areas. The focus areas were established through a review of literature on the green economy and dialogue with CO and CAs over the course of this project. The focus areas describe the multiple avenues by which CAs can and already do engage in the green economy. Each focus area is associated with green economy opportunities and actions/activities. The focus areas are as follows:

- Re-thinking CA programs and business activities
- Greening CA internal operations
- Integrated land management
- Measurement and monitoring
- Promoting and facilitating collaboration
- Health and the environment
- Environmental marketing, communication and education

These key focus areas have complementary and overlapping elements. The following series of tables summarize a description, opportunities, actions, challenges as well as key data and information needs for each focus area.

### Focus Area: Re-thinking Conservation Authority Programs and Business Activities

**Description:** Traditionally, Conservation Authorities have not played an explicit role in economic development. Their focus instead, has been limited to conservation. However, as was described above, there are numerous opportunities for CAs to pursue not only conservation outcomes but economic and social outcomes as well. Re-thinking CA programs and business activities by giving due consideration to conservation as well as economic and social outcomes may lead to opportunities that would not have previously been explored.

#### Opportunities:

- **Land Management** – Conservation Authorities have a strategic advantage in the amount

of land they own. This provides a wide range of opportunities, some of which are already being captured like providing recreation and educational benefits, as well as others that could be explored like managing for ecosystem services or conservation credits.

- **Renewable Energy** – As a result of significant land holdings, Conservation Authorities could capitalize on renewable energy opportunities such as leasing land for green energy production, retrofitting existing dams to produce localized hydropower, or producing energy from waste materials.
- **Forest Management** – Also related to land holdings, forest related opportunities include using forest resources to support local wood products, energy production and demonstrating state of the art locally-based forest management techniques. Potential opportunities include biomass energy production, carbon management, and certified sustainable forest management.
- **Water Management** – The Conservation Authorities' primary mandate is the management of water resources. The green economy presents a number of potential opportunities to better manage wastewater outputs (reducing/re-using wastewater), stormwater, and water allocation.

## Actions/Activities:

- Incorporate the green economy into CA business plans.
- Evaluate performance according to environmental as well as economic and social outcomes.
- Evaluate program options and associated trade-offs according to environmental as well as economic and social outcomes.
- Establish short-term, medium-term and long-term goals and objectives related to economic, social and environmental outcomes.
- Attract and develop new sources of funding.
- Introduce fees for Conservation Areas.
- Fee-based educational opportunities.
- Grow and sell native plants.
- Increase cooperation between CAs and municipalities.
- Enhance and expand education programs to balance environmental messaging with economic and social messaging.
- Explore and develop public- private sector collaborations.

**Challenges:** The most difficult challenge associated with this focus area may be organizational resistance to changing the role of CAs from a strict focus on conservation to focusing on other environmental as well as economic and social outcomes.

## Key Data and Information Needs:

- An understanding of the business case for pursuing opportunities.
- Establishment of implementation strategies and targets.

## Focus Area: Greening Conservation Authority Operations

**Description:** By greening their operations, through energy efficiency upgrades, the use of renewable energy, having an efficient vehicle fleet, and reducing water and material consumption, CAs can reduce environmental impacts and save money.

### Opportunities:

- Vehicle fleet management.
- Facilities management / building retrofitting.
- Demonstration sites.

### Actions/Activities:

- Increased energy efficiency.
- Increased the use of renewable energy.
- Reduced commuting.
- Reduced use of materials emitting volatile organic compounds and other chemicals.
- Sourcing local materials.
- Reduced paper and water use.
- Xeriscaping and naturalization

**Challenges:** Transforming internal operations presents a number of cultural and financial challenges, including:

- Education and awareness of staff about new green practices.
- Instituting new operational norms for CA staff and their partners.
- Financing investments in green technologies, monitoring and reporting.
- Capacity to conduct internal assessments and monitoring.

### Key Data and Information Needs:

- Benchmark assessment of existing Conservation Authority operational performance.

## Focus Area: Innovative Land and Resource Management

**Description:** Increasingly, there are new and innovative approaches to managing land and watershed resources more efficiently and effectively to achieve positive outcomes for the environment, while at the same time saving money and directly benefiting humans.

**Opportunities:** Conservation Authorities are directly involved in the management of land and



watershed resources, innovative techniques, technologies, or policy mechanisms that help address watershed issues more effectively and efficiently. These activities could reduce fiscal pressures and/or prevent damaging and costly impacts before they occur and Conservation Authorities are already exploring many of these opportunities.

## **Actions/Activities:**

- Land-use planning, in particular shifting to natural heritage systems base planning.
- Establishing green infrastructure programs.
- Naturalization and restoration of degraded ecosystems.
- Advancement of low impact development technologies.
- Research and development of innovative management techniques.
- Testing new resource management technologies.
- Support, development, and setting of protocols that advance the use of market-based instruments.
- Tree planting programs.
- Urban agriculture.
- Working with agriculture and other sectors to increase the use of best management practices and enhance ecosystem services.
- Shoreline restoration and protection for riparian zones.
- The implementation of watershed management plans.
- Innovative development, stormwater management and restoration programs (e.g. Ontario Ministry of Environment Showcasing Water Innovation program).
- Encouraging low impact developments through the approval process.
- Introducing payment schemes for ecosystem services.

**Challenges:** Adopting innovative land and resource management approaches pose a number of financial, capacity, and cultural challenges, including:

- Financing to purchase and implement new technologies or infrastructure.
- New technologies may require new expertise.
- Influencing behavioral change in cases where CAs are advocating for others (i.e. developers, municipalities) to adopt new green best management practices (i.e. low impact development best management practices).

## **Key Data and Information Needs:**

- Transfer of knowledge and information on the experiences of CAs that have pursued and implemented such actions/activities.
- An understanding of the available technologies.

## Focus Area: Green Measurement and Monitoring

**Description:** Proper measurement and monitoring is needed to properly track progress towards achieving economic, social and environmental outcomes. This includes the collection of data related to ecosystem variables, economic and social indicators and local resources.

**Opportunities:** Conservation Authorities have existing experience in watershed monitoring, data management and reporting and are well positioned to play a key role in the development, measurement, monitoring and reporting of important metrics.

### Actions/Activities:

- Data collection, storage, management and dissemination.
- The use of full cost accounting to assess trade-offs associated with alternative land and resource uses.
- Expand watershed monitoring and reporting.
- Act as data brokers.
- Partner with government, non-government agencies and private sector.
- Assessment of current practices and the associated materials, water, and energy use.
- Development and use of an indicator framework to monitor human health and well-being and environmental conditions.
- The use of indicators to measure green economy progress and success.
- Making data more accessible online.
- Information management through improved IT infrastructure and organization.

**Challenges:** New measurements can mean new methods, which can pose knowledge-based challenges. Also, existing financial and human resource capacity constraints could limit the expansion of existing monitoring programs or the development of new monitoring approaches and systems.

### Key Data and Information Needs:

- Adopting these strategies may require additional research and development, pilot studies and policy development.
- Existing monitoring programs focus on ecosystem health and may need modifications to support reporting focused more broadly on the green economy.

## Focus Area: Promoting and Facilitating Collaboration

**Description:** The effectiveness of green economy programs is substantially improved through collaboration. CAs can play an important role by promoting and facilitating collaboration with partners and stakeholders when it is deemed strategically advantageous to do so.

**Opportunities:** Conservation Ontario and Conservation Authorities have a history of partnering

with other agencies and organizations and are well recognized as leaders within the conservation field.

## **Actions/Activities:**

- Communicating social, health, environmental benefits.
- Community outreach and education.
- Collaborating with private and public organizations and industry.
- Expanding existing and fostering new relationships.
- Working with local businesses.
- Supporting relevant policy development.
- Supporting / encouraging retrofitting of buildings across local communities to reduce energy consumption.
- Encouraging local businesses exploring green technologies.
- Demonstrating benefits of action or cost of inaction.
- Harmonizing green standards/best management practices for local watersheds and municipalities.

**Challenges:** Limited financial resources to support the development of new relationships. Identifying and accessing new partners interested in advancing the green economy.

## **Key Data and Information Needs:**

- Data and information on social, health and environmental benefits of green economy initiatives.
- Sufficient knowledge and/or awareness of the benefits of action or the costs of inaction.
- Identification of potential partners.

## **Focus Area: Health and the Environment**

**Description:** Conservation Authorities have a key role to play in providing access to healthy, functioning ecosystems capable of providing a range of human health benefits through recreation, rehabilitation, and therapy.

**Opportunities:** By describing and communicating the important links between a healthy ecosystem and environment and human health, CAs are able to: a) justify conservation actions not only on environmental grounds, but also social and economic grounds; and b) provide compelling arguments to community members and relevant stakeholders on the importance of advancing the green economy.

## **Actions/Activities**

- Articulate links between a healthy environment and the health of people (e.g. exercise, mental wellness, improved air and water quality).

- Increase educational opportunities.
- Collaborate with local health units.
- Work with families, seniors, children and youth.

**Challenges:** Identifying health units that are interested in and have the capacity to collaborate with CAs in the pursuit of green economy initiatives. Expanding the focus of CAs from conservation to include health and social implications as well.

**Key Data and Information Needs:**

- Watershed and site-specific research on the environment and health links.

## Focus Area: Environmental Marketing, Communication and Education

**Description:** Conservation Authorities should communicate that they play an important role in the green economy. Building awareness in this area is important for drawing in new partners and sources of funding.

**Opportunities:** Conservation Authorities in Ontario are well recognized and in many cases are already seen as leaders in the green economy.

**Actions:**

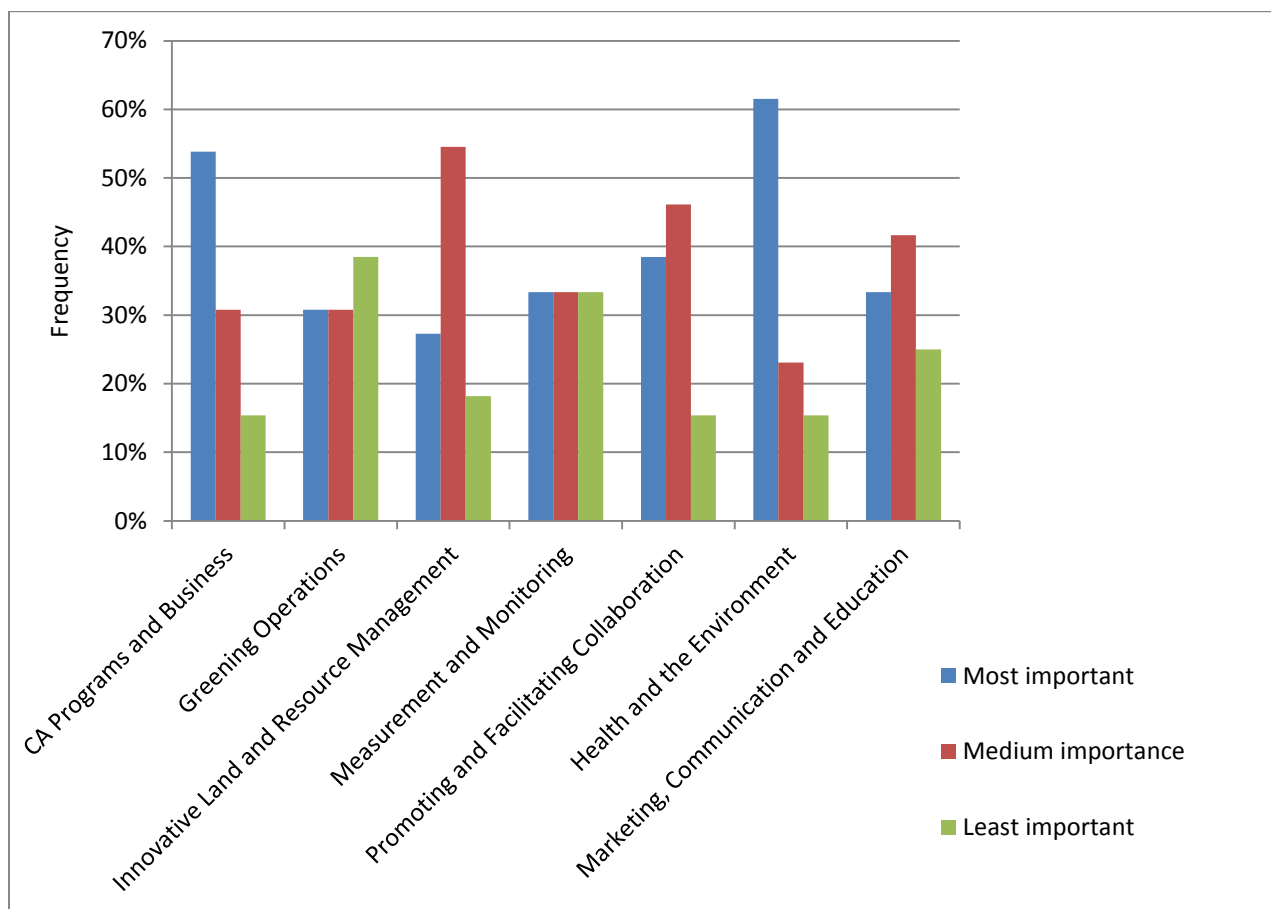
- Design and implement a green economy campaign.
- Link with tourism marketing.
- Introduce education programs.
- Update communication materials.
- Undertake research to understand target audiences and barriers to behavioural change.
- Use surveys to identify communication and education needs and barriers.
- Leverage the marketing of other agencies and governments.
- Target the business community, municipalities and the public.
- Identify appropriate partners to collaborate with on communication, education and marketing materials.

**Challenges:** Finding and allocating sufficient financial resources for marketing and communications as well as, education materials and tools especially in light of competing demands for resources.

**Key Data and Information Needs:**

- Information on what communication and educational gaps exist.
- Information on the most important target audiences.
- Keeping abreast and use of new communications tools and technologies

The focus areas described above can be pursued simultaneously or on a priority basis. Survey results revealed that not all focus areas are considered to be of equal priority. Survey respondents were asked to rate each individual focus area as high, low or medium priority (figure below). Health and the environment was identified by CAs as a high priority focus area 62% of the time and a low priority focus area 15% of the time. Re-thinking CA business and programs was identified as a high priority focus area 54% of the time and a low priority focus area 15% of the time. CA survey respondents most commonly identified greening internal operations as a low priority focus area (38% frequency), followed by measurement and monitoring.



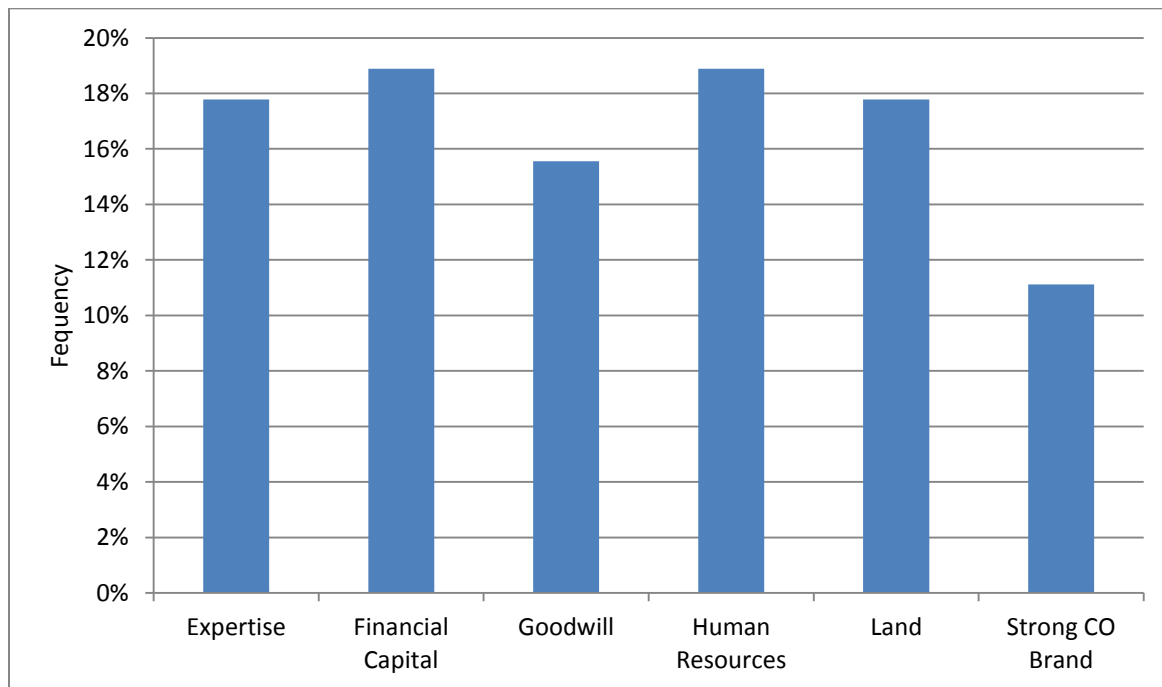
**Figure 2. Importance of green economy focus areas as identified by Conservation Authorities.**

## 5. Green Economy Roadblocks – Do Conservation Authorities Have the Necessary Assets?

There are a number of assets that would be advantageous for CAs to facilitate their engagement in the green economy. These include:

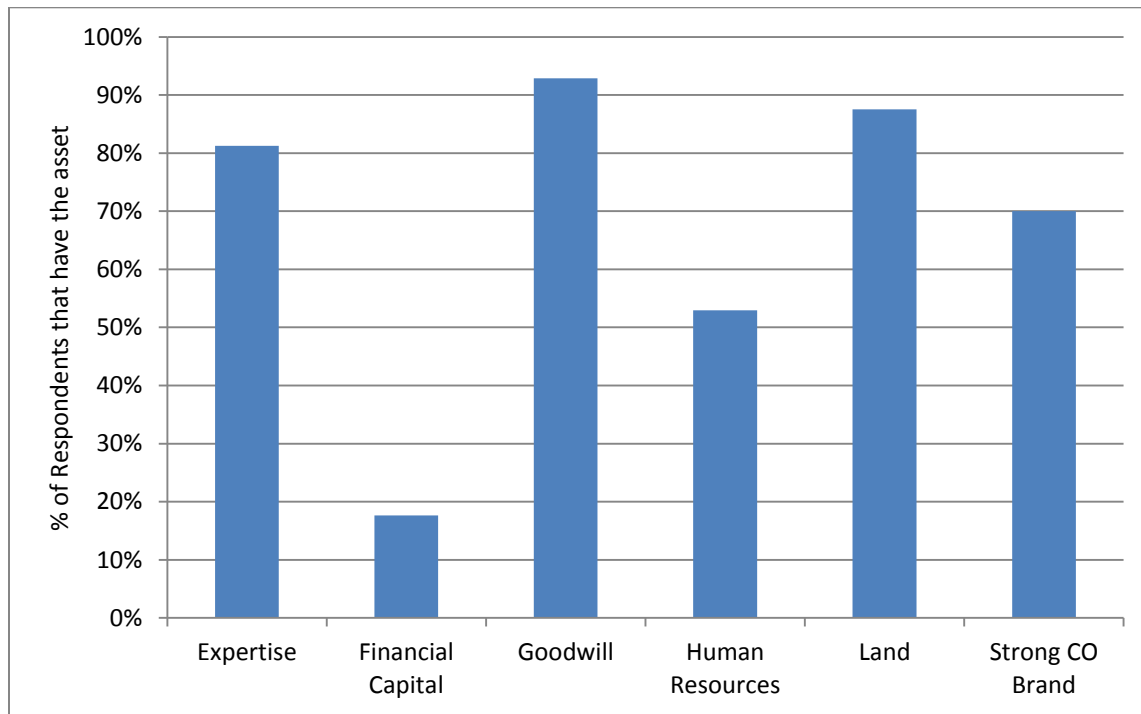
- Expertise
- Financial capital
- Goodwill (a positive perception of work and efforts by local community)
- Human resources
- Land
- Strong CO brand

The figure below shows the frequency with which these various assets were identified by CA survey respondents as advantageous for developing and implementing green economy initiatives.



**Figure 3. Advantageous assets identified by Conservation Authorities**

Human resources and financial capital were most frequently identified by survey respondents as being advantages when considering green economy initiatives. However, as the figure below demonstrates not all CAs currently have access to these important assets.



*Figure 4. Percent of Conservation Authority respondents that reported having access to advantageous assets.*

The two assets identified by CAs as being most advantageous are also the two assets that are most lacking within CAs. It is not surprising then that when explicitly asked what challenges currently limit the ability of CAs in Ontario to pursue green economy initiatives, the most frequently identified barrier was funding (25% of survey responses) followed by staff resources (23% of survey responses). Time constraints were also identified as an important challenge (12% of survey responses) as were political barriers (8% of survey responses). Other barriers identified by survey respondents include:

- Identifying partners
- Staff knowledge/expertise
- Accessibility to and understanding of green economy concepts
- Board member understanding and acceptability of green economy

- Commodity prices of corn and soybean counter restoration efforts
- Access to external expertise
- Lack of affordable land
- Lack of willing developers to partner with
- Public interest and perception of value (e.g. opposition to wind power)
- Credibility
- Population growth driving other opportunities

Data and information gaps can also pose challenges for CAs interested in pursuing green economy initiatives. Only 14% of CA survey respondents have an inventory of resource extracting companies within their jurisdiction and only 21% of CA survey respondents track or monitor their use of energy, water and materials. At the same time, however, 89% of survey respondents would like to know how to track energy, water and material use.



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## 6. Overcoming Roadblocks - The Role of Partners

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Conservation Authorities are well positioned to be local leaders in the green economy. However, to integrate the green economy activities described above and overcome challenges related to financial and human resources, Conservation Ontario and Conservation Authorities will need to engage in strategic partnerships. Partnerships allow CO and CAs to:

- Leverage financial and human resources
- Reach a broader group of stakeholders
- Increase credibility
- Increase the effectiveness and efficiency of initiatives

Conservation Authority survey participants were asked to identify current and potential green economy partners. Thirty-five percent of the current and potential partners identified were government bodies, 34% of the current and potential partners identified were corporations, and 31% of the current and potential partners identified were non-profit organizations.

Government partners were identified by CAs 69 times with 61 (88%) being mentioned in the context of current as opposed to future partners. Specific government bodies that were identified include:

- Ontario Investment and Trade Centre
  - Ontario Ministry of Environment
  - Ontario Ministry of Natural Resources
  - Ontario Ministry of Agriculture, Food and Rural Affairs
  - Ontario Ministry of Municipal Affairs and Housing
  - Natural Resources Canada
  - Environment Canada
  - Public Works Canada
  - Parks Canada
  - Federal Department of Fisheries and Oceans
  - Canadian Council of Environment Ministers
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- Municipal governments
- Public health units
- Other Conservation Authorities
- Local school boards

Of the 66 times that corporate partners were identified by CA survey respondents, 43 (65%) were in the context of current as opposed to future partners. Specific corporate partners that were identified include the following:

- Tree and plant nurseries
- Green product and service suppliers
- Financial institutions
  - TD Canada Trust
  - RBC
- Financing organizations
  - MaRS
  - Social Innovation Practice
- Energy companies
  - Shell
  - Suncor
  - Imperial Oil
  - Atomic Energy of Canada
- Utilities
  - Ontario Power Generation
- Land developers and agencies
  - Trenval Development Corp.
  - Batawa Development Corp.
  - Evolve Builders
  - Construct Conserve
  - Canada Green Building Council

- Canadian Business and Biodiversity Council
- Retail companies and coops
  - Mountain Equipment Coop
  - Loblaws
  - Walmart
  - Agrium
- Resource extraction companies (mining, aggregates, forestry)
  - Holcim
  - Cameco
  - Lafarge
- Marinas
- Tourism focused companies
- Electricity providers
  - Bullfrog Power
- Insurance companies
- Chamber of Commerces
- Agriculture sector organizations
  - Organic Council of Ontario
  - Ecological Farmers Association of Ontario
  - The Stop Community Food Centre
  - Local Food Plus
- Water and wastewater companies
- Media
- Law firms
- Consulting and engineering firms

Of the 61 times that non-profit organization were identified by CA respondents as partners, 53 (87%) were in the context of current as opposed to future partners. Specific non-profit organizations that were identified include the following:

- Agriculture and farm groups
  - Ontario Soil and Crop Improvement Association
- Environmental and conservation Groups
  - Nature Conservancy of Canada
  - Ducks Unlimited Canada
  - David Suzuki Foundation
  - Sierra Club
  - Trees Ontario
- Local community groups
- Fish and game clubs
  - Ontario Federation of Anglers and Hunters
- Community foundations (granting bodies)
  - Greenbelt Foundation
  - Toronto Atmospheric Fund
  - McConnell Foundation
  - Canadian Environmental Grantmakers Network
  - Walter and Duncan Gordon Foundation
  - Trillium Foundation
  - Tides Foundation
- Schools, colleges and universities
  - Fleming College
  - Durham College
  - Lambton College
  - University of Western Ontario
  - Brock University
- Service clubs
  - Rotary Club
  - Lions Club

- Historical societies
- Naturalist groups
- Health groups
- Cottage associations
  - Federation of Ontario Cottagers Association

Other current or potential partners that were identified by CA survey respondents include:

- Individual community members (current and future)
- First Nation bands (current and future)
- International experts and groups (current and future)

A survey of current and potential partners was conducted in the fall of 2012 (see Appendix E for survey questions). Fifty current and potential partners filled out the survey representing a combination of private companies or corporations (36.7%), government agencies (18.4%), not-for-profit organizations (36.7%), academic institutions (4.1%) and foundations (4.1%). The survey results demonstrate that CAs in Ontario are already at least somewhat familiar to current and potential partners. This relatively high degree of familiarity provides an important leverage opportunity for CAs seeking to establish new partnerships in pursuit of green economy initiatives. In fact, 88% of survey respondents responded that they were interested in exploring green economy partnership opportunities with CAs (100% of academic institutions, 94% of not-for-profits, 89% of government agencies and 50% of foundations). The survey responses demonstrate the importance of familiarity with CAs and to exploring potential partnerships. More specifically, 94% of partner survey respondents that reported being very familiar with CAs were interested in exploring synergistic opportunities with CAs, while only 50% of respondents that were not familiar with CAs were interested in exploring synergistic opportunities. Thus, it appears that investing in relationships with potential partners greatly influences their interest in working with CAs.

Partner survey respondents were asked to identify specific ways that they could help CAs in their pursuit of green economy initiatives. The most common response was to participate in existing programs or partner to create new programs that reduce energy, materials and water use. Providing advice or guidance on scientific and technological developments was also a highly popular response, as was providing land opportunities for demonstration purposes. In turn, CAs have a number of services or

benefits they can offer potential and current partners towards the pursuit of green economy initiatives.

These include the following:

- Education programs
- Expertise (technical, management, planning, implementation)
- Training
- Participation in offset programs
- The purchase green products and services
- Conservation program knowledge and experience
- Professional development opportunities
- Low impact development consultation
- Water and wastewater systems consultation
- Sustainable forest management knowledge
- Research and monitoring knowledge and experience
- The provision of monitoring as well as other data and information
- Social marketing
- Stewardship projects and activities such as tree planting
- Assistance with meeting corporate environmental and community commitments
- Corporate social responsibility programming with a solid and transparent agreement
- Transparency and credibility
- Knowledge of best management practices
- Landowner contacts
- Watershed knowledge
- Established history in the community
- Accountability
- CAs are trustworthy
- Connection with public, environmental groups and landowners
- Knowledge of ecosystem goods and services
- Willingness to partner with business

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## 7. Overcoming Roadblocks - Financing

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In addition to the pursuit of strategic partnerships as a way to mitigate financial limitations and achieve economies of scale, a number of financing options exist to overcome barriers related to financing. The options (a number of which are described below) can be pursued once financing requirements are clearly defined. The options are presented for consideration and may not all be appropriate or applicable to CO/CA initiatives. Options would be considered based on an assessment of the needs within CO and the CA, emerging science, results of monitoring programs and private sector interests.

**Grants** - Monetary grants from governments, foundations or businesses are common methods of generating funds. A number of granting organizations exist in Canada both provincially and federally. Many of these have a history of providing funds to conservation programs.

**Fundraising** - A wide range of approaches have been employed within the category of fundraising. Examples include: auctions, raffles, membership drives, donations, and fundraising events. A number of specific examples are described below.

- **Auctions** - Auctions can be used to sell goods and services.
- **Lotteries** - Proceeds from cash or merchandise lotteries could be used to fund green economy initiatives.
- **Raffles** – Raffles, which are less formal than lotteries, can be used to award cash or merchandise prizes.
- **Casinos and bingos** – Groups seeking to raise funds can volunteer at casinos and bingos and in doing so they will be awarded a portion of the earnings from the events.
- **Membership Drives** – Organizations seeking to raise funds can sell memberships to the organization as a way to raise revenue.
- **Events** – Special events such as concerts, dinners and galas are often used by organizations seeking to raise funds.
- **Donations** – Donations can be solicited in any number of ways. More traditional approaches include door to door canvassing, approaching customers at stores or on the street and direct mail

solicitations. Recently, more innovative approaches such as soliciting funds through use of websites and emails have become popular.

- **Merchandizing** - Organizations can raise funds by selling merchandise with their logo or other cause-specific imagery or wording on them.
- **Partnerships** - Entities seeking to undertake green economy initiatives can also partner with others on established fundraising campaigns. Examples include affinity credit cards or '1% for the Planet.'

**Dedicating Specific Revenues** - Dedicated revenues can be a source of funds for green economy initiatives. For example, fishing and hunting fees and licenses are used in many jurisdictions to fund conservation activities. Dedicated revenue can also be sourced from user fees, product charges, land lease sales, licenses and permits.

**Annual Budget** - Funds can be sourced through annual budgeting appropriations.

**Tradable Permits of Credits** - Tradable permits or credits can be used to directly pay for green economy activities once a permit or credit trading system is established.

**Selling Offsets** - Selling offsets is another method of generating funds. Offsets for conservation tillage, biodiversity, wetlands, carbon sequestration and open space could become commodities that would be sold. The selling of offsets first requires the establishment of an accountable system to place a value on qualifying offsets.

**Financing** - Innovative financing measures include the use of conservation bonds, low-interest loan programs, or a revolving fund.

**Investors** - Social finance, impact investing and social responsible investing are increasingly recognized as viable means to raise funds for conservation and other environmental and socially oriented initiatives. Through such schemes, investors are connected with entrepreneurs that are interested in both making money and helping to make the world a better place. Investments are made based on the financial return and also on the associated social and environmental impacts. In general, such arrangements encourage corporate practices that promote environmental stewardship, consumer protection, human rights, and diversity.



**Project Mitigation Funds** - In some jurisdictions, the environmental impacts of particular large projects have been reduced through the use of project mitigation funds that pay for activities such as conservation and stewardship within the area impacted by the project.

**Providing Services** - A somewhat innovative method of generating funds is for groups to undertake fee-for-service activities. Such services could include undertaking conservation related activities for government, companies or other organizations; providing research and consulting services; or establishing ecotourism operations in conservation or other areas.

**Eco-certified Agroforestry or Agriculture** - Eco-certified forestry and agriculture practices reduce the environmental impact of these operations and therefore can help achieve some green economy objectives. In some markets environmental labeling allows a producer to generate additional revenue (the eco-label provides a de facto license to charge a higher price) or capture increased market share, thereby providing funding to enable such practices to take place.

**Interest Generating Trust Fund** - Money generated through any of the aforementioned methods could be invested in a trust fund, the interest from which could fund green economy work.

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## 8. Continuing the Green Economy Journey – Conclusions and Recommendations

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Conservation Authorities in Ontario are well positioned to take a leadership role in advancing the green economy. Conservation Ontario's strategic directions report for 2011 to 2015 articulates their vision to be "the partner of choice for managing and adapting to climate change and growing the green economy." Strategy 2.3 in this report seeks to "advance and promote innovative technologies, programs, and perspectives for the strategic development of the green economy." This roadmap has provided information both on how CAs in Ontario are already engaging in the green economy in addition to how CAs can draw on existing and potential assets and partnerships to engage, through select focus areas and associated actions, to advance the green economy in the future.

In general, two focus areas, re-thinking CA programs and business activities and health and the environment, have been identified by CAs as priority focus areas. The selection of these focus areas over others demonstrates that CAs in Ontario are ready to move beyond one-off green economy initiatives towards more fundamental engagement in the green economy. This is reinforced by the fact that the green economy focus areas that CAs have been more significantly involved with up to this point in time – greening CA operations and measurement and monitoring - were identified as the least important focus areas for the future. Up to now, CAs have invested more in these relatively "low hanging fruit" and they are now ready to engage in the green economy in a more fundamental way. This would be through incorporating green economy concepts, thinking, programs, actions and measurements into the very core of their business and by making the link between environment and ecosystem health and human and social health and wellbeing more explicit and pronounced.

Interestingly, the focus area of measurement and monitoring, while identified as a lower priority for CAs, partners saw this as a valuable service CAs could provide to them. To fully realize the potential value that has been created through CAs investment in watershed science, measurement and monitoring requires continued investment. This investment is needed in order to maintain and evolve expertise in a way that can more effectively support new and emerging partnerships, which ultimately advances the green economy.

While the focus areas (along with their associated actions/activities) present a general direction for CAs in Ontario, they identify some of the fundamental shifts that may be needed to significantly advance Ontario's green economy. The pursuit of specific green economy initiatives will also vary by CA. Appropriate initiatives will need to be identified on a case-by-case basis and will vary depending on a number of factors including the location (urban versus rural) resources (financial and human), technical knowledge, stakeholder support and engagement, and partnership opportunities, including collaboration with neighbouring CAs. The Green Economy Assessment Guide – Appendix D – provides a framework through which CAs interested in pursuing specific green economy initiatives can develop their own Green Economy Roadmaps or Strategies. This would be done by identifying priority action areas and tools for advancing the green economy taking into consideration the unique circumstances of the particular CA.

While not identified as one of the top two priority focus areas, promoting and facilitating collaboration will be an important component of increased engagement in Ontario's green economy. Strategic partnerships will be imperative as a means to increase the effectiveness of initiatives and overcome challenges related to limited resources, especially financial and human – assets deemed by CAs as the most important and also the most lacking. Likewise, environmental marketing, communication and education were not identified as a top priority. Yet regardless of the focus area that is pursued, appropriate marketing, education and communication will prove useful for a number of reasons, including increased stakeholder support and buy-in, leverage for subsequent green economy initiatives, and support from CAs throughout the province for advancing Ontario's green economy. In this way the Conservation Ontario brand will be key asset in promoting the collective value of CAs on common objectives like measurement, monitoring and reporting to new and emerging partners.

This roadmap document, along with the *Assessment Guide for Conservation Authorities in Ontario*, provides solid direction to CO and CAs in Ontario striving to advance the province's green economy. Focus areas, actions/activities, opportunities, partnerships, and financing options have been identified and the Assessment Guide provides a framework for identifying specific action areas and green economy tools that are right for any particular CA. However, there is still much work to be done to achieve strategy 2.3 in Conservation Ontario's strategic directions report. Towards the achievement of this strategy, we recommend the following next steps:

1. A series of thought leader forums or workshops to build awareness and understanding of the role CAs can play in the green economy and to explore the link between the business of CAs and the green economy.
2. Promote existing green economy initiatives to demonstrate the roles that CAs can play in the green economy through newsletters, an online database or some other means.
3. Identify and design green economy initiatives by action area (energy, agriculture, urban development) through use of the Assessment Guide and consultation with select CAs.
4. Pilot an initiative with a select health unit (or a number of health units) that links conservation measures with human health and well-being.
5. Develop communication and marketing materials and strengthen the CO brand generally and in the context of the 2011-2015 CO Strategic Plan Vision of being “the Partner of Choice for Climate Change Adaptation and Growing the Green Economy.
6. Assess specific financing and partnership options for green economy initiatives.
7. Complete supply chain and/or stakeholder maps for select CAs to identify leverage points as well as key stakeholders and potential partners.
8. Assess the feasibility of responding to key data and information needs both internally and externally; including opportunities for advancing watershed science, measurement and monitoring, as well as data related to energy, material and water use and resource extraction rates on a watershed basis.

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## Appendices

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- A. Workshop agenda
- B. Conservation Authority Survey
- C. Survey and Listing of Existing Initiatives
- D. Partners Survey
- E. Green Economy Assessment Guide for Conservation Authorities in Ontario