



# ONEIA

Ontario Environment Industry Association



## Still Ready to Grow

Generating growth and jobs  
through Ontario's environment  
and cleantech sector

An update from the Ontario Environment  
Industry Association (ONEIA)

April 2011

“Countries and places that invest in innovation will be home to the most rewarding jobs, the strongest economies and the best quality of life.”

**The Right Hon. Dalton McGuinty**

Premier of Ontario

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# Executive Summary

Ontario faces a number of significant economic challenges as it moves into the second decade of the 21st century. Our traditional industries are under increasing pressure from shifting manufacturing patterns, a rising dollar and higher energy costs. Our major competitors are pursuing a more sustainable focus for their economic growth and encouraging the next generation of technology, products and services that will help them make this transition.

Ontario has a tremendous asset to help its move towards becoming a sustainable, high-growth economy. Our province is home to the majority of Canada's environment and cleantech sector, a vibrant part of our economy that already employs more than 65,000 people working for firms in areas as diverse as alternative energy systems, waste, composting and recycling solutions, environmental consulting, Brownfield remediation, air and water treatment. The world market for technologies, products and services in this sector is estimated to be \$780 billion annually – and it is growing rapidly each year.

## Ontario environment and cleantech industry: Key stats:

- Approximately 3,000 firms
- \$8-billion in annual revenues
- \$1-billion in export earnings
- 65,000 jobs

*- Adapted from Stats Can, 2008*

## Value of the world environment and cleantech market:

- \$780 billion

*- Environmental Business Journal 2008*

In the coming decades, this sector could grow significantly if the provincial government and industry pursue a stronger partnership, backed by sensible, market-based policies that encourage growth, innovation and job creation. Ontario's environment and cleantech sector is truly "ready to grow" and this report outlines five key recommendations in this regard.

- Ensure the success of the modernization of the approvals process within the Ministry of Environment to make our business climate even more progressive;
- Undertake a comprehensive green procurement effort to make Ontario a North American leader in this area and provide important support to our companies
- Focus on creating winning conditions – not winners – through broad-based growth policies;
- Support research and product development conducted in existing companies to complement our existing focus on university-based research; and
- Support an industry-led bridge strategy that helps connect our environment and cleantech firms with established players in the Ontario economy.

The member firms of the Ontario Environment Industry Association (ONEIA) look forward to continuing their discussions with the province as we both move forward to make Ontario a true environment and cleantech powerhouse.

# 1 Background

In 2009, ONEIA released a landmark report titled *Ready to Grow*. In partnership with Deloitte and with the support of three provincial ministries and the Ontario Centres of Excellence, we engaged environment and cleantech companies across the province. We talked with them about the barriers and challenges they faced, what government policies they thought worked (and which didn't), and how they thought Ontario might learn from competing jurisdictions. Most importantly, we wanted to know what were the most important things that the provincial government could do to help Ontario build on its strengths to help the sector grow, compete and contribute even more to our province's leading position in this area.

The report proposed a number of nonpartisan, pragmatic recommendations. Companies advised that Ontario adopt more aggressive green purchasing initiatives to help firms break into new markets and streamline its approval processes for new environmental technologies. They suggested the province improve its support programs to remove the high opportunity costs many imposed on many small and medium-sized firms. While many firms appreciated the emphasis of various levels of government on developing export markets, most preferred initiatives to develop a critical mass domestically before encouraging them to look abroad. Lastly, Ontario companies sent a clear message that the province should resist the urge to "pick winners" among different types of technologies and companies. Instead, they should create the broad conditions that allow a range of companies across the environmental marketplace to succeed.

The Minister of the Environment wholeheartedly endorsed the report on April 29, 2009 and pledged to act upon its recommendations. The Premier committed to support the companies at what he termed the "sweet spot" of the Ontario innovation economy.

Within a few months, the Ministry of the Environment announced an ambitious overhaul of its approvals process. Initial but important steps have been made in green purchasing. And a rethink is underway of how the province supports innovation, particularly in the area of water. Two years after the release of *Ready to Grow*, however, much remains to be done. It is now appropriate to revisit the original recommendations of the report and update them.

As a growing part of the province's "next generation" economy, it is important that our environment and cleantech sector offer an agenda so that all stakeholders can respond and engage in a responsible public debate. Our province's economic and environmental future demands no less.



Robert J. Redhead  
Chair



Alex Gill  
Executive Director

# 2 Understanding and defining Ontario's Environment and Cleantech Sector

Ontario is home to Canada's largest group of environment and cleantech companies. The most recent statistics from the federal government show that Ontario's environment sector is made up of almost 3,000 companies that employ more than 65,000 people across a diverse number of sub-sectors. This includes firms working in such diverse areas as alternative energy systems, waste, composting and recycling solutions, environmental consulting, Brownfield remediation and water, treatment – to name just a few. These companies contribute more than \$8-billion to the provincial economy, with approximately \$1-billion of this amount coming from export earnings.

These firms occupy what Ontario Premier Dalton McGuinty called the "sweet spot" of the economy – delivering environmental and economic benefits to

our citizens and to our standard of living. Yet while the positive impact of this important sector is self-evident, there has been comparatively little ongoing research about it. One of the more significant gaps in this regard is the lack of a widely accepted definition of the environment and cleantech sector that can then, in turn, inform and focus government policy-making. Definitions are the starting point of good policy, and in recent years we have seen different provincial ministries use different definitions as they craft policies to engage what are essentially the same parts of a continuum.

The Environmental Careers Organization (ECO Canada), for example, offers a broad-based definition of the "green economy" in its 2010 report on the topic:

*"the aggregate of all activity operating with the primary intention of reducing conventional levels of resource consumption, harmful emissions and all forms of environmental impact. The green economy includes the inputs, activities, outputs and outcomes as they relate to the production of green products and services."*

ECO Canada then goes on to propose a companion definition of a "green job" as one:

*"...that produces goods or services designed to minimize environmental impact."*

Such a definition, while comprehensive, can be stretched to include almost all aspects of the economy, provided that some portion of the outcome involves environmental benefits.

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Organizations that are active in promoting and investing in what they call “clean technology” offer definitions that are specific to that sector. The Cleantech Group, a recognized world leader in environmental venture capital, offers the following definition:

*Cleantech is new technology and related business models that offer competitive returns for investors and customers while providing solutions to global challenges. While greentech, or envirotech, has represented “end-of-pipe” technology of the past (for instance, smokestack scrubbers) . . . cleantech addresses the roots of ecological problems with new science, emphasizing natural approaches such as biomimicry and biology. . . Cleantech represents a diverse range of products, services, and processes, all intended to:*

- *Provide superior performance at lower costs, while*
- *Greatly reducing or eliminating negative ecological impact, at the same time as*
- *Improving the productive and responsible use of natural resources*

As the leading industry organization in this sector, ONEIA has always attempted to bridge these definitions by making the traditional definition of Ontario’s environment industry as inclusive of our province’s companies and as descriptive of their work as possible. Following from this tradition – and conscious of the fact that having competing definitions is not in the interests of good policy – we have adapted the accepted definition from the original **Ready to Grow** report to read as follows:

*Ontario’s environment and cleantech sector is made up of organizations or divisions of organizations based in Ontario (or with substantial operations in this province) whose primary business is the production, provision or development of products, technologies or services that are designed to produce beneficial environmental outcomes.*

This definition ensures that approaches that focus solely on technology are not isolated from their broader context. It also ensures that service providers are definitively recognized as part of the sector. The most recent studies from Stats Canada show, for example, that approximately one-third of Ontario’s environment sector is made up of services firms. Moreover, our technology companies that work in the sector report a seamless interface with service firms, with many partnering on contracts and working toward mutual goals in the marketplace. It is essential that the role and contribution of cleantech service companies be recognized in any definition.

Extending this definition to the jobs front, we would define an “environmental and cleantech job” as one whose purpose is the:

*. . . production, provision or development of products, technologies or services that are designed to produce beneficial environmental outcomes.*

# 3 Ontario's challenge... and opportunity

Ontario faces a number of serious challenges as we enter the second decade of the 21<sup>st</sup> century. In the two years that have passed since we wrote the original Ready to Grow report, the global recession that was just beginning in 2008 has continued to affect the Ontario economy. The primary export market for the environment and cleantech sector – the United States – remains sluggish, while job creation rates continue to lag those of the resource-driven western provinces.

The recession has also accelerated ongoing challenges facing Ontario's traditional economy. Beginning several years ago, a combination of higher energy prices, a rising dollar and increased competition from emerging economies began to erode the industries that have supported decades of employment and growth in Ontario. By 2010, hundreds of thousands of

people were no longer working in the factories that, until very recently, made up Canada's manufacturing belt. While the recovery is underway, it is clear that Ontario can no longer count on the economic drivers that for decades underpinned our prosperity.

The coming years will pose a stark choice for Ontario. We will either find ways to help our traditional industries transition to become leaner, cleaner, more productive and more competitive. Or we can watch them wither and begin to disappear, making Ontario's economy increasingly reliant on commodities and raw materials. This choice – to follow the path of Germany or Argentina – is a stark one for Ontario, but one we must make to avoid a path of slow decline.

The good news for Ontario is that it already possesses an excellent resource that can help it make this necessary transition – its environment and cleantech sector. This vital emerging sector can help traditional industries become more energy efficient, produce less waste, use less water and develop the low-carbon, next generation manufacturing that is powering so many of our progressive competitors. Our environment sector is also a significant employer and economic asset in its own right, and the right mix of policies can help it access a world market that is growing at a significant pace.

The original Ready to Grow report identified a worldwide environmental market opportunity of nearly \$700 billion per annum. Prior to the 2008-09

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recession, this market was enjoying growth rates that were, in some markets, 50% higher than the growth experienced by the broader economy. Initial reports from researchers note that growth rates have resumed their upward climb, indicating that the long-term future for the sector remains bright.

In the two years since the release of the original report, however, Ontario's ability to compete in this growing market has been challenged by new competitors. In just a few short years, China has moved from being a major importer of environmental technology to become one of the world's largest exporters of such technologies as photovoltaic solar cells and related alternative energy technologies. China also accounts for more than half of the Initial Public Offerings (IPOs) in the environment and cleantech sector and has just unveiled an ambitious "green plan" to encourage growth in this strategic area. European jurisdictions such as the Netherlands, Germany and Spain, for their part, continue to advance, with emerging jurisdictions such as South Korea and Israel hot on their heels.

Jurisdictions that are investing heavily in next-generation technologies and research are also experiencing significant growth in their environment sectors. While Ontario can be justifiably proud of the growth spurred by the Green Energy Act, other jurisdictions are investing tens and even hundreds of billions in future growth. Various states in the Gulf Region, for example, are building eco-cities from the ground up, spurring the development of the next

#### **China targets "green growth":**

March 2011 saw the Government of China unveil ambitious environmental targets in its plan for "National Economic and Social Development":

- Non-fossil fuel to account for 11.4 percent of primary energy consumption;
- Water consumption per unit of value-added industrial output to be cut by 30 percent;
- Energy consumption per unit of GDP to be cut by 16 percent;
- Carbon dioxide emission per unit of GDP to be cut by 17 percent; and
- Forest coverage rate to rise to 21.66 percent and forest stock to increase by 600 million cubic meters.

*-Source: Government of China*

generation of energy efficiency and green building technologies. Newer economic powerhouses such as India are hoping to leapfrog their more established rivals by developing the eco-friendly infrastructure that the world will need in the coming decades.

While the global opportunity in the environment and cleantech sector is growing, so, too is the potential competition for Ontario as other jurisdictions are waking up to this opportunity. The window is closing, and Ontario must move quickly if it is to position its environment and cleantech sector to benefit from this growing world market or risk being an "also ran" that is content with the crumbs left by our more nimble competitors.

# 4 Updated Recommendations

Based upon our analysis of the progress made to date, we have identified the following five (5) areas that will increase the momentum for Ontario's environment and cleantech sector:

## 1. Ensure the success of the modernization of approvals process

In 2009, companies engaged during the original Ready to Grow report were clear about their top priority. Businesses require certainty and see the often-lengthy process taken by the Ontario Ministry of the Environment to review and approve new environmental installations and technologies as a significant barrier to the growth and competitiveness of the sector. If other, more progressive jurisdictions can turn around new approvals in a predictable number of months, investment that could be captured by Ontario will go elsewhere, significantly reducing our competitiveness.

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**The approvals process is so vital to Ontario's environment sector and to the ability of more traditional industries to grow and modernize that we must make every effort to ensure that this reform is well thought-out and completed quickly.**

In response, MOE announced a comprehensive reform of the approvals process in early 2010. This process proposed dividing approvals into two streams. Those deemed "higher risk" would still require individual assessments, while the remainder that were deemed lower risk could be approved through a registry system. This two-tier approach would rely heavily upon an Internet-based system that would see those companies seeking approvals file all relevant documentation electronically.

*This initiative is strongly supported by Ontario's environment and cleantech firms, which see reforming the approvals process as vital to Ontario's environment sector and to the competitiveness of our overall economy. These firms also recognize that the scale and complexity of this undertaking make it very vulnerable to shifts in government priorities, resourcing, staff capacity and the unforeseen circumstances that often arise when implementing a change of this magnitude. The Ontario Environment Commissioner and others have already raised concerns about whether the MOE has sufficient capacity to meet its current mandate and adding a new and very complex reform to this structure can only add to this pressure.*

While the legislative enablers of approvals reform have been put in place and process redesign is already underway, significant work remains to be done on the mechanics that will support this new process. The Ministry's target date of having an interim system in place by September 2011 and a new system a year

later is aggressive and will depend upon political will and proper resourcing of the process. Companies in this sector believe we must make every effort to ensure that the Ministry has sufficient organizational capacity to ensure this reform is well thought out and implemented as quickly as possible.

**RECOMMENDATION:** The Ontario government should recommit to completing the reform of environmental approvals by its target date and make every effort to ensure that this process is resourced properly to ensure it meets this goal.

## 2. Undertake a comprehensive green procurement effort

Ontario environment and cleantech firms are still facing the situation they reported in the original research conducted for the *Ready to Grow* report. As they approach new customers in Canada and around the world to sell their environmental technology, goods or services, they are often asked “where have you implemented this already?” For companies with proven approaches that have not yet made a major sale, the inability to offer examples of large-scale implementations is often a major challenge.

Many of their international competitors, when asked this question, can point to significant contracts with governments and other public entities in their own countries. Whether it the implementation of new technology in a large public building or a system-wide purchase of sustainable or recycled goods, such

contracts (and the trust inherent in the purchasing decision) often give clients the reassurance that they will not be taking a risk with a technology, product or service. International competitors to Ontario firms are able to offer these examples because, in many cases, governments in their home jurisdictions have used their procurement efforts to support their leading edge environment and cleantech companies.

While Ontario has not yet undertaken a broad-based green procurement effort, it has tremendous opportunities to do so. Ontario is already one of Canada’s largest public purchasers of goods and services, ranging from vehicles to paper clips to building rentals, and this purchasing power could be a significant market leader in the environmental area. One timely example is that fact that, like many other jurisdictions in the developed world, Ontario is home to billions of dollars of infrastructure that was built in the decades after World War II.

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**As this infrastructure is replaced or upgraded in the coming years, it represents an excellent opportunity for the province to showcase the work of Ontario companies that they, in turn, can then showcase to clients.**

As this infrastructure is replaced or upgraded in the coming years, it represents an excellent opportunity for the province to showcase the work of Ontario companies that they, in turn, can then showcase to clients across Canada and around the world.

**RECOMMENDATION:** Ontario should commit itself to the goal of becoming North America's largest purchaser of environmental and cleantech products, services and solutions within three years. It should set purchasing targets in all of its procurement and engage the environment and cleantech industry in a strategy that coordinates such purchasing with targeted marketing and exporting initiatives.

### 3. Focus on creating winning conditions (not picking "winners")

One of the clear messages in the original Ready to Grow report was that while companies recognized that the environment and cleantech sector as a whole was well-positioned for future growth, they reacted very negatively to the propensity of many Ministries to support specific technologies or environmental approaches through their policies. Companies remarked that not only is it inappropriate for governments to try and predict the needs of future markets, but that when they do, they have a less-than-stellar record in guessing what the market will need in coming years. No one could have foreseen the rise of RIM when creating policies in the first decade

of the 21st century, for example, nor predicted the rapid rise of Internet companies a decade earlier.

Instead, companies advised government not to focus on public policies that pick "winners" but instead create winning conditions that help a broad range of environment and cleantech companies succeed. Rather than adopting policies that focus on a specific type of technology or service, for example, they advised governments to adopt broader policies that encourage/enable all companies in the sector to respond to market needs, grow, and compete.

*Clear, strong and transparent environmental performance standards that put firm costs against environmental "harms" and encourage the development of best-in-class technologies and approaches, for example, are an example of the types of policy initiatives that will be a key factor in the development of new technologies and their adoption by industry.*

This point was reiterated in a 2011 study in the Stanford Social Innovation Review that identified four reasons that government policies to support perceived "winning" environment and cleantech technologies often do not produce the intended results:

- **Technical challenges:** The solution, while promising on paper, faces insurmountable technical challenges that prevent it from being adopted by the market;

- **Incompatible with existing systems:**

Many solutions require completely new ways of operating that are too far removed from existing methods of doing business;

- **Head-on competition with existing technologies:**

Current solutions are often easier and far more cost effective than new ones, unless regulations favour new approaches or pricing mechanisms include a phase-in incentive; and,

- **Customers do not value the new solution:**

Many new solutions do not offer customers a simpler, more effective way to solve their current problems over and above their existing solutions.

The authors conclude that governments should tread very carefully when making environmental and cleantech policies to ensure they are not artificially supporting approaches that while superficially attractive may not have a strong future market base.

Government actions have not always been consistent in this regard. While the government-wide Open for Business initiative embodies the “winning conditions” approach called for in the initial *Ready to Grow* report, other programs and initiatives in specific ministries seem to seek out the “next big thing.” This confusion sends mixed signals to businesses and, depending on the programs and level of support, may pit certain parts of the market against others.

**RECOMMENDATION:** The Ontario government should make a firm commitment to creating winning conditions for environment and cleantech companies and then conduct a comprehensive review of policies and programs intended to support environment and cleantech business to ensure that they create these conditions.

#### **4. Support research and product development conducted in existing companies**

Much of the provincial innovation agenda over the past several years has focused on commercializing university-level research and encouraging new firms to grow and access new forms of capital. The province has created various agencies (e.g. Ontario Centres of Excellence, MaRS, regional innovation networks) and imbedded programs within the Ministry of Research and Innovation that have made significant progress in encouraging primary innovation. These investments have also supported scientific and technical education within the university and college system, ensuring that environment and cleantech firms have a growing supply of graduates who are already trained in leading research and scientific methods.

Ontario firms believe that there is considerable room to supplement this research and commercialization strategy with one that recognizes and encourages research, product development and expansion

within existing, established companies. This would see research and product development take hold in businesses which are already sustainable and that have existing customers and infrastructure that can support rapid growth.

Moreover, the government should continue to evaluate whether the programs it has put in place to help small and medium sized firms grow are accessible to these firms. Such companies are under tremendous pressure to justify any expenditure of staff time or money on activities that are not directly related to their primary business and often report that many provincial programs impose significant opportunity costs in the application process. This, in turn, leads most to decline to apply for the very programs that are put in place to help them grow and succeed, leaving such programs accessible only to the larger firms in the marketplace.

**RECOMMENDATION:** The Ontario government should commit to extending its focus on research and innovation to equally support research and product development within existing companies. In such a strategy, it should pay particular attention to making any programs truly accessible and available to small- and medium-sized environment and cleantech businesses.

### **5. Support an industry-led “bridge” strategy**

Many of Ontario’s environment and cleantech companies are world leaders, known in markets as diverse as Dubai, Dublin and Dar-Es-Salaam. Yet a significant portion of these firms reported that it is

easier to find clients in international markets than it is within their home province. Part of the reason for this lack of connection has to do with how public policies (e.g. higher energy and water pricing) and clear and progressive regulation drive (e.g. stricter environmental standards and enforcement) the adoption of environmental and cleantech solutions in other jurisdictions. A major portion of the solution, however, has to do with simple awareness and connection between businesses that need to lower their environmental footprint and those that provide necessary solutions.

This is particularly the case for Ontario companies that are active in our more traditional industries. While similar industries around the world are engaging their environment and cleantech sectors to help them make the necessary transition to a new age of clean, lean and green operations, Ontario is lagging in this regard. Much more can be done to connect both sides of the sustainability equation – namely Ontario’s traditional industries and environment /cleantech firms – with each other.

**RECOMMENDATION:** The Ontario government should partner with the environment and cleantech industry to create a “bridge strategy” to connect traditional companies with those providing solutions. This connection could include a database of potential suppliers, social media connections that create groups of interest between customers and suppliers and events that bring both together to showcase and encourage partnerships.

# 5 Summing up...

In an era when Ontario is challenged to find new ways to support its prosperity and growth, our environment and cleantech sector is an underappreciated resource that can help us build the economy of the future. From a strong base of thousands of companies and tens of thousands of skilled workers, this sector could grow significantly to take advantage of booming Canadian and world markets in this area, helping our province become a true environment and cleantech powerhouse.

This goal, however, can be best realized if the provincial government and industry pursue a stronger partnership, backed by sensible, market-based policies that encourage and support growth, innovation and job creation. Ontario's environment and cleantech sector is truly "ready to grow" and this report outlines five key recommendations in this regard. Ontario's environment and cleantech sector is truly "ready to grow" and the member firms of the Ontario Environment Industry Association look forward to continuing their discussions with the province as we both move forward into a newer, sustainable era of growth.

