Dear Members of the Finance Committee:

The Canadian Clean Technology Coalition is pleased to provide this submission to the House of Commons Standing Committee on Finance for the 2012 Budget.

The Canadian clean technology industry is globally competitive with nearly 700 small and medium-sized enterprises (SMEs) currently in Canada. The sector is growing each year with $9 billion in annual sales and 44,000 direct employees in 2010. With these strong economic fundamentals and a demonstrated ability to survive the economic downturn, the sector can deliver high levels of growth and business investment for years to come.

More diverse than many realize, the clean technology sector in Canada consists of nine subsectors each with strong entrepreneurs. Clean technology is worth government investment – even during deficit years – because it distinguishes itself in four key ways.

1. The sector has posted strong annual growth rates through the economic downturn and is part of a $1 trillion growing global clean technology market.

2. Clean technology companies are nine times more likely to export their products and services than the average Canadian SME and do so into diverse markets. 81 percent are exporters, 53 percent of revenues come from foreign markets and 44 percent from non-US sales.

3. Clean technology SMEs already invest in research and development, investing two dollars more in R&D than every dollar invested by large clean technology companies – and are competitive with large companies in other sectors of the economy. This is R&D that can be commercialized, creating further growth and business investment.

4. However, Canada's clean technology companies are increasingly at a competitive disadvantage. Several countries including the US, China, Japan, Germany and Korea are integrating trade, investment, international development and economic policies to support their domestic industries. This means that Canadian innovators are weakened in the marketplace and vulnerable to foreign sale, allowing other countries to capitalize on Canadian ingenuity. Canada must invest in this sector to ensure that it can compete and thrive.

The clean technology sector could be compared with the aerospace sector, another R&D intense sector. The Canadian aerospace industry achieved the $10 billion threshold in annual revenues in 1990. Twenty years later, the aerospace sector was a $22 billion industry, employing close to 80,000 people. Today, there are approximately 400 aerospace and defence SMEs operating across Canada that have a 6 percent share of a $380 billion global market. With supportive and comprehensive policies, the clean technology sector has even greater potential.

The Canadian Clean Technology Coalition is an innovative alliance of companies and stakeholders who are moving their products and ideas into the Canadian and global green technology marketplace. The Coalition is working to create coherent policy advice to governments in the establishment of technology neutral, market friendly mechanisms that will unleash the economic potential of this sector, create jobs here at home and ensure that Canada promotes its competitive place in this sector globally.

Our brief submission provides you with an outline of the economic potential of the sector.

On behalf of our stakeholders, I would like to thank you in advance for your review of our submission and we would welcome the opportunity to provide more information and background.

Yours sincerely,

Celine Bak
Analytica Advisors
On behalf of the Canadian Clean Technology Coalition

THE CANADIAN CLEAN
TECHNOLOGY COALITION

Executive Summary

The Canadian clean technology industry is globally competitive with nearly 700 small and medium-sized enterprises (SMEs) currently in Canada. The sector is growing each year with $9 billion in annual sales and 44,000 direct employees in 2010. With these strong economic fundamentals and a demonstrated ability to survive the economic downturn, the sector can deliver high levels of growth and business investment for years to come. More diverse than many realize, the clean technology sector in Canada consists of nine subsectors each with strong entrepreneurs. Clean technology is worth government investment – even during deficit years – because it distinguishes itself in four key ways.

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We are calling for the 20 by 2020 Plan for Clean Technology. Its objective is the establishment of 20 Canadian Clean Technology companies, each having achieved annual revenues of more than $100 million by 2020. This is not a request for subsidy to the sector. We offer the following specific recommendations:

- As a first critical step, we strongly advise that the government invest $20M per year for the next three years in a mass adoption approach for clean technology that builds on the $40M merit-based procurement program already in place at Public Works.

- Through the R&D review, target specific technology neutral investments toward Canadian clean technology under the reform of SR&ED, IRAP and other federal programs (new or existing). A dedicated investment for this sector of $40 – 50M per year – from existing or re-profiled investments – would bring considerable leverage in a high-growth, R&D intensive sector.

- Invest a total of $3 - 5M over the next three years to better coordinate and streamline work within federal government departments and with provincial governments.

The Canadian Clean Technology Sector

The Canadian clean technology industry is globally competitive and can be a driver of the country's economic productivity. We are an emerging sector that supports wealth, job creation, investment and exports. There are nearly 700 clean technology companies already in Canada, each company possessing proprietary knowledge-based technology that leverages substantial investment in R&D. Our industry is national, broad and deep, with BC, the Prairies, Ontario, Québec and Atlantic Canada all seeing growth in the sector.

We define a clean technology company as "*predominantly engaged in the development and marketing and/or use of its proprietary technology to deliver products or services that reduce or eliminate negative environmental impacts, and address social needs; while delivering competitive performance, and/or using fewer resources than conventional technologies or services*." The sector is more diverse than many policy makers understand. Our technology products and services span nine different sub-sectors, including:

- Biofuels & Biochemicals
- Power Generation
- Energy Infrastructure
- Energy Efficiency
- Industrial Process Efficiency & Abatement
- Recycling & Waste
- Remediation
- Transportation
- Water & Wastewater

The Canadian clean technology industry is a $9 billion industry today, made up of entrepreneurs and companies that are, on average, 15 years into their investments. The period since 2007 has proved that clean technology companies can be engines of growth for the economy regardless of economic times. The industry grew at a compound annual growth rate of 47 percent during each of 2008 and 2009 and 56 percent in 2010.

While more success is possible in the future, more than half of these technology SMEs have products that are being sold today. The sector is a goldmine of research, development and commercialization. Three quarters of SMEs in Canada's clean technology industry are founded to commercialize the founder's private intellectual property with only 7 percent founded based on academic intellectual property development. Newly published information from the US Department of Trade suggests that Canada has as many exporting clean technology companies in absolute terms as does the United States. But Canadian companies are at a competitive disadvantage since domestic public policy does not yet adequately recognize these realities or the opportunities they provide.

Quick Snapshot: A Growing, Promising & National Industry

- Canada has close to 700 clean technology companies operating in every region of Canada, the majority of which are highly entrepreneurial SMEs.

- Total 2010 industry revenues were estimated at $9.1 billion.
  - Canadian-owned companies generate 86 percent of this revenue
  - Canadian based foreign subsidiaries generate 14 percent of this revenue
  - 2010 Canadian clean technologies revenues are 0.7 percent of 2010 GDP
  - 62 percent of revenues come from companies with revenues greater than $100 million
  - 60 percent of companies have revenues under $5 million
  - In 2010, clean technology companies directly employed 44,400 Canadians. The average Canadian clean technology company employs 62 people

- Industry employment grew 11 percent compound annual growth rate from 2008 to 2010. If current growth rate is maintained, industry employment can total 75,000 by 2015 and 126,000 by 2020.

- Industry revenues grew at 19 percent compound annual growth rate over the period 2008 to 2010.

- Year-on-year growth rates to 2010 showed much improved revenue growth coming out of the recession.

- Global market demand for clean technology is estimated to be $1 trillion in 2010 and is estimated to grow to $3 trillion by 2020 based on 11 percent compound annual growth rate.

- Canada's market share of the 2010 estimated global market is approximately one percent and could double if current growth rates sustain and supportive policy frameworks are implemented.

- Clean technology companies are nine times more likely to export than the average Canadian small or medium enterprise (SME)
    - 81 percent of Canadian clean technology companies are exporters.
    - 53 percent of revenues were from exports to foreign markets.
    - Non-US sales accounted for 44 percent of exports.
    - The US and EU markets are the most attractive markets for clean technology 72 percent and 62 percent of the time respectively.

- Between 2008 and 2010 Canadian clean technology SMEs invested two dollars more in R&D than every dollar invested by large Canadian clean technology companies. The average per SME R&D investment was $800,000 in 2010.

- Domestic technology adoption is critical for ongoing growth in jobs, investment, R&D and exports.

The data cited here is based on the 2010 SDTC Cleantech Growth & Go-To-Market Report and the 2011 Canadian Clean Technology Industry Report. These comprehensive reports provide an excellent base of detailed micro and macro-economic analysis to better understand and ensure growth in the sector.

Capitalizing on Clean Technology's Potential

We are exactly the kinds of home-grown companies that will help stimulate and extend Canada's economic recovery. At a time when the US market continues to be sluggish and with difficult "Buy America" restrictions, the clean technology sector has already diversified its export markets beyond the US, with non-US sales of 44 percent. We are part of Canada's future prosperity.

Let's put the growth potential of the clean technology industry in the context of another R&D intense sector in Canada. In 1990, twenty years after the foundation of MacDonald Dettwiler, the Canadian aerospace industry achieved the $10 billion threshold in annual revenues. Twenty years later, the aerospace sector was a $22 billion industry, employing close to 80,000 people in 2009. Today, there are approximately 400 aerospace and defence SMEs operating across Canada.

On a global scale, the aerospace industry is a $380 billion global market with Canada holding a six percent share. It is worth noting that the federal and provincial governments identified the potential of this sector early and invested at critical times to ensure this growth. For instance, Industrial Regional Benefits (IRB) policies provide a precedent for policies that require large beneficiaries of procurement contracts to engage with Canadian providers in aerospace.

The same opportunities exist in the development of a robust clean technology industry in Canada. Given that we already have a $9 billion industry, we can work to double or triple our percentage of the global market, realizing many benefits. Two sectors have already made strong headway in international markets, Transportation and Recycling & Recovery today represent 2.5 and 4.7 percent of their global markets respectively.

The entire clean technology sector already has a growing number of mid-sized, globally competitive, niche-focused companies. A recent study showed an encouraging trend where 18 percent of the industry companies have attained the $10 million to $50 million revenue mark. While this achievement is modest, it bodes well as a base for industry expansion. Once companies have surpassed the $10 million mark, growth rates increase exponentially and company survival rates improve dramatically. Another encouraging trend is that below this mid-size base is a larger pipeline of smaller companies; 13 percent of clean technology companies have achieved $5 million to $10 million and 35 percent are in the $1 Million to $5 Million revenue range.

However, there are risks. Today, we risk our leadership because many of these Canadian companies could be sold before they reach their potential. The market for the purchase of these companies is heating up and some of the very best companies have been purchased by non-Canadian interests. Our trading partners such as the US, China, Japan, Germany, Korea and Brazil are integrating trade, investment, international development and economic development policies to support their domestic industries. Without a dedicated approach from governments, financiers and large scale technology adopters, the benefits of Canada's technology and R&D will be realized by other countries.

Canada should be aiming for nothing less than a $60 billion Canadian industry within 10 years. Why? Three factors underpin this assertion: the size and growth of global markets, the size and growth of Canadian clean technology companies and the opportunity to leverage our domestic economy as the foundation for a $60 billion innovation-based globally competitive industry by 2020.

A $60 billion Canadian clean technology industry by 2020 would represent two percent of global market share. To do this, we will need to build at least 20 Canadian clean technology companies having attained $100 million in revenue before 2020. We strongly urge the government to consider a policy framework that includes the following objectives:

- **Development of Domestic Market for Clean Technologies** - Nurture and support the Canadian clean technology industry in the domestic market. Provide domestic referrals so that the world's openness to Canadian clean technology can be converted into export sales. Support incubation of companies by entrepreneurs by understanding the link between domestic procurement and export growth.

- **Realization of Economic and Productivity Potential of Clean Technology Industry** - Make clean technology a cornerstone of Canada's policies for economic productivity, energy, innovation, exports and environmental policy. Create a virtuous cycle leading to jobs, sustainable growth, exports and labour productivity.

- **Identify Clean Technology as a Priority in Future R&D Investments** – While some current R&D policies are helpful to the industry, most were created before the sector was robust and do not recognize the diversity of the industry or its unique potential. More could be done, through the federal R&D Review Panel, to target existing or expanded R&D investments toward this sector.

- **Understand Financial Markets Specific to Clean Technology** – The market works. However, government must understand the dynamics of financial markets for equity, debt, export and buyer finance for a sector with significant domestic and export growth potential.

- **Make the Link Between International Investment and Development** - Establish strategies to engage with International Financial Institutions as a foundation for exports to high growth economies and to low- and middle-income countries. Many of our global competitors are gaining advantage from policies in this area and Canada could be doing more.

Recommendations

For this reason, we would like the members of the Finance Committee to support establishing a federal strategy for this sector – an *Own the Podium* plan for the Canadian Clean Technology industry. The US already has one.

We are calling for the Canadian Clean Technology 20 by 2020; a plan which has as its objective the establishment of 20 Canadian Clean Technology companies, each having achieved annual revenues of more than $100 million by 2020. This is not a request for subsidy to the sector. The economic fundamentals of our companies and the sector are strong in a growing global market. At this critical time, the clean technology sector needs not only patient investment – but patient public policy and continued nurturing from the federal and provincial governments.

We offer the following recommendations:

- As a first critical step, we strongly advise that the government invest an additional $20M per year for the next three years in a mass adoption approach for clean technology that builds on the $40M merit-based procurement program already in place at Public Works. Canadian SMEs need the opportunity to sell Canadian technology at home. This is a simple but powerful step with many, many benefits. It marries green government policies and Canadian technologies. It also supports commercialization of these products at a critical stage and boosts these products in lucrative export markets.

- Through the R&D review, target specific investments toward Canadian clean technology under the reform of SR&ED, IRAP and other federal programs (new or existing). A dedicated investment for this sector of $40 – 50M per year – from existing or re-profiled budgets – would bring considerable leverage in a high-growth, R&D intensive sector. As the data above suggests, this sector is already a worthy partner for government by already investing significantly in R&D. The leverage from these investments can support productivity gains, wealth creation and jobs during the economic recovery.

- Invest a total of $5M over the next three years to better coordinate and streamline work within federal government departments – Natural Resources, Foreign Affairs, Environment Canada, Industry, Agriculture and others. This work should include outreach to provincial governments to avoid duplication in programs as well as opportunities for shared or matching investments.

Finally, we ask that you continue to draw on the detailed analysis of the sector and the expertise of clean technology entrepreneurs across this country. Together with large technology adopters, financiers, other levels of government, we can ensure that Canada reaps the benefits of our ingenuity.