Decentralised Energy Canada (DEC)

Pre-Budget 2017 Submission to the House of Commons
Standing Committee on Finance

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INTRODUCTION

Decentralised Energy Canada (DEC) has served as Canada's market access hub for the Decentralised Energy (DE) industry since 2002. We are a national technology accelerator funded by the private sector.

We were established by industry in response to the global energy transformation that is changing the way we live, work and play. In general, the interaction between people and resources is shifting from a centralised model toward a decentralised or integrated model. Telecommunications and computing have already transitioned and today we are seeing substantial decentralisation of the energy sector.

> "*The decentralisation movement has the potential to enable unprecedented productivity gains and improve living standards for all. By 2020, $206 billion will be invested annually and distributed power applications will account for 42 percent of global capacity additions*."
>
> **General Electric, *Rise of Distributed Power*, 2014**

DE is critical to achieving a low-carbon economy, providing additional climate adaptation and local reliability benefits making communities more resilient and less vulnerable to extreme events.

Our vision is a sustainable energy future where affordable, efficient and reliable DE technologies are deployed in community driven markets and enabled by progressive policies and legislation.

DE benefits individuals, businesses and communities, allowing each to prosper through low cost, resilient, local energy generation.

Over the past few decades Canada's public sector has experienced a continuous decline in basic knowledge related to energy innovations. Specific case studies, balanced objectives & integrated planning has largely been missing from government dialogue which has led to lack of clarity in regional energy & environmental policy. This knowledge gap has had a detrimental impact on the DE industry hindering domestic and international market growth. Experienced DE stakeholders with over 30 years of experience in public sector have estimated that further development of the DE knowledge base is worth at least $10 million annually across Canada.

This submission to the government recommends a long-term investment in knowledge management as well as immediate support for training a transitioning workforce, shovel ready projects and development of an enhanced export policy that aligns with domestic structural support. DEC's 14 years of knowledge & industry experience and our national network of over 10,000 industry stakeholders can help the government to achieve this.

DECENTRALISED ENERGY IS THE FUTURE AND CANADIANS ARE READY FOR THE TRANSITION, GIVE THEM THE KNOWLEDGE THEY NEED.

DEFINITION

Decentralised Energy (DE) is thermal and/or electrical energy that is produced, managed, consumed and/or stored close to the end-user with at least 50% of output meeting local load(s).

DE technologies include:

- District Energy,
- Combined Heat & Power/Cogeneration,
- Solar Energy,
- Earth Energy,
- Bioenergy,
- Small Modular Reactors,
- Energy Storage Technologies, and
- Smart Grid Enabling Technologies.

RECOMMENDATIONS

Recommendation #1:	Energy Sector Training and Retooling for a Transitioning Workforce

As Canada transitions to a low-carbon economy many Canadians who have worked hard to earn subsurface resource development skills will be out of work. Many community economies have also been impacted by the shift. The federal government should allocate resources to the expansion of existing training programs to:

- Unemployed,
- First Nations Communities,
- Municipalities (Mayors, CAOs, Economic Development Officers etc.), and
- Regional Development Agencies.

By providing this support a variety of diverse jobs in a number of sectors will be created. Financial support from the federal government will help associations, universities, colleges and training institutes retool our workforce, providing them with the knowledge they need to prosper in the new energy economy.

Recommended Activity: Decentralised Energy Canada (DEC) provides customised training modules designed to improve technical capabilities and quantify the economic and environmental merits of DE projects. We have the strongest team of DE trainers in Canada and the testimonials reflect the high caliber of trainers and module design.

The objective of this training is to build the capacity of Canadians to implement decentralised energy projects.

Click here to download the DEC Corporate Training Brochure.

DEC Service Offering: Train 80 individuals annually for $25,000 excluding travel and accommodation.

Recommendation #2: Knowledge Management & Access to Information

Canadians need greater access to information to make informed decisions. Several industry associations and research institutes have built a strong knowledge base but this work has been under-utilised by government and has not reached the hands of the majority of Canadians. For example, few people know that the cost of a roof mount 10 kW solar PV installation has decreased by more than 65% in 7 years (i.e. $9/installed watt in 2009 to $3/installed watt in 2016).

Experienced DE stakeholders with public sector experience have estimated that DE knowledge development is worth at least $10 million annually. To avoid duplication of efforts the federal government needs to leverage its key knowledge resources including industry associations. Many have been working hard for decades to compile industry data and improve DE market intelligence. This information needs to be readily available to all energy stakeholders (e.g., politicians, engineering companies, project developers, community leaders, customers etc.).

Recommended Activity: Report on the Economic, Environmental and Social Impacts of DE – Provide current analysis on the impacts of a diversified energy supply mix throughout Canada including:

1. Capital cost to build – How much does it cost to build DE capacity by technology compared with traditional centralised energy generation?
2. Cost per kWh produced - How does a diversified energy supply mix impact the cost to produce energy?
3. Cost of transmission and distribution - How does a diversified energy supply mix affect the cost of transmission and distribution builds?
4. Carbon Intensity - How does a diversified energy supply mix affect the carbon intensity of Canada's energy compared with today's supply mix (based on a life cycle analysis)?

In 2006 DEC conducted the above analysis for the Province of Ontario. An update and national scope for this research would be a strategic and valuable decision-making tool for Canada to transition to a low-carbon energy economy.

DEC Service Offering: Provide $225,000 per year for DE knowledge management starting with a two-year Canada-wide Report on the Economic, Environmental and Social Impacts of DE.

Recommendation #3: DE Incentive Program for Shovel Ready Projects

Giving shovel ready projects some early adopter incentives will accelerate the transition to a low-carbon energy economy. This program should not be limited to emerging technologies and should rather focus on commercially available technologies that can bring rapid and high impact reductions to the carbon intensity of Canada's energy economy.

Recommended Activity: Incentives for early adopters and shovel ready projects will facilitate our transition and allow for quicker development and deployment of a variety of DE generation systems. Components of a DE Incentive Program include:

- **Tax measures** that would provide tax deductions or credits to support decentralised energy and energy efficiency deployment.
- **Front-end loaded rebates or grants for shovel ready projects** providing a cash incentive with no required repayment for decentralised energy. Design an easy-to-access and effective front-end loaded program for DE generation that builds on the success of programs such as FCM's Green Municipal Fund but expands eligibility to a broader range of DE project proponents.
- **Loan programs** that give producers and project developers guaranteed low interest loans for 5 years.

A DE incentive program would:

- Provide DE producers the opportunity to jumpstart construction and installation of DE technologies and applications, resulting in a variety of new jobs immediately being created.
- Progress Canada's international, national and provincial commitments of a zero-emitting future.
- Provide immediate health benefits from the reduction of harmful chemicals.
- Allow clean technologies and applications to compete on an equal footing with the oil and gas sector.

If the federal government can create a path that focuses on a low-carbon economy by providing incentives to institutions, developers, and individuals this would create a sustainable long term economic vision that all Canadians could support and contribute to.

DEC Service Offering: DEC can initially develop a DE Incentive Program framework followed by industry network access and continued identification of shovel ready projects on an ongoing basis with as little as $25,000 of core funding per year. With more funding DEC could establish and manage a low interest loan program for shovel ready projects and/or partner with other grant bodies to help reach the DE industry and its stakeholders.

Recommendation 4:	**Develop an Enhanced Export Market Policy that Aligns with Domestic Structural Support**

Canada has made it a goal to help the world meet emissions reductions making the DE supply chain an even greater trade strength with global opportunities. Canada needs to increase awareness of and provide greater access to information regarding Canada's DE supply chain capacity and how it matches global market demand (buyers, foreign investors, and global values chains).

The future growth and success of DE businesses in Canada relies on production volume to achieve cost and reliability targets. Currently, Canada's market for DE is too small to provide the necessary scale on their own, so exports have to be part of the business plan from day one and cannot be considered as only a growth option.

However, domestic experience does help build a track record for businesses with DE products and a low cost path to early growth. More importantly domestic DE provides tangible direct local market contact for a business – e.g., sales, marketing, operations, development, finance, administration – helping improve focus on and understanding of what otherwise can come across as a fairly abstract business plan. The former are valuable stepping stones along the commercialisation path, while the latter continuously drives organisational growth and keeps the team engaged and responsive.

Canada's entrepreneurs punch above their weight but to achieve stronger growth and economic prosperity they need an enhanced export policy that aligns with domestic structural support.

Recommended Activity: Federally and provincially we need to undertake a detailed review of trade and investment services delivered (e.g. Economic Development and Trade, Consulate-General Services, Global Affairs Canada, the Trade Commissioner Service, the Canadian Commercial Corporation, Export Development Canada, Business Development Canada etc.). The review findings should be used to develop an enhanced export policy and then assess Canada's domestic structural support and seek ways to use this support to boost access to export markets. Two objectives of this activity are:

- to enhance international trade programs and services so as not to duplicate efforts and focus on unique mandates and support services.
- to align our domestic structural support with this enhanced export policy.

An improved export strategy for the country will build momentum, attract talent and foster increased trade negotiations. Aligning domestic structural support with the characteristics of target export markets has the effect of activating the local market and stimulating international trade.

DEC Service Offering: DEC can provide global partnership advisory support and strategic international services to the government on an ongoing basis with $25,000 per year.

CONCLUSION

Thank you for considering DEC's submission to the 2017 pre-budget consultation.

The DE industry presents unique opportunities and enables unprecedented opportunities for offsetting transmission infrastructure costs and lowering the carbon intensity of Canada's energy systems.

This submission recommends long-term investments into knowledge management as well as immediate support for training a transitioning workforce, shovel ready projects and development of an enhanced export policy that aligns with domestic structural support.

To accelerate our transition to a prosperous low-carbon energy economy, Canada's DE industry must be further engaged. Greater collaboration between the government and industry associations is needed to accomplish this.

In terms of specific resource allocations, DEC recommends that the government allocate $300k of resources annually to enable DEC to deliver support services including:

1. Energy Sector Training and Retooling for a Transitioning Workforce ($25,000/year)
2. Decentralised Energy Knowledge Management and Access to Information ($225,000/year)
3. A DE Incentive Program for Shovel Ready Projects ($25,000/year)
4. Develop an Enhanced Export Market Policy that Aligns with Domestic Structural Support ($25,000/year)

By supporting DEC and the DE industry, the Federal Finance Committee can strengthen the industry value chain and will address several government priorities, including job creation, local economic development, economic diversification, climate leadership, and support for community resilience.

Anouk Kendall
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THE DECENTRALISED ENERGY ERA IS HERE - DEC IS HELPING CANADA ACHIEVE A VIBRANT AND PROSPEROUS LOW-CARBON ECONOMY.