



# Canadian Renewable Energy Alliance

*promoting a transition to renewable energy*

## Green Power – Creating an Industry in Canada

Global Green Power wind and solar markets have experienced double-digit annual growth rates for the past decade with the world leaders reaping the substantial benefits of job creation and export markets. For example, the European Union is expected to gain about 711,000 full-time jobs by 2010 under current Green Power policies, and another million by 2020.

Across Canada, provinces and territories are facing major decisions about electricity generation due to air quality and related health issues, increasing demand and aging facilities. At the same time, Canada has an international commitment to reduce its GHG emissions to 6% below 1990 levels by 2012 and has identified thermal electricity generation as a major source that is projected to contribute 16% of Canada's GHG emissions by 2010, under a business-as-usual scenario. As a result, there is a growing interest in the use of renewable energy for electricity generation. This brief uses the term Green Power for low impact sources of renewable energy used for electricity generation. Green Power includes wind, solar, small hydro, biomass, geothermal, tidal and wave energy projects that meet the criteria for EcoLogo<sup>®</sup> certification for electricity generation as developed by the Environmental Choice Program.

The use of Green Power to generate electricity offers many benefits beyond climate change mitigation and air pollution reduction – it also offers opportunities for substantial job creation, rural development, price hedging, greater energy security, clean technology exports and Clean Development Mechanism projects. Canada is far behind many other countries in taking advantage of its substantial Green Power resources. While there are several Green Power initiatives underway across the country, there is no overall plan. If Canada is to reap the full benefits that Green Power offers, it will need a long-term National Renewable Energy Strategy that supports development of Green Power to its fullest potential. For effective implementation, the strategy needs to be based on regional plans, be a shared vision among all jurisdictions, and have broad stakeholder and public support.

### **Recommendations for Provincial/Territorial Strategies and Federal Support Measures**

1 **Leveling the Playing Field.** Recommendations include renewable portfolio standards, targets or equivalent policy commitments; green

power procurement; and a renewable energy certificate system. A national Green Power Production Incentive should be developed.

- 2 **Supporting Innovative Technologies.** Some provinces have established energy research centres with a Green Power focus, such as the Ontario Centres of Excellence, Centre for Energy, which brings to the marketplace ideas around leading edge research and development in energy markets, new energy systems, and emerging technologies. Provinces and territories that do not have comparable energy centres should consider developing similar initiatives. They should also participate in creating technology road maps in cooperation with the federal government and partnerships should be established between Sustainable Development Technology Canada (SDTC) and the provinces.
- 3 **Engaging Canadians.** To meet Green Power targets in Canada, it will be essential to gain widespread public support for national, provincial, territorial and municipal targets. Community engagement should become a standard component of local Green Power planning by provincial governments and industry with a focus on community-based projects. A comprehensive public education and outreach strategy should also be developed.
- 4 **Accessing the Power Grid.** Often the best resources for Green Power are in locations distant from the grid or in areas with weak grid infrastructure. Power grids should be extended to appropriate areas with increased capacity, and transmission planning should proactively support the expansion of Green Power as the aging grid is rebuilt.
- 5 **Mapping Green Power Resources.** Some resource mapping has been done, particularly for wind. However, more comprehensive renewable resource assessments are crucial for both policy making and for facilitating the deployment of Green Power

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technologies. Mapping should include assessment of backup for variable Green Power resources.

- 6 **Establishing Mechanisms for Distributed Generation.** Policy frameworks need to be developed specifically for distributed generation to reduce demand for central, large-scale electricity generation and to reduce peak demand for grid electricity (i.e. peak-shaving). Provincial targets should be set for solar roofs. Advanced Renewable Tariffs should be introduced in provinces and territories, such as Ontario's Standard Offer Contract program. Several provinces, such as Nova Scotia, British Columbia and Ontario, have implemented net metering programs; other provinces should follow suit. Green Power generation in remote communities should be subsidized to be competitive with other subsidized fuels (e.g. diesel) used in electricity generation. Aggressive targets at the national level should be set for solar roofs, supported by capital buy-downs, to facilitate their widespread use (for example Germany has a target of 100,000 solar roofs).
- 7 **Streamlining Zoning, Planning and Permit Requirements.** Regulations and institutional structures need to be redesigned to reflect the realities of small power generation units and to reduce the administrative burden for Green Power projects. Environmental impact assessment for Green Power projects should be tailored to the needs of specific technologies. The approvals process should be streamlined for technologies proven to be low-impact, and there should be one process between federal and provincial governments.
- 8 **Developing Standards to Ensure Quality and Safety.** Standards need to be developed at the provincial and territorial levels in accordance with legislation, such as the building codes and other areas. There is also a need for more national Canadian engineering standards.
- 9 **Preparing the Labour Force.** The provinces and territories should be proactive in preparing the labour force for Green Power as a shortage of qualified personnel can limit the deployment of new generation facilities and lead to lost job opportunities for Canadians. Green Power investment can create high-paying geographically dispersed jobs in the provinces and territories. Education initiatives should include primary and secondary school curricula, post-secondary curricula, and training courses.
- 10 **Setting Up Green Power Coordinating Bodies.** Coordinating bodies should be created at the provincial and territorial levels to engage relevant ministries and stakeholders to oversee the establishment

and implementation of targets for Green Power development and deployment. A new national coordinating body or network should also be established.

## **Recommendations for Other Green Power Actors**

**Municipalities.** Local governments have a major role to play in the engagement of Canadians, as well as the removal of barriers to Green Power deployment by streamlining planning and permitting practices. Many local governments have taken the lead on developing other types of renewable energy than electricity generation providing relief for strained electricity grids and market development for these technologies. There have also been several local government procurement initiatives and sustainable community development, such as Okotoks, Alberta. Local governments are also central in the development of Community Power Systems and in the development and implementation of energy efficiency initiatives.

**First Nations.** There is considerable opportunity for First Nations communities to develop Green Power. One example of an active community is the Squamish Nation in British Columbia. This First Nations community offers a unique perspective to renewable energy development by using site rehabilitation as a starting point, as opposed to developing projects and then attempting to mitigate environmental impacts. This type of approach not only allows the development of more environmentally benign energy sources, but also strives for site remediation, which offers several economic and environmental benefits. Renewable energy development in First Nations communities offers additional benefits, such as economic development, the creation and preservation of jobs, education and skills development, and enhanced community leadership.

**Other Stakeholders.** Utilities should provide expertise for the development of regional strategies and play a key role in the implementation phase. They can determine the most effective way to offer Green Power products to industrial and retail customers. The Canadian Standards Association, and other standard-setting bodies, should develop appropriate Green Power standards. Universities and Community Colleges, and their national associations, should develop programs to educate and train the labour force. The Canadian public should be able to support and invest in local Green Power projects. Finally, every level of government can develop programs to encourage the secure supply of more environmentally benign fuel sources.

**To review a more detailed version of this policy brief or for more information on the Canadian Renewable Energy Alliance (CanREA), please visit [www.canrea.ca](http://www.canrea.ca) or contact:**

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*This work was carried out with the aid of grants from the Oak Foundation and the International Development Research Centre.*