



The Canadian Renewable Energy Alliance (CanREA) is an alliance of Canadian civil society organizations from the non-profit or voluntary sector that hold a common interest in promoting a global transition to energy conservation and efficiency and low-impact renewable energy.

Canada's Great Clean Energy Opportunity **Creating Jobs and Economic Development through Energy Efficiency and Renewable Energy**

Recommendations for Budget 2009 and Building a Green Economy **December 17, 2008**

Our country's industrial sector is facing an emergency that needs practical solutions to ensure national prosperity. The latest figures from Statistics Canada indicate that the Canadian manufacturing sector has lost 388,000 jobs since 2002. A key solution for stimulating the Canadian industrial sector and creating new manufacturing jobs is developing an ambitious renewable energy and efficiency strategy that harnesses our vast domestic and regional markets.

The Canadian Renewable Energy Alliance (CanREA) recommends that Canada should implement a major stimulus package for energy efficiency and renewable energy as cornerstone of its long term economic and market development plan. This strategy would complement the lead of United States President elect Barack Obama who promises to spend \$150 billion over the next 10 years to improve energy efficiency and support renewable energy sources and the green jobs that the sector has the potential to create [see box].

United States President elect Barack Obama plans to strategically invest \$150 billion over 10 years to accelerate the commercialization of plug-in hybrids, promote development of commercial scale renewable energy, and begin transition to new smart electricity grids. The plan will also invest in America's highly skilled manufacturing workforce and manufacturing centers to ensure that American workers have the skills and tools they need to pioneer the green technologies that will be in high demand throughout the world.

To quote President elect Obama on November 22, 2008: "We'll put people back to work rebuilding our crumbling roads and bridges, modernizing schools that are failing our children, and building wind farms and solar panels, fuel-efficient cars and the alternative energy technologies that can keep our economy competitive in the years ahead."

According to research conducted by Management Information Services, Inc. (MISI), the renewable energy and energy efficiency industry could—in a crash effort—generate up to \$4.5 trillion in revenue in the United States and create 40 million new jobs by the year 2030. These 40 million jobs would represent nearly one out of every four jobs in 2030, and many would be jobs that could not easily be outsourced. www.ases.org

The Apollo Alliance says that \$10 billion dollars of investment into efficiency upgrades and retrofits would create more than 100,000 on-site jobs and hundreds of thousands more indirect jobs in the local economy. www.apolloalliance.org

Renewable energy is the fastest growing energy source of the 21st Century, and when coupled with significant improvements in energy efficiency is one of the best ways of providing good jobs and economic development all across Canada. Energy efficiency and renewable energy are also the most effective measures to tackle global warming, make improvements in air and water pollution, and improve energy security and access to energy.

Saving energy creates jobs. Volatile energy costs add strain first and foremost on fixed and low income households, small and medium companies, and school boards and public health facilities. Existing energy efficiency technologies, installed by today's trades and professions will produce positive returns on investment financially and environmentally. Many of the energy efficiency solutions – green buildings, better windows, insulation, high efficiency appliances - are manufactured in Canada.

Recommendations for Budget 2009:

CanREA recommends that the Federal Government make the energy efficiency and renewable energy industries two cornerstones of the new green economy. To kick start this new economy and create new permanent jobs all across Canada, CanREA recommends that the Federal Budget for 2009 include the following five point economic and market stimulus plan:

1. **Smart Energy Fund (2.5 Billion):** For energy efficiency and small scale renewable energy systems access to capital can be a primary barrier. Budget 2009 should establish a \$2.5 Billion Smart Energy Fund that makes low interest loans (1/2% below prime) to homeowners, businesses, industrial firms, and public entities for energy efficiency technologies, staff training, green building, and building scale renewable energy technologies like solar water heating.
 - Financing would be provided through financial institutions and municipalities that would be able to use a variety of financing vehicles such as performance contracting, green mortgages and local improvement charges. Loan terms would be up to 10 years to allow savings to be used to repay loans. Designate \$1 billion of the fund for loans to large commercial entities that would be required to match capital investment from their own funds.
2. **National Green Economy Training Program (\$500 Million):** Long-term education and training, on-the-job experience, certification and apprenticeship programs are the key to new good jobs in the green energy sector. Budget 2009 should establish and finance a national program to train and certify auditors, renovators, installers, financiers, designers and operators. It would help trades people adapt their skills, and mobilize the network of trades-schools to provide intensive training programs.
 - Direct investment in trades schools across Canada to provide intensive training in energy efficiency and solar hot water installations. Every province able to offer a training program for enough trades people appropriate for the province's population.
3. **National Building and Housing Renovation Programs (\$2.5 Billion).** Inject \$2.5 billion over the next 5 years into direct investments supporting the retrofit and re-commissioning of Canada's homes and buildings. This would not only puts thousands of people back to work, but also lower energy bills, and free up income just like a tax cut.



- Provide very low cost access to energy auditors for small businesses and households; free access to low-income households, schools and other public buildings; and partially subsidized access for larger commercial and industrial buildings. Auditors would also continue to provide technical and financial advice throughout the retrofit process, and ensure the upgraded building operates at peak efficiency.
 - Investments should encourage upgrades that go beyond basic improvements by rebating audit costs on completion of high efficiency upgrades, providing grants for selected high efficiency products/measures such as high level insulation upgrades, high efficiency windows, integrated heating and cooling systems, and solar hot water.
 - Federal funds should be provided in a flexible manner in partnership with provinces, territories, and utilities based on measurable energy saving results rather than a fixed top-down program design.
 - \$1 Billion of the investment would be earmarked for **low-income homeowners/renters/fixed income, schools, and small businesses** including the multiple-unit social housing (MUSH) sector.
4. **Leveraging Investment in Grid Scale Renewable Energy (\$2.8 Billion):** Invest \$2.8 billion in a renewed ecoENERGY renewable power program to help Canada rapidly catch up to countries like Germany, Spain and the United States. EcoENERGY has been a proven success at stimulating renewable energy projects such as wind power. Renewing this program will not only create jobs and deliver clean energy, but could provide a stable signal to a new wind turbine manufacturing industry in Canada and complement innovative provincial initiatives such as feed-in tariffs. President-elect Obama has made a \$150 billion commitment over 10 years to clean energy. Canada has a choice to either keep pace or fall behind our largest trade partner.
- Specific set-asides should be earmarked for different regions of the country and a level of incentive that matches the development status of each technology.
 - Target: 12,000 megawatts (MW) of renewable energy generating capacity by 2012 including 100 MW of wind capacity installed in the Canadian North.
5. **Sustainable Transport Sector Investment:** Provide equity financing to Canada's auto sector, conditional on the rapid development of high efficiency vehicles and mass transit vehicles capability. Make targeted transfers (investments) of \$30 billion to the Provinces and Territories to support the rapid construction of mass transit and smart growth infrastructure over five years. Our cities are sprawling, our commuting times and associated loss in productivity are a drag on our economy, while at the same time much of our existing transit infrastructure is aging. Many buses and train systems are manufactured in Canada, again helping revive a sector currently at risk.

By immediately focusing on these priority areas, the double dividend payback for the economy and the environment is significant. All of these efforts work right across Canada, in every province and every territory, in every city - small and large.

Building a New Green Economy

To build a robust green economy based on efficient use of energy and renewable energy resources, CanREA recommends that the federal government work with provinces, territories, the energy efficiency and renewable energy industries, and all Canadians on the development of a **national renewable energy strategy**. This should build on the current cooperative activities under the Council of Energy Ministers, Council of the Confederation, the Canadian Energy Efficiency Alliance, and Canadian Renewable Energy Industry Network.

Canada should also establish a national institution or laboratory to lead our development and commercialization of renewable energy resources and join the new International Renewable Energy Agency (IRENA) established by Germany to provide global support and technical assistance of renewable power.

Global investment in renewable energy has grown from \$24 billion in 2003 to over \$100 billion in 2007.¹ Meeting power needs with renewable energy has been the greatest success story. The global wind power market is now worth \$30 billion a year alone and solar electricity investment at \$20 billion per year is poised to be the next big power market.

Net renewable energy employment growth in the European Union is projected to increase to between 950,000 and 1,660,000 by 2010 if the current target of 20% of energy demand satisfied with renewable energy is met.² In the United States, the Renewable and Appropriate Energy Laboratory found that renewable energy creates more jobs per megawatt (MW) of power installed, per unit of energy produced, and per dollar of investment, than the fossil fuel energy-based sector.³

Canada lags behind the rest of the world in supporting energy efficiency and renewable energy. Many countries have set targets for both energy efficiency and renewable energy and have put strong permanent policies and regulations in place to support investment, build industrial capacity, and provide assistance to developing countries. These include Spain, Germany, Italy, France, many U.S. States and even India and China. These countries want to ensure that they harness their domestic markets to have a mature, safe and competitive renewable energy industry.

Leading countries use “feed-in” tariffs⁴ that give renewable power sources priority in terms of grid access, fixed premium prices, and no limits or caps. Under the leadership of Germany, many countries are coming together to establish the International Renewable Energy Agency (IRENA) to promote renewable energy worldwide, and provide assistance to developing countries.

¹ REN 21 Renewable 2007 Global Status Report <http://www.ren21.net/default.asp>

² *Meeting the Targets and Putting Renewables to Work- FLYER*, EU Commission on Monitoring and Modeling Initiative on Targets for Renewable Energy (MITRE) <http://mitre.energyprojects.net/>

³ *Putting Renewables to Work: How Many Jobs can the Clean Energy Industry Generate*, Renewable and Appropriate Energy Laboratories, April 2004 <http://rael.berkeley.edu/files/2004/Kammen-Renewable-Jobs-2004.pdf>

⁴ Feed-in Tariffs are also called Advanced Renewable Tariffs and Renewable Energy Payments

CanREA's main messages are:

- Canada is lagging behind the rest of the world on the use of renewable energy technologies while at the same time it has more renewable energy resources than most other countries. We are positioning Canada as a laggard in relation to international activity and creating a competitive disadvantage.
- This is a huge lost opportunity for Canada to quickly develop strong domestic and regional markets. We are missing out on the fastest growing energy source of the 21st Century and one of the best ways to provide good jobs and economic development.
- In addition to creating jobs all across Canada, energy efficiency and renewable energy are the most effective measures to tackle global warming.
- Canada should set short and long range targets for developing domestic and regional markets for both energy efficiency and renewable energy.
- Canada has a unique opportunity by encouraging aggressive targeted investment in energy efficiency and renewable energy through a comprehensive energy strategy including financing, training, R&D, regulation, and mechanisms like feed-in-tariffs that will enable provinces to reach these targets.
- Canada should support provincial governments like Ontario that implement innovative policies such as feed-in tariffs.
- Canada should consolidate these measures through budgetary additions and the passage of a Canadian Renewable Energy Act and amendment of the Energy Efficiency Act.
- Canada should join the International Renewable Energy Agency (IRENA); an intergovernmental body which will provide practical guidance to national governments interested in advancing renewable energy.

In 2006, CanREA published a Model National Renewable Energy Strategy that would set Canada on the path to a transition to sustainable energy. CanREA recommends that the federal government work with provinces, territories, the energy efficiency and renewable energy industries, and all Canadians to develop and implement such a strategy starting with the following measures:

1. Leadership:

- Targets: Establish and help fund the establishment of **short term tactical targets and long term strategic energy efficiency and renewable energy targets** for all sectors and all energy uses – power, heat and fuels.
- National Secretariat: Establish a **national secretariat** under the Council of Energy Ministers to support the current collaboration among governments on energy efficiency and develop similar collaboration on renewable energy.
- National Renewable Energy Act: Develop a national renewable energy strategy and a Renewable Energy Act that has the goal of making low-impact **renewable energy sources the primary focus of Canada's long-term energy supply and prosperity strategy**. The Act would offer long term support for renewable energy deployment for provinces that adopt



feed-in tariffs and other innovative policies, as well as regulate renewable energy use within federal jurisdiction. It would also establish a Canadian Renewable Energy Laboratory.

- Power Grid Development: Establish a **high-level national task force on renewable power grid integration, power storage and transmission**. Such a task force is needed to recommend policy, technology development and regulatory changes that will maximize the deployment of renewable power potential in Canada.
 - National Rail Strategy: Establish a **national rail network authority** to develop comprehensive and effective national high speed passenger and freight rail systems powered by renewable energy as viable alternatives to road transport.
 - International Cooperation: Participate actively in and provide funding for international partnerships like the **International Renewable Energy Agency** to expand international cooperation on renewable energy and to help developing countries adopt clean energy alternatives at the community level. For Canada, IRENA would provide reliable data on the potential of renewable energy, best practices, effective financial mechanisms and state-of-the-art technological expertise.
2. Financing:
- Low Interest Loans: Expand the **Smart Energy Fund** to provide seed financing, R&D support and make loans to utilities, municipalities, or public-private partnerships to provide energy efficiency, green building, and renewable energy services and financing to homeowners, businesses, industrial firms, and public entities.
 - Community power generation. Provide seed monies from the Smart Energy Fund to **provincial community power funds** to cover soft costs for project development and capacity building as well as low-interest loans to enable ownership of projects by community power proponents.
3. Training: Provide on-going funding through the **National Green Economy Training Program** to promote good jobs in energy efficiency and renewable energy by training and certifying auditors, installers, financiers, designers and operators. This would provide a commitment to a long-term education and training, on-the-job experience, and providing apprenticeship programs.
4. Buildings and Housing:
- Retrofit and Re-commissioning: Using the collaborative processes set up under the Council of Energy Ministers and Council of the Federation, develop with Provincial and Territorial governments a **comprehensive building and housing re-commissioning and retrofit plan** to upgrade the majority of buildings in Canada by 2020 through strategic use of financing, training/certification, labeling, best practice identification and "rewards", strategic grants for high efficiency practices and products, and ultimately regulation of efficiency at time of sale or lease. Support this process with targeted federal financial and technical support programs.
 - Low-Income Housing: Rapidly develop with Provinces and Territories a **low-income homeowners and renters program** to retrofit all low-income housing over 10 years.
 - Green Buildings and Housing: Provide **tax credits** for new net zero and green buildings and housing. Incorporate energy performance requirements and renewable energy



considerations into the next version of Canada's **National Building Code**. Work with Provinces and Territories to include regularly increasing energy performance requirements and renewable energy considerations in **all local building codes**. *Target:* All new Canadian buildings are net zero energy by 2030.

5. Transport:

- Vehicles. Set regularly increasing **efficiency standards for all light vehicles and heavy trucks**. Provide tax relief and/or financial incentives that would catalyze the adoption of plug-in hybrid vehicles and renewable energy charging stations into Canadian commercial fleets.
- 6. Sustainable Communities: Provide annual major targeted transfers (investments) to the Provinces and Territories to support the rapid construction of **mass transit and smart growth infrastructure powered by renewable energy sources**. (Calgary's Ride the Wind Program provides an innovative example that needs to be replicated throughout Canada.)
- 7. Establish market-based criteria that ensure the sustainable use of **biomass resources for the production of ethanol and biodiesel** from forest and agricultural materials. All existing and future financial support for renewable fuels should be limited to fuels that meet these established criteria.

8. Renewable Power:

- Support provinces that adopt **feed-in tariffs** and other innovative policies as these policies pay directly for the electricity that these projects generate thereby eliminating any project construction and operation risks to tax payers. Scale up the current **EcoEnergy for Renewable Power incentive program** by three fold over the next five years and target kWh premiums to match specific technologies. Include specific set-asides for different regions of the country and a level of incentive that matches the development status of each technology. *Target:* 35,000 megawatts (MW) of renewable energy generating capacity by 2020.

9. Renewable Heat:

- Introduce a **national tax credit for residential and small business solar water heaters** as a supplement to the EcoEnergy for Renewable Heat program. *Target:* one million residential and small business solar systems in 10 years.
- Support **sustainable, renewable biomass heating fuels industry** particularly in BC, Quebec and Northern Ontario. *Targets:* 1000 MW Biomass power plants. 1.25 million homes and businesses using renewable heating fuels by 2018.