



International Cooperation in Renewable Energy and Energy Efficiency – Moving Toward a Sustainable Future

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This paper is one of eight background reports on the Canadian Renewable Energy Alliance's model framework and recommendations for a comprehensive Canadian renewable energy strategy. This paper includes recommendations for provincial energy efficiency and conservation policies and for actions backed up by national enabling measures and international participation.

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The Canadian Renewable Energy Alliance (CanREA) is an alliance of Canadian civil society organizations from the non-profit or voluntary sector that share an interest in maximizing energy efficiency and conservation and promoting a global transition to low-impact renewable energy. Members of CanREA believe that this transition is needed to address global climate change, pollution, global energy supply, human security, poverty eradication and economic sustainability. CanREA recognizes that our window of opportunity is limited and that this global transition must begin now through individual country action, international co-operation and a range of innovative market instruments, regulatory measures, public education efforts and voluntary actions.

The organizations actively involved in the formation of CanREA include:

- Canadian Association for Renewable Energies
- BC Sustainable Energy Association
- The David Suzuki Foundation
- Falls Brook Centre
- The Halifax Initiative
- One Sky—The Canadian Institute for Sustainable Living
- The Ontario Sustainable Energy Association
- The Pembina Institute
- Pollution Probe
- The Saskatchewan Environmental Society
- The Sierra Youth Coalition
- STORM Coalition

For more information on CanREA and its members, visit our website at www.canrea.ca

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1. Introduction

For environmental and equity reasons, renewable energy has become a global imperative – a means of transforming economies from fossil fuels to sustainable energy, and as a means to providing modern energy services to those currently without.

More than 1.6 billion people live without access to electricity and 2.4 billion lack modern energy services for cooking and heating. Millions more are connected to the grid but experience poor power quality and frequent power outages. Women, the elderly and children will benefit the most from access to renewable energy technologies as they are most often burdened with the collection of traditional fuels, the pumping of water and exposure from harmful emissions from traditional cooking methods, which is the leading cause of respiratory illness¹. Dependent on dwindling biomass supplies, many rural women in sub-Saharan Africa carry 20 kgs of fuel wood an average of five kilometres a day. In 2005 the richest 20 percent of the world's population consumed 58% of the world's energy while the poorest 20 percent consumed less than 4% - the majority of whom live in sub-Saharan Africa and Asia.

Access to basic, clean energy services is essential for sustainable development and poverty eradication, and provides major benefits in the areas of health, literacy and equity². Simply put, the developing world needs more access to energy while at the same time the world as a whole needs to rely on less polluting forms of energy. Energy services have a critical role in achieving the Millennium Development Goals (MDGs). The UN Commission on Sustainable Development has called access to renewable energy a “prerequisite” for halving poverty by 2015. International cooperation in the area of renewable energy is needed to help fill the gap and improve energy equity.

Energy Equity? Canadians use as much energy as the entire continent of Africa, home to 700 million people.

Added to the need for addressing energy for development are climate change and the fact that we have reached peak oil or will within the next 30 years. Fossil fuels, large hydro dams and nuclear energy have all been sources of conflict and are predicted to be at the core of future wars. Energy is becoming the focus of several international negotiations although ironically has no permanent home within the United Nations and is predominantly dealt with by major international institutions that represent sectoral interests of the traditional carbon-based energy system (such as OPEC, G8 and the International Energy Agency). International cooperation to expand renewable energy, a relatively conflict-free and secure energy source, is increasing but needs greater political will and leadership in order to transition effectively from a fossil-fuel based economy.

2. Overview of Canadian Context

Internationally, Canada has not been a leader in promoting supportive policies and committing to international cooperation that actively promotes renewable energy (RE). Canada's reluctance has mostly centered around removing subsidies to conventional energy sources, the inclusion of large hydro as a renewable source, and the setting of binding international targets for renewable energy. Likely due to its own energy make-up and endowments of large hydro, nuclear and fossil fuels, Canada consistently argues for a “balanced approach” to all energy mixes. This ignores both the preferential treatment of conventional energy sources through subsidies and infrastructure, and the realities of climate change and the global peak oil scenario. While the setting of an international target is argued by Canada to be colonialist and imposing, an international agreement to have all

parties set national targets and timelines for renewable energy can support international cooperation toward achieving country goals while reducing poverty and mitigating climate change. While Canada lacks a well-developed renewable energy sector and a national renewable energy strategy to be able to take a leadership role at the international level, international cooperation efforts can in turn influence Canada's domestic policies.

Energy has been a contentious issue at various international fora including the Genoa G8 meeting, the Commission on Sustainable Development (CSD) 9 and the World Summit on Sustainable Development (WSSD). After no targets or timelines were set in the Johannesburg Plan of Implementation, more than 30 countries proclaimed their commitment to the promotion of renewable energy sources at the final plenary of the WSSD. Many of these countries announced their own national targets and timelines, and Germany agreed to host an international renewable energy conference in 2004. While Canada was not among one of these "countries of the willing"³, they did send a delegation to the Renewables 2004 conference held in Bonn, Germany. The meeting involved a political declaration that leaders from 154 countries agreed upon (including Canada), policy recommendations for nations to consider in developing renewable energy and an action plan that summarized various national initiatives regarding renewables⁴. Canada did not have the profile nor provided the leadership in Bonn that it has shown at similar international meetings, and an opportunity was missed to promote Canadian business and the potential for Canadian renewable energy production⁵.

While Canada has missed some opportunities to fully engage in the global effort to develop renewable energy, the situation seems to be changing. The Johannesburg Plan of Implementation at the WSSD and the Bonn Declaration that were endorsed by Canada include support and expansion of renewable energy as a tool to meet the Millennium Development Goals, steps to provide access to energy and to contribute to sustainable development, goals to mitigate GHGs and harmful air pollutants, and commitments to enhance international cooperation. Canada has also endorsed statements from the International Energy Agency and the G8⁶ supporting expansion of the use of renewable energy. Canada joined the Renewable Energy and Energy Efficiency Partnership (REEEP) – a Type II partnership outcome from the WSSD in 2005 and is encouraged to renew membership. Canada attended the follow-up Beijing International Renewable Energy Conference held in November 2005 where it enjoyed higher profile with then Minister Stephane Dion presenting and promoting the Montreal international climate change conference. Canada also ratified the Kyoto Protocol and hosted COP 11/MOP 1 in December 2005. Canada needs to follow-through on these commitments and increase its international cooperation profile in renewable energy as part of a push toward greater energy equity and sustainable development.

3. International Cooperation - Best Practices

The German government was well placed to take the lead and coordinate the first international conference on renewable energy as they have become world leaders in renewable energy by using sophisticated feed-in laws (which guarantee interconnection to the grid and provide negotiated premiums for all renewable energy options). Today the German government expects to meet 20% of their electricity demands using renewable energy by 2020 and 65% of their electricity needs by 2050.

Other countries are also taking significant steps in regards to renewable energies. Policy targets exist in at least 45 countries worldwide including developing countries. India is a world leader in wind energy and has launched an ambitious target to bring electricity to 112,000 rural villages in the next decade, partly with renewable energy technologies such as biomass gasifiers. India is also the only country to have a full fledged Ministry dedicated to renewables. China currently leads the world in solar hot water production and recently passed a milestone Renewable Energy Law. China has targets of 10 percent primary energy and 12.5 percent of power capacity by 2020⁷. In 2003, South Africa set a target of 10 TWh of additional final energy from renewables by 2013. The European Union has regional targets of 21 percent of electricity and 12 percent of total energy by 2010⁸. In less than 10 years Spain went from having no experience in wind energy to becoming the world's second largest wind power leader. Denmark is notable in that it currently meets 20% of its electricity production with wind energy and is planning to increase its use of renewable energy to 50 per cent. In July 2006, the French Minister for Industry, Finance, and Economics announced new advanced renewable tariffs for solar, wind, biogas and geothermal

energy to put them on par with Germany's incentives. Despite these impressive examples, renewable energy still represents only 3% of the world's energy mix.

Leadership at home often leads to leadership abroad. In terms of international cooperation, Germany, Denmark and the Netherlands are at the forefront in terms of official development assistance (ODA) supporting renewable energy programs. Other than those three, the majority of donor countries have either highlighted energy or access to sustainable energy as one of their ODA priorities or have renewable energy development programs, including Austria, Finland, France, Japan, Sweden and the United States⁹. The EU launched an Energy Initiative (EUEI) for Poverty Eradication and Sustainable Development at the WSSD¹⁰. This initiative aims to support improved access to sustainable energy services in developing countries, in particular by maximizing energy efficiency and increasing the use of renewable energy. The Initiative states that it is driven by the needs and priorities of the participating developing countries. The German Development Finance Group (KfW) is the leading funder of renewable energy projects in the developing world along with the Global Environment Facility¹¹. The KfW – Entwicklungsbank committed 170 million Euro toward renewables and energy efficiency in 2005.

During energy week at the World Bank in March 2006, the Dutch set a target to provide 10 million people with modern energy services before 2015 as their collaboration to meet the MDGs¹². While other governments were encouraged to match their commitment in order to target the 2.4 billion without access to modern energy services, no one has yet done so.

There are a growing number of international collaborative initiatives include the Renewable Energy and Energy Efficiency Partnership (REEEP), the Global Village Energy Partnership (GVEP), Renewable Energy Policy Network for the 21st Century (REN21) and the Global Network on Energy for Sustainable Development (GNESD). REEEP is a coalition of progressive governments, businesses and organizations committed to accelerating the development of renewable and energy efficiency systems¹³. Initiated at the WSSD by the UK Government, the partnership is supported by a number of governments with Canada recently coming on board and encouraged to further support. GVEP¹⁴ brings together developing and industrialized country governments, public and private organizations, multilateral institutions, consumers and others to promote the linkages between energy and poverty reduction strategies as well as the MDGs. GVEP envisions a world in which access to energy services is provided for the unserved or underserved in a manner that enhances economic and social development and alleviates poverty. The Renewable Energy Policy Network for the 21st Century (REN21) is a multi-stakeholder network that resulted out of Bonn and that aims at providing a forum for international leadership on renewable energy. Its goal is to allow for the rapid expansion of renewable energies globally by bolstering policy development and decision-making on sub-national, national and international levels. REN21 has been instrumental in releasing studies on the global status of renewable energy. The Global Network on Energy for Sustainable Development (GNESD) is a UNEP facilitated knowledge network of developing world Centres of Excellence renowned for their work on energy, development and environment issues. It is a capacity building, knowledge sharing and networking initiative. All GNESD activities are based on the firm belief that access to affordable, modern energy services is a pre-requisite for sustainable development and the alleviation of poverty.

4. Recommendations for Provincial Strategies

One of the challenges the federal government faces in the international cooperation arena for energy is that the majority nationally lies within provincial jurisdiction. However, the provinces and territories can play a significant role in national processes to implement international cooperation efforts and international agreements related to renewable energy.

Provinces and territories could:

- Adopt elements of the Bonn policy recommendations.
- Take leadership roles and set their own targets for renewable energy supply and government procurement that exceed those made at the national or international level, if any.
- Create favourable investment climates for renewable energy (RE) technologies.
- Develop their own RE funds to support Canadian NGOs and businesses working on international

renewable energy projects.

- Include members of the RE business sector on international trade missions.
- Support post-secondary education and training programs that increase the capacity of Canadians in the renewable energy technology sector, and provide scholarship programs for developing country students.
- Call on the Federal government to develop a national renewable energy strategy and participate in its development.

5. Recommendations for Federal Enabling Policies and Support

By supporting renewable energy projects and initiatives, Canada's official development assistance (ODA) activities could assist in meeting Millennium Development Goal (MDG) targets and climate change objectives. As recognized at the WSSD and Bonn, renewable energy plays a critical role in achieving the MDGs that Canada is also committed to. Canada released its new international policy statement in 2005 that includes renewed priorities for the Canadian International Development Agency (CIDA)¹⁵. The new priorities are good governance, health (with a focus on HIV/AIDS), basic education, private sector development and environmental sustainability, with gender equality as a cross-cutting theme. With CIDA's current stated focus on attaching programming to "areas that would make the strongest contribution to achieving the MDGs", it seems obvious that renewable energy should become a large programming area for Canada's ODA. CIDA, and other federal departments, must recognize this link between poverty alleviation and renewable energy explicitly and integrate renewable energy into their ODA portfolio.

Canada often relies on what's identified in a country's poverty reduction strategy paper (PRSP) to decide what priority area to fund. There are several issues with doing so, including the lack of energy and environmental strategies within these PRSPs as well as the fixed policy matrix of the IMF/World Bank that pre-defines what types of policies are eligible for aid resources¹⁶. There are some European countries now working with those either developing or renewing their PRSPs to include renewable energy and efficiency strategies within them. In the meantime, CIDA should not rely entirely on PRSPs in developing ODA policies or priorities for renewable energy and energy efficiency. Not only are many local communities demanding access to energy, but many developing countries have renewable energy targets and policies that should be supported.

Canada must also play its part in the global challenge of transforming all world economies away from fossil fuels to renewable energy sources. Climate change will only be halted if all countries move toward renewable energy and energy efficiency.

Recommendations for the federal government

In Official Development Assistance –

According to the OECD, while 92% of rural Africans are without access to electricity (over 500 million people)¹⁷, only 4 per cent of total aid to Africa is spent on energy. However, this aid and international finance is devoted almost entirely to large-scale national projects or the export of energy resources. CIDA has supported large harmful hydro dam projects¹⁸ and other dubious energy projects from nuclear power plants to oil pipelines. The support and delivery of energy services to the rural or urban poor is negligible at best and electricity companies, whether private or public, have little or no incentive to provide services to these areas. There is an opportunity for decentralized renewable energy systems to reach these rural areas as a cost-effective alternative toward achieving rural poverty alleviation. The federal government should:

- Recognize in its ODA portfolio the key role of renewable energy and efficiency for the developing world and poverty eradication. Canada should phase out support of fossil fuel development projects and shift toward the sole support of renewable energy (RE) and energy efficiency (EE) initiatives through CIDA. CIDA should highlight renewable energy options as a priority in its bilateral and multilateral ODA programs and provide substantial funding for EE/RE programs.
- In supporting access to energy in developing countries, give ODA priority to renewable energy projects that support national targets, greater energy security, capacity building, poverty reduction and maximize local

benefits¹⁹. Make ODA accessible to community level projects.

- Support research and development, capacity building programs (such as technology training programs, small business support, technical assistance/transfer, community consultation) and micro-finance schemes with partners in developing countries.
- Increase support for clean and more efficient cooking strategies aimed specifically to health sector development and reducing respiratory ailments and deaths from indoor air pollution, and to environmental initiatives linked to regenerating local forests.
- Advance Clean Development Mechanism (CDM) policies to enforce sustainable development criteria and support renewable energy technologies, in particular small-scale decentralized initiatives. Supporting the development of these projects through capacity building and project development support.
- Prioritize investment in JI or CDM projects that clearly use low-impact renewable energy and energy efficiency to meet Kyoto targets.
- Fund South-South collaboration initiatives that can provide significant benefits in terms of technology transfer and capacity development for renewable energy.

To Level the Playing Field for the Renewable Energy Industry

In order to maximize the full potential of renewable energy, the markets need to be redesigned to support its development. The federal government should:

- Agree to an international agreement that calls on all governments to set nationally binding targets for renewable energy. Work with other countries to develop a set of internationally agreed metrics for the setting of comparable targets and the measuring of progress on renewable energy deployment globally²⁰.
- Support and implement international agreements, programs and policies that phase out perverse subsidies and lending to non-renewable energy sources, with a transition plan to avoid undue hardships on developing country economies that currently rely on non-renewable energy sources. This includes implementing para 19. (p) and (q) of the Johannesburg Plan of Implementation²¹.
- Use Export Development Canada (EDC) to actively encourage growth in Canada's renewable energy technology sector and, as an initial target, dedicate 10% of EDC's total energy portfolio to RE projects. Simultaneously phase out EDC support for unsustainable sources of energy such as fossil fuels, nuclear power and large-impact hydro.
- Redirect trade policy toward supporting renewable energy technologies (such as reducing import duties on RE equipment), and makes Canada attractive to EE/RE investment (such as through internationally compatible regulatory structures).

Domestic Policies that Support International Cooperation

In order to strengthen Canada's leadership in the international arena, it needs to develop a national renewable energy strategy and strengthen its domestic portfolio. The federal government should:

- Implement the Bonn Policy Recommendations call of mainstreaming renewable energy into other sectors such as agriculture, forestry, transportation, economic development, poverty alleviation, education, urban and land-use planning and infrastructure development – nationally and internationally. Canada must also meet or exceed its current commitments as outlined in the Bonn Action Plan.
- Foster greater communication and collaboration across departments, in particular between CIDA, Environment Canada, DFAIT, NRCan, HRSDC and Industry Canada, to negotiate and better implement international agreements, policies and programs that call for reductions in perverse subsidies and increases in renewable energy. The establishment of a National Renewable Energy Secretariat would facilitate this and provide crucial support for international efforts.

For Participating in International Dialogues and Cooperative Programs

The United Nations, G8, international financial institutions and other international bodies have been charged with supporting and coordinating the development of renewable energy and energy efficiency. The federal government should:

- Effectively prepare for CSD 15 by involving civil society, the private sector and government in preliminary consultations on energy as well as reporting on our commitments within the Bonn action plan. Canada must also ensure adequate representation at these meetings and involve relevant departments.
- Support the development of local, regional, national and international networks addressing renewable energy, MDGs and global climate change objectives; and support the development of an International Renewable Energy Association (IRENA) or other international renewable energy agency that provide a monitoring role.
- Champion and support the development of international financial instruments that support renewable energy and energy efficiency programs through the Clean Development Mechanism of the Kyoto Protocol, the Global Environment Facility and the World Bank (such as the BioCarbon Fund and Community Development Carbon Fund). There is also a need for innovative financing mechanisms to fully transition from a carbon-based economy with suggestions including the Tobin Tax and Carbon Taxes going toward renewable energy programs²². Canada should review and support some of these financing initiatives.
- Provide financial and more active Canadian participation in the Global Village Energy Partnership (GVEP), REEEP and RN21, and establish a Canadian renewable energy trust fund at the GVEP, UNDP, GEF or other multilateral organization supporting community based RE projects.
- Strengthen Canada's renewable energy portfolio and become an active member of the Johannesburg Renewable Energy Coalition (JREC).

6. Recommendations for Other Actors

Canada should encourage through its membership in International Financing Institutions (such as the World Bank, IMF, African Development Bank) the phasing out of fossil fuel investments/loans/projects; the channelling of 5% of their annual profits to developing and implementing small-scale RE projects; increasing the World Bank's RE lending to 20% of its total energy portfolio; providing cost-sharing agreements and grants for RE research and development, and low-interest loans for RE businesses and users.

Canada should also provide encouragement and assistance to NGOs and CBOs to access and distribute funding for renewable energy projects; undertake advocacy on RE financing; act as an interface between donor agencies and communities ensuring that all facets of community are fairly represented in all RE projects; actively participate in national and international negotiations and networks related to renewable energy; continue to raise awareness and educate the public and decision-makers about RE and energy efficiency; monitor and evaluate energy programs and targets set by local, regional and national governments; and work in partnerships to develop the capacity of Southern NGOs and communities to implement and manage their renewable energy system.

7. Conclusion:

To date, Canada has been reluctant to address renewable energy and energy efficiency separately from other energy mixes. In doing so, it is missing the opportunity to assist with forward momentum of these less controversial and conflict prone energy sources in making the necessary transition from a carbon-based economy. Nationally, Canadians are facing rising heating costs and prices at the pump as well as more frequent energy blackouts. A barrel of crude oil is selling at \$74 US with fighting in the Middle East and uprisings in the Niger Delta impacting production²³. The energy issue needs to be addressed in a forward looking sustainable way. The international community has recognized the critical role that renewable energy can play in meeting its objectives of poverty alleviation and climate change mitigation. If Canada acts now on the above recommendations, it can shift from its current peripheral role to a position of global leadership in renewable

energy and energy efficiency issues.

Although Canada formed the Federal/Provincial/Territorial Renewable Energy Working Group, it should develop a more formalized national renewable energy body (council, committee or secretariat). As well as working toward the development and implementation of a national renewable energy strategy, this body with NGO, industry, local government and relevant ministerial representation, could play an important role for Canada at international negotiations on issues related to energy (including at climate change, poverty alleviation and other relevant forums). This approach could potentially lead to greater leadership and accountability at the international level.

Energy issues are gaining increasing importance at international fora. The coming cycle of the CSD is focusing on energy and climate change. Negotiations are underway for a post-Kyoto (2012) international climate change regime. The G8 meetings seem to have a continuous focus on energy with the most recent one hosted by Russia discussing energy security. Germany is likely to have renewable energy and efficiency on their agenda for the G8 2007 meeting. By following up and implementing the above recommendations, these events and others provide opportunities for Canada to turn the tide and further international cooperation as it relates to renewable energy.

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Endnotes

- ¹ The World Health Report 2002 estimates that 1.6 million people die each year from burning fuel in poorly ventilated cooking areas. World Health Organization, Geneva, 2002.
- ² Powering Poverty Reduction – ITDG, May 2004, p.5.
- ³ Johannesburg Renewable Energy Coalition.
- ⁴ Bonn Declaration – www.renewables2004.de
- ⁵ Report on the International Conference for Renewable Energies – Compiled for the Canadian Environmental Network, by Michael Simpson, One Sky – August 2004.
- ⁶ G8 Renewable Energy Task Force: Final Report. July 2001. http://www.renewabletaskforce.org/pdf/G8_report.pdf and 2004 Gleneagles statement.
- ⁷ REN 21 Renewable Energy Policy Network. 2005. “Renewables 2005 Global Status Report”. Washington, DC: Worldwatch Institute.
- ⁸ Ibid. p. 19.
- ⁹ Based on a review of all OECD donor country websites with no assessment done on actual dollar amounts allocated to these programs or effectiveness. Australia, Ireland, New Zealand and the U.K. appear to have some renewable energy or efficiency projects under their climate change umbrella. Canada and Norway are glaring exceptions with no specific renewable energy or energy efficiency policies or programs outlined, but with projects for oil pipelines, capacity development for developing countries with oil and gas, large hydro financing and other conventional energy projects coming up in searches for “energy”.
- ¹⁰ More information available at: www.ec.europa.eu/comm/development/body/theme/energy/initiative/index_en.htm
- ¹¹ World Bank website for RE Toolkit, viewed July 24, 2006 - <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTENERGY/EXTRETOOLKIT/0,,contentMDK:20755044~menuPK:2069911~pagePK:64168445~piPK:64168309~theSitePK:1040428,00.html>
- ¹² Press release available at: http://www.minbuza.nl/default.asp?CMS_ITEM=237E8E81935A4C9BBC0433D7BCB83E19X3X44912X34
- ¹³ Renewable energy and energy efficiency partnership (REEEP) – www.reeep.org
- ¹⁴ Global Village Energy Project - www.gvep.org
- ¹⁵ “Canada Making a Difference in the World” - www.acdi-cida.gc.ca/aideffectiveness
Canada’s International Policy Statement: A role of pride and influence in the world - http://www.acdi-cida.gc.ca/cida_ind.nsf/AllDocIds/A40531E4159C935285256FE300473BEE?OpenDocument
- ¹⁶ Tomlinson, Brian. “Financing the MDGs Through a Global Partnership for Development”, CCIC. May 31, 2005. Viewed at: <http://www.realityofaid.org/themeshow.php?id=15>
- ¹⁷ Europe’s chance to help light up Africa: energizing poverty reduction. Practical Action 2005. ITG.
- ¹⁸ Such as the Chalillo Dam in Belize, the Three Gorges Dam in China, and the Kamchay Dam in Cambodia.
- ¹⁹ Renewable Solutions – Options for moving the global transition to renewable energy forward. P.6. January 2006
- ²⁰ Renewable Solutions – Options for moving the global transition to renewable energy forward. P.6. January 2006.
- ²¹ Johannesburg Plan of Implementation - www.johannesburgsummit.org/html/documents/summit_docs/2309_planfinal.doc
- ²² Such as the World Energy Modernization Plan outlined in *Boiling Point*, by Ross Gelbspan. 2004.
- ²³ The price check was done on July 28, 2006.