## Benefits of Renewable Energy Co-operatives

Summary of literature review from the Measuring the Co-operative Difference Research Network

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## Introduction

J.J. McMurtry of York University partnered with Judith Lipp of the TREC Renewable Energy Co-operative to study the status of the Renewable Energy co-op sector in Canada and internationally, with a focus on regulatory processes related to grid-connected electricity generation from low-impact renewable sources including solar, wind, biogas and small hydro.

As part of their research, McMurtry and Lipp conducted a literature review on the positive impacts that renewable energy co-ops can bring to communities. This summary is a brief overview of the impacts identified in that research.

## **Benefits Cited in Literature**

- 1. RE Co-ops contribute to domestic energy security and energy price stability, by reducing dependence on imported fuels and on energy sources that are subject to volatile pricing.
- 2. A community-owned model maximizes local citizen engagement in energy projects, and promotes social innovation and social entrepreneurship.
- 3. A community-led project helps citizens acquire new skills and knowledge, and also builds capacity within the community for the realization of future citizen-led initiatives.
- 4. A community-owned model maximizes the local community's ability to reap benefits from RE projects, including direct financial benefits, and increased employment and regional development opportunities.
- 5. Research by the National Renewable Energy Laboratory has calculated that wind projects with 100% local ownership generate twice the long-term jobs and one to three times the economic impact of absentee-owned wind projects.
- 6. RE Co-ops deliver 'triple bottom line' returns, addressing environmental and social issues while also generating economic benefits for members and/or for members' communities.
- 7. RE co-ops work to educate people on energy issues and build local support for renewable energy projects. Because of their democratic, member-based structure, it is in RE co-ops' nature to invest in community consultation and community engagement. Many RE co-ops also have a formal mandate to increase community awareness of renewable energy issues.
- 8. RE Co-ops can help reduce social friction around new energy developments. When community members own a share of an RE project and are active in decision-making about how the project develops, research has shown they tend to be more accepting of any compromises that must be made in their local communities to have the project built (e.g. a large wind turbine in plain view on a hillside.)
- 9. When community members become involved in the development of an RE project in their community, they tend to become more aware of their personal energy use patterns, and can be more easily motivated to change their behaviours in order to reduce energy consumption.

- 10. RE Co-ops can help communities, particularly small & remote communities, become:
  - More self-reliant (e.g. developing new project management skills, generating the energy they need for their own consumption);
  - Greener & more sustainable (e.g. replacing polluting energy sources with cleaner ones; replacing limited resources with renewable ones);
  - More economically independent (e.g. gaining employment opportunities from the project, and creating a reliable and long-term income source by selling power to the grid).
- 11. By pooling their resources in a RE co-op, citizens can take an active role in realizing a sustainable, democratic, and accountable energy economy.

## **Research Sources**

Farrell, John, 2011. Maximizing Jobs from Clean Energy Ontario's "Buy Local" Energy Policy - Policy Brief from The New Rules Project. Institute for Local Self Reliance, Washington DC. <a href="http://ilsr.org/energy/publications/maximizing-jobs-clean-energy-ontario-s-buy-local-policy/">http://ilsr.org/energy/publications/maximizing-jobs-clean-energy-ontario-s-buy-local-policy/</a>

E. Lantz and S. Tegen, 2009 Conference Paper: Economic Development Impacts of Community Wind Projects: A Review and Empirical Evaluation. National Renewable Energy Laboratory. <a href="http://www.nrel.gov/docs/fy09osti/45555.pdf">http://www.nrel.gov/docs/fy09osti/45555.pdf</a>

"Strengthening a Co-operative Renewable Energy Sector: Briefing for Members of Parliament, April 29th, 2013" - Prepared by the Ottawa Renewable Energy Co-operative, Canadian Co-operative Association and The Federation of Community Power Co-operatives.

"About TREC" on the TREC Renewable Energy Co-operative website. Copyright 2011. <a href="http://www.trec.on.ca/about">http://www.trec.on.ca/about</a>

Agentur fur Erneuerbare Energien (2010). Community ownership of renewable energy in Germany. Denmark. Retrieved from: <a href="http://www.unendlich-viel-energie.de/en/">http://www.unendlich-viel-energie.de/en/</a> <a href=

Bolinger, M. (2001). Community Wind Power Ownership Schemes in Europe and their Relevance to the United States. Lawrence Berkeley National Laboratory, Environmental Energy Technologies Division. Retrieved from <a href="http://eetd.lbl.gov/ea/EMS/reports/48357.pdf">http://eetd.lbl.gov/ea/EMS/reports/48357.pdf</a>

Bolinger, M. (2004). *A Survey of State Support for Community Wind Power Development*. Lawrence Berkeley National Laboratory, Energy Markets and Policy Group. Retrieved from: <a href="http://emp.lbl.gov/">http://emp.lbl.gov/</a>.

Bouchard, Marie J. (ed.) (2009), The Worth of the Social Economy. An International Perspective, Brussels, PIE Peter Lang, Ciriec collection Social Economy and Public Economy.

Borzaga C. & Defourny J., eds. (2001), The Emergence of Social Enterprise, Routledge, London & New York.

CCA - Canadian Co-operative Association. (2011). Co-operatives Helping Fuel a Green Economy: A Report on Co-Ops in Canada's Renewable Energy Sector.

DTI Global Watch Mission. (2004). *Co-operative Energy: Lessons from Denmark and Sweden*. UK: DTI and Co-operatives UK. Retrieved from: <a href="http://www.uk.coop/resources/documents/co-operative-energylessons-denmark-and-sweden">http://www.uk.coop/resources/documents/co-operative-energylessons-denmark-and-sweden</a>

Girardet, H, & Mendonça, M. (2009). A Renewable World: Energy, Ecology, Equality. UK: Green Books, Ltd.

Green Energy Act Alliance, & Shine Ontario. (2011). Ontario Feed-in Tariff: 2011 Review.

Harnmeijer, A., Lipp, J., Wlokas, H.L., Hicks, J., Wizelius, T., & Soerensen, H. (2012). *WWEC 2012: A bird's-eye view of community energy around the world.* World Wind Energy Conference 2012, Summary Report.

Juhl, D. (2008). Energy equity: Diversifying the market with new incentives. *Inside Renewable Energy*. Podcast retrieved from <a href="http://www.renewableenergyworld.com/rea/news/podcast?id=53554">http://www.renewableenergyworld.com/rea/news/podcast?id=53554</a>.

Kellet, J. (2007). Community-based Energy Policy: A Practical Approach to Carbon Reduction. *Journal of Environmental Planning and Management*, 50 (3), 381.

Kelly, Majorie. (2012). *Owning Our Future: The emerging ownership revolution*. San Francisco: Berrett-Koehler Publishers.

Kildegaard, A. & Myers-Kuykindall, J. (2006). *Community Vs. Corporate Wind: Does It Matter who Develops the Wind in Big Stone County, MN?* University of Minnesota, Morris.

Lipp, J. (2007). Renewable Energy Policies and the Provinces in Doern, B. (ed) Innovation, Science and Environment: Policies and Performance, 2nd edition. McGill and Queen's University Press, Montreal and Kingston.

Lipp, J. (2008). Greening the Grid: Policy Considerations for Renewable Electricity in Canada. Unpublished PhD. Dalhousie University, Halifax.

Lipp, J., Lapierre-Fortin, E., & McMurtry, J.J. (2012), Renewable Energy Co-op Review: Scan of Models & Regulatory Issues.

Lovins, A., 1977. Soft Energy Paths. Penguin, London.

MacArthur, J. (2010). *Best Practices in Social Economy and Community Wind*. Canadian Centre for Community Renewal (CCCR) on behalf of the B.C.-Alberta Social Economy Research Alliance. Retrieved from: <a href="http://auspace.athabascau.ca/handle/2149/2633">http://auspace.athabascau.ca/handle/2149/2633</a>

McMurtry, J.J. ed. (2010), Living Economics: Canadian Perspectives on the Social Economy, Co-operatives, and Community Economic Development, Toronto, Emond Montgomery Press.

Mendonça, M., Laceyc, S., & Hvelplund, F. (2009). Stability, Participation and Transparency in Renewable Energy Policy: Lessons from Denmark and the United States. *Policy and Society*, 24. Retrieved from: <a href="http://www.sciencedirect.com/science/article/pii/S144940350900006X">htttp://www.sciencedirect.com/science/article/pii/S144940350900006X</a>

Mühlenhoff, J. (2010). *Value Creation for Local Communities through Renewable Energies*. Berlin: German Renewable Energy Agency.

Musall, F.D. & Kuik, O.J. (2011). Local acceptance of renewable energy – a case study from southeast Germany. *Energy Policy*, 39, 3252-3260

Nova Scotia Department of Energy. (2010). *Nova Scotia Renewable Electricity Plan*. Halifax: Province of Nova Scotia.

Olz, S., & Sims, R. (2007). *Contribution of Renewables to Energy Security*. International Energy Agency Information Paper. Paris: OECD/IEA.

Pahl, G. (2007). *Citizen-powered energy handbook: Community solutions to a global crisis*. U.S.: Chelsea Green Publishing.

Reiche, D. (Ed.). (2005) *Handbook of renewable energies in the European Union: Case studies of the EU-15 states, second ed.* Frankfurt: Peter Lang Verlag.

Rogers, J.C., Simmons, E.A., & Convery, I., & Weatherall, A. (2012). Social impacts of community renewable energy projects: Findings from a wood fuel case study. *Energy Policy*, 42, 239.

Schreuer, A., & Weismeier-Sammer, D. (2010) *Energy Cooperatives and Local Ownership in the Field of Renewable Energy Technologies: A literature review.* RiCC research report.

Shuman, Michael H. (1998). *Going Local: Creating self-reliant communities in a global age*. New York/London: The Free Press.

Szarka, J. (2006). Wind power, policy learning and paradigm change. *Energy Policy*, 34, 3041–3048.

Toke, D., Breukers, S., & Wolsink, M. (2008). Wind power deployment outcomes: How can we account for the differences? *Renewable and Sustainable Energy Reviews*, 12(4), 1129-1147.

United Nations Environment Programme. (2011). *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*.

Walker, G. (2008). What are the barriers and incentives for community-owned means of energy production and use? *Energy Policy*, *36*, 4401.

Walker, G., & Devine-Wright, P. (2008). Community renewable energy: What should it mean? *Energy Policy*, 36(2), 497.

Walker, G., & Devine-Wright, P. (2007). Harnessing community energies: Explaining and evaluating community-based localism in renewable energy policy in the UK. *Global Environmental Politics*, 7(2), 64.

Willis, R., & Willis, J. (2012). *Cooperative renewable energy in the UK: A guide to this growing sector.* Commissioned by The Cooperative Group.