



Community EmPOWERment?

Electricity co-operatives have made tangible contributions to the life and development of Canadian communities over the past eight decades. In the 1940s and 1950s co-ops played an important role, with provincial policy support, in extending reliable, low-cost electrical service in both Alberta and Québec.

Today power co-operatives are extending their geographic and sectoral reach. This includes moving from a pre-1990s concentration in Alberta to a more even distribution between eastern and western provinces. It also includes a move from power distribution into generation, retail, and sustainability education. These developments have significant but perhaps surprising implications for the future of renewable energy and community power in Canada.

More than 50 co-operatives are now working to generate electricity from renewable sources. The vast majority of these have incorporated in the past ten years. To date, they have met with mixed success. This is due, in part, to the fact that they are taking on technologically complex capital projects and competing for sites and contracts with some of the largest energy companies in the world.

Three questions spring to mind regarding this new wave of co-operative development. What are its contributions? What challenges does it face? What policies might deepen and strengthen its impact?

TREC, Co-operatives, & the Future of Renewable Electricity in Canada

By Julie MacArthur

(photo) The Windshare turbine at Toronto's Exhibition Place – North America's first urban utility-size turbine. Photography: Joshua Sherurcij.

In this article I draw lessons from a key community power success story, the Toronto Renewable Energy Co-operative. TREC's Windshare Co-operative is one of the few co-operatives in the country that has built a project and is generating power. It operates the first utility-scale (750 kilowatt) urban wind turbine in North America. It also sits at the heart of a growing community power movement in Ontario, which includes First Nations, non-profits, co-operatives, farmers, residents, and sometimes municipalities.

Nevertheless, we must tread carefully here. While TREC is undeniably successful, we need to understand how representative this case is in light of the diversity of recent electricity co-operative structures and provincial electricity regimes. Additionally, we need to locate recent co-operative developments within the broader move to private, for-profit power in Canada.

The TREC Model of Community Power

TREC was formed in 1997. It is a nonprofit renewable energy co-operative that supports a range of community electricity generation projects, together with policy advocacy and public education. TREC also acts as a generator and incubator of for-profit co-operative spinoffs. As of 2011, they include Windshare, Lakewind, OurPower, and Solarshare. All but Lakewind are currently generating power and selling it to the Ontario Power Authority under long-term feed-in tariff (fixed rate) contracts. Windshare and Lakewind are both windpower projects. OurPower and Solarshare focus on solar generation.

Initiatives like these matter for the development of sustainable communities. Local involvement in projects is crucial if we are to

overcome NIMBYism. They both educate and create a financial incentive for local supporters. With a stake in the profits of local wind and solar electricity projects, residents and landowners are less likely to oppose them. Locals can also use the projects as a tool for teaching about both electricity and renewables. At Windshare, for example, both volunteer members and Toronto Hydro employees lend a hand servicing the turbine. They lead school and community tours around the site. Annually, 20,000 people visit the site on educational tours. This public education is crucial if we are to overcome the powerful interests and lobbying efforts of fossil fuel industries.

TREC had its genesis in 1994 when the Ontario Green Communities Initiative helped bring together a group of environmentally conscious residents. At a time when Ontario relied heavily on coal and nuclear power, the TREC founders were inspired by Danish experiences with community windpower. They set about developing a generation project of their own. The co-op received grants to study sites in 1999, eventually settling on Exhibition Place (ExPlace) in downtown Toronto.

The Windshare turbine is a 50-50 joint venture between Toronto Hydro Energy Services (a municipal power utility) and the Windshare

Co-operative. Windshare has more than 600 members, 99% of them Torontonians. The minimum investment in the project was \$500, and the average was \$1,000-\$2,000. According to the President, Evan Ferrari, new community members wanted to join the project even after it was fully subscribed, so \$250,000 (in 2009) exists in a trust account to be put toward future projects. The total cost to construct and install the turbine was \$1.8 million, of which \$800,000 was put up by the co-operative. Today, the project generates enough electricity to power 200 homes. The revenues from the project circulate back to members through dividends set by the board and approved by the membership.

The Windshare turbine is the first large 100% "community" wind project in urban North America. It has made a significant impact on community energy beyond the city of Toronto. By partnering with the municipality, the Windshare project tapped not just financial backing, but an institutional history and expertise in the electricity sector which many new electricity co-operatives lack.

TREC has played a key role in kick-starting new electricity co-operatives, both in Ontario and beyond. TREC and Windshare members have also been instrumental in educating and

(right) Since 2008, TREC has organized the Kids' World of Energy Festival, an annual 5-day event at which elementary school students use science experiments, green technology, and art to explore the connections between energy and the environment. This year's festival also showcased model wind turbines and solar designs submitted by students from six schools across Toronto. Credit: Kelly Park/TREC Renewable Energy Co-operative, treceducation.ca/for-schools/festival



Despite recent enthusiasm it is a serious mistake to call community energy initiatives “no-brainers.” Each one needs to be grounded in a thorough understanding of electricity sector developments, including the power demands of extractive industries and continental energy markets.

On a ridge above Dawson Creek, B.C., Bear Mountain Wind Park is a 102 megawatt wind farm initiated by the local Peace Energy Co-operative together with Aeolus power. It is owned by AltaGas. Photo courtesy of AltaGas Ltd., www.altagas.ca.

Résumé : RenFORCEment communautaire

La transition vers l'énergie renouvelable peut changer beaucoup plus que nos émissions de carbone. Ce qui était de l'énergie « verte », des organisations telles que Toronto Renewable Electricity Co-op (TREC) peuvent les rendre plus « vertes ». Elles peuvent alimenter l'intérêt public pour la gestion de la demande, la recirculation des profits et la gouvernance. Elles peuvent donner aux résidents un intérêt dans le développement responsable de ressources. C'est pourquoi les coopératives d'énergie éolienne et solaire ont tellement crû au cours des dix dernières années.

Comment accroître le rôle de coopératives dans le secteur de l'énergie renouvelable? Il y a trois facteurs principaux à tenir en compte. Premièrement, dans la course pour des sites d'énergie éolienne, les coopératives ne peuvent dépasser les entreprises privées. Deuxièmement, les économies d'échelle requièrent des capitaux massifs. Les grandes entreprises privées peuvent suivre les projets électriques jusqu'à leur réalisation alors que les organisations communautaires manquent de temps, d'argent, de bénévoles et d'énergie.

Les partenariats avec le secteur privé peuvent atténuer ces écarts, mais au coût du contenu et du contrôle communautaire. Une meilleure option est que

les prêteurs et les gouvernements offrent des mesures incitatives et des appuis pour la participation coopérative. Le tarif de rachat est une excellente façon de faire ceci. Une autre est d'offrir aux personnes qui peuvent être directement affectées par un projet la « première option » d'exercer du contrôle sur celui-ci par une coopérative.

Finalement, nous devons tenir compte de chaque régime provincial d'énergie. En Alberta et en Nouvelle-Écosse, les coopératives d'électricité feront des avancées par rapport aux entreprises d'électricité privées qui brûlent du charbon. Au Québec, au Manitoba et en Colombie-Britannique toutefois, le coopératisme compromet l'hydroélectricité publique. Dans ces provinces, les coopératives ouvrent essentiellement la porte du marché de l'énergie aux compagnies privées à but lucratif et amènent des taux plus bas et de l'électricité plus verte à très peu de communautés.

Lorsqu'il est question de développement d'énergie renouvelable, la « taille universelle » ne fait pas « à tous ». Nous devons devenir stratégiques et déterminer exactement où et quand les coopératives peuvent rendre la création d'électricité tant plus viable que plus démocratique. ■

providing an operating model for community power in Canada. A recent TREC initiative, the Community Power Investment Platform, will provide a library of legal and financial templates, which communities can then use to launch new power co-ops and avoid costly and lengthy start-up processes. Members have helped develop the Ontario Community Power Fund (CPF) and The Ontario Sustainable Energy Association (OSEA), as well as the province's recent *Green Energy Act*, with its 1 cent/kilowatt hour "adder" for community power. Indeed, most of the core players in the Ontario community energy sector have ties back to TREC and the Windshare project. Thanks to

support (as of March 2012). British Columbia has shown interest as well. It is encouraging that community ownership models are being recognized as a clean energy development alternative and that there is some public enthusiasm for them.

A variety of other renewable electricity co-operatives have developed across the country since TREC and Windshare. In some cases, for reasons to be explained, they involve partnerships with private energy corporations; this can be an attractive option for developers as the co-operative provides a mechanism for companies to garner community support for projects. However, these partnerships can lead to the

their ultimate contribution to community development and to sustainability.

The realities of power sector development have given rise to some significant challenges for co-operative development. While "old hat" to anyone experienced in the sector, they bear repeating for the benefit of social economy and community development advocates.

Challenges: Getting In and Scaling Up

From the Peace Energy Co-operative in B.C. to Lamèque Renewable Energy Co-operative in New Brunswick, renewable energy projects are stymied by numerous factors: unclear co-operative legislation, lack of financing and/or grid access, and competition from private corporations. As a result, very few projects make it from proposal to operation.

For example, according to the Ontario Power Authority, 7% of the contracts awarded in Ontario since 2009 went to communities (320 megawatts, or MW) of which less than 1% (3 MW) has made it to commercial operation as of December 2011. Many challenges confront community actors in even getting to the point of a contract offer.

First, community ownership and control must often be watered down in order to get a project built and connected to the grid with a contract to sell power. In principle some provinces have an "open market" for independent power producers to sell electricity. In practice, however, companies with prior experience, deep pockets, and industry connections have a real advantage. In the wind power sector there is fierce competition for windy sites. Those who can move fast, thanks to

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these networks Ontario now has one of the most supportive policy environments for community and co-operative power projects in North America.

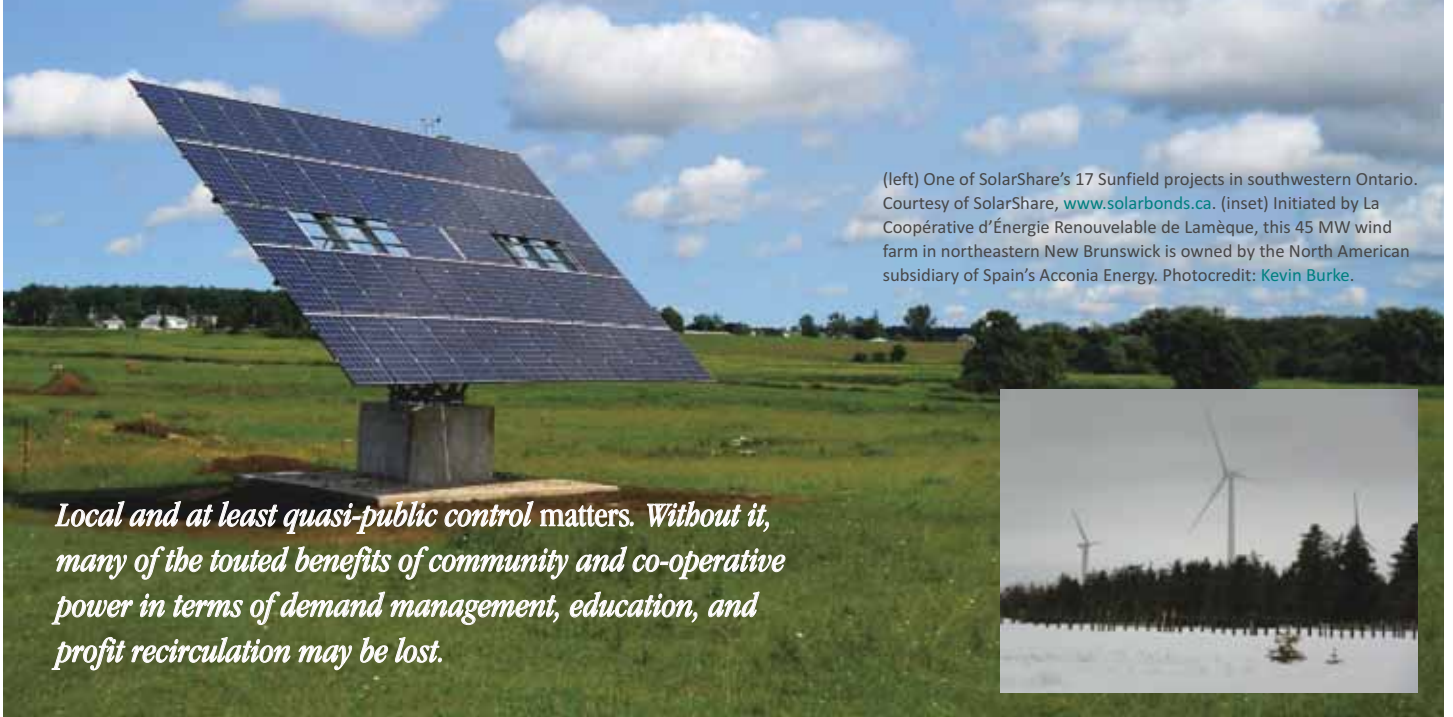
Only since 2009 have policy-makers in many provinces started to take note of community power projects, particularly the role they can play in legitimizing financial support for green power. Following Ontario's lead, New Brunswick, Nova Scotia, and Québec have all implemented some form of community power

erosion of community content and control when compared to public or wholly community-owned projects.

Local and at least quasi-public control *matters*, however. Without it, many of the touted benefits of community and co-operative power in terms of demand management, education, and profit recirculation may be lost. As a result, while often inspired by TREC or Windshare, these projects differ in significant ways from that model, with implications for

Located 3.5 km offshore in the waters of the Øresund, Middelgrunden is co-owned by a co-operative and the City of Copenhagen. When built in 2000, it was the world's largest offshore farm, with 20 turbines and a capacity of 40 MW. The farm delivers about 4% of Copenhagen's electricity. Photocredit: [Wikimedia Commons](#).





(left) One of SolarShare's 17 Sunfield projects in southwestern Ontario. Courtesy of SolarShare, www.solarbonds.ca. (inset) Initiated by La Coopérative d'Énergie Renouvelable de Lamèque, this 45 MW wind farm in northeastern New Brunswick is owned by the North American subsidiary of Spain's Acconia Energy. Photocredit: Kevin Burke.

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good connections to research on wind sites and to policy-makers, are the ones who secure the best sites. Co-ops then need to partner with more conventional private actors – diluting the community control – to access to these lucrative opportunities. The alternative is to forego such a partnership and miss out altogether.

For example, the Peace Energy Co-operative (PEC) was formed in 2002 to promote renewable energy in B.C.'s Peace River region. PEC found that a Scottish developer had already secured the investigative use permit (IUP) for a particularly windy local site. After a series of inquiries the co-op secured the permit, but then decided that it didn't have the resources or expertise to develop a large project. They elected to partner with a private company, Aeolus Power from Vancouver Island, which in turn partnered with AltaGas from Calgary. Together, they built a 102 megawatt windfarm – the first one in B.C. Completed in 2009, Bear Mountain Wind Park sells power under a long-term contract to BC Hydro. Some of the co-operative's members raised \$300,000 to secure a portion of project's revenue stream. The co-operative negotiated this member investment opportunity with AltaGas.

Second, the capital mobilization essential to economies of scale can be prohibitive to community groups. The most popular new renewable electricity procurement mechanism across Canada is a call for tenders (lowest cost bid). Rarely, however, are community groups

able to raise the capital required for large windfarms, which offer the lowest unit costs. Of course, 100% community ownership of relatively large projects is possible. The Pukwis Co-operative in Ontario, for example, is a partnership between a co-operative and a First Nation for a 20 MW wind development. Still, private actors, particularly large ones, have advantages in the marketplace, even when Feed-In Tariffs (FITs) area structured to provide community power incentives, as in Ontario. As a result, larger companies can see electrical projects through to fruition whereas community-based organizations tend to run out of time, money, volunteers, and energy.

Long wait times represent a particularly frustrating issue. Take the case of Lakewind, Windshare's second – and much larger – wind project. Located near Kinkardine, Ontario, Lakewind is a partnership between two co-ops, Lakewind Power and Countryside Energy. Although it has in hand wind data, feasibility studies, and a site, the 20 MW project was stalled for more than seven years because of the so-called "Orange Zone" restriction, which reserved grid capacity for Bruce Nuclear facilities. Since the *Green Energy Act*, the delay has been due to a need for grid upgrades in the area. This illustrates how transmission capacity and connectivity allocations can limit co-operatives to a marginal piece of the electricity sector.

Finally, there is the "Trojan Horse" effect. As power rates climb and private actors claim the

lion's share of renewable power contracts, some parties are growing suspicious about the mechanisms used to develop renewable sources. Co-op projects can help to justify a shift from public to private electricity regimes, and with that, from the principle of public redistribution to that of private profitability.

Co-operative structures alone are not sufficient to ensure either environmental sustainability or empowerment in new renewable electricity development. Within the context of certain provincial energy regimes, public utilities remain a progressive option, despite their historic tendencies to centralize authority and to get cozy with industry. This is important to recognize because the way forward is too often framed as a choice between green power development by the private sector (or, recently, by communities and co-operatives), but not by public utilities. In provinces like B.C. the government specifically prevented public utilities from developing new renewables like windpower.

Deepening the Community Impact: Key Policies and Practices

These challenges notwithstanding, there is real value in the symbolic, democratic, and educational aspects of co-ops, and in the shift away from fossil fuel generation. With the federal government having pulled out of the Kyoto Accord and austerity measures hitting worldwide, new models of ownership and

“No co-operative exists in a vacuum but must operate in a given economic and social environment. It must strive, of course, to modify and improve that environment, but it cannot do so unless it recognizes the overriding problems, first of the immediate community, then of the larger region, and finally of the nation and indeed of humanity itself. In the long view the question will be asked: what have these co-operatives and the co-operative movement as a whole done to help people wrestle with the difficulties of life? What is the relevance of co-operatives to the nation’s basic problems?” (Alexander Fraser Laidlaw)

control that allow for community action and the building of social capital are absolutely essential.

Here are three ways to harness some of the positive aspects of community electricity.

First, we need lending authorities and governments to understand and acknowledge the community and co-operative “difference,” and to back it up with action to resolve the capital issue. Community-specific FITs could guarantee a price for the electricity generated by projects which meet the community criteria. This price could make these projects viable. Financial supports could also include start-up grants and loan guarantees, such as agriculture co-operatives currently enjoy.

Some of these policy supports already exist in parts of Canada but are more common in Europe. In Denmark, co-operatives became the leading form of wind turbine ownership after the government introduced tax incentives and a FIT for community and co-operative projects. According to Paul Gipe, a community wind expert based in California, government loan guarantees encouraged many farmers in Germany to develop their wind resource. The guarantees gave banks the confidence to lend, so farmers gained access to much-needed capital. Without these guarantees, community groups are often obliged to develop small projects or to partner with larger developers.

In Canada, Ontario’s energy policies have gone furthest in support of community electricity development. Ontario has been experimenting with renewable incentives since 2006, when it launched the Renewable Energy Standard Offer Program (RESOP). Despite its important renewables incentives, the RESOP still made the process prohibitively long and

costly for community actors. Ontario has since implemented a FIT with the *Green Energy Act* (2009).

FITs are increasingly applied around the world. They have been implemented in California, Michigan, Spain, Germany, Denmark, and 18 other EU countries. Relative success in the development of windpower in these jurisdictions has led others to look to the FIT model as a “best practice” for new renewables, as well as for community-owned project ownership.

Ontario’s FIT awards higher electricity rates to community-based, First Nations, and solar projects, along with a set rate for regular private sector generators. In addition, the Act modified co-operative legislation and made it easier for renewable energy co-ops to incorporate. However, the program is currently undergoing a rate and regulation review (FIT 2.0), which may scale back some incentives and narrow the definition of community, according to draft rules released by the Ontario Power Authority in April 2012. In 2010, both Nova Scotia and New Brunswick announced feed-in-tariffs specifically for communities (COMFITS). Nova Scotia’s program started accepting applications in September 2011. New Brunswick had 12 communities respond to a call for interested parties, even though its FIT rates for wind are lower than both Nova Scotia and Ontario.

Financial incentives alone will not ensure the success of co-operative electricity projects, however. Support is also necessary to secure sites. This could be realized through a tiered approach to project development calls. “First dibs” for a site would go to organizations based in the local community, second to the larger region, third to the province, and so on. This

ensures that those affected most directly by a project get a chance to invest in it and influence its development through, for example, co-operative member meetings. Ideally, this model would also encourage municipalities to partner with local co-operatives, as was the case in the Middelgrunden project outside Copenhagen.

Finally, if the goal is both to democratize and to green the power sector, it is vital to gauge just how democratic and green the existing system is. Thus, co-operatives in and of themselves could make a significant contribution in provinces like Alberta and Nova Scotia in which the private sector generates so much of the electricity from burning coal. In provinces that rely on publicly-owned utilities to generate power from fossil fuels, like Saskatchewan and New Brunswick, partnerships between new co-operatives and public agencies would be most beneficial. They would maximize the local benefits of co-operativism as well as its fundraising supports and community connections. In Québec, Manitoba, and B.C., publicly-owned, large-scale hydropower already dominates the energy sector. In this case, independent power producers open the door to an energy market dominated by private, for-profit companies. Co-operatives secure only a small fraction of the new contracts – or none at all.

In short, “one-size-fits-all” does not apply to the development of renewable energy. We require provincially-specific campaigns which are clear about the relationship of community power to both public ownership and to private power development. For example, policies to reduce the municipal say in the siting of renewable energy projects only benefit the development of “community power” in a very

narrow sense. In fact, they disproportionately benefit for-profit private actors. Likewise, we sorely require a thorough province-by-province analysis of whether co-operative and community power is meant to complement or to challenge the privatization of the power system.


Conclusions

The TREC model in Ontario involves public (municipal) ownership together with local, democratically-structured investment and control. These have given rise to local recirculation of profits and community education as well as “greener” power in a province which depends heavily on private nuclear and public coal-fired electricity generators.


But in Manitoba, Québec, and B.C., public ownership of relatively “green” hydroelectricity prevails. There, renewable energy co-ops can contribute to a roll-back of public ownership, and put a friendly, “community” face on private power. Electricity will be generated for shareholder profit and, in some provinces, for export, rather than for domestic and local needs. Communities and citizens with the money to invest in electricity generation will benefit from lower rates and, in some parts, greener power. For everybody else, electricity rates will continue to climb. In this time of fiscal austerity, social transfers are likely to offset an ever smaller portion of these costs.

The idea of decentralized electricity systems, built on renewables – particularly new and

exciting ones like wind and solar – is an appealing one. Furthermore, in the current climate of Canadian energy policies, a shift away from large, industrial power systems, which are in every sense disconnected from communities, is important. Electricity co-operatives can certainly play a role in supporting transitions to more sustainable energy sources. They provide an avenue in specific communities, with public policy support, for a democratization of the electricity sector ownership.

Yet despite recent enthusiasm it is a serious mistake to call community energy initiatives “no-brainers.” Each one needs to be grounded in a thorough understanding of electricity sector developments, including the power demands of extractive industries and continental energy markets. Hence, if community and co-operative power is going to be anything more than a bit-player on the stage – and contribute to more economically, socially, and environmentally sustainable communities – a great deal of public education and political mobilization is in order. In short, we need a movement. 

JULIE MACARTHUR recently completed a doctorate in political science at Simon Fraser University. The background research for this article is found in her PhD thesis as well as in three reports she completed with support from the Social Sciences and Humanities Research Council (SSHRC) and the BC Alberta Social Economy Research Alliance (BALTA): “Status of Social Economy Provision of Wind Electric Energy in Alberta” (January 2010), “Best Practices in Social Economy and Community Wind” (April 2010), and “Alberta Social Economy Wind Projects: Next Steps Strategy” (May 2010). Contact Julie at jmacarth@sfu.ca.

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