



Recommendations to the Ontario Ministry of Energy Consultation on Making Choices: Reviewing Ontario's Long-Term Energy Plan

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Submitted by the Ottawa Renewable Energy Co-operative Inc.

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The Ottawa Renewable Energy Co-operative (OREC) is pleased to submit comments to the Ontario Ministry of Energy's consultation on Making Choices: Reviewing Ontario's Long-Term Energy Plan and make recommendations on the following issues:

- Building a Vibrant, Citizen-Based Community Power Sector to Deliver Clean Power and Energy Conservation
- Expanding the Role of Renewable Energy in Ontario's Energy Mix

Introduction

The Ottawa Renewable Energy Co-operative (OREC) appreciates the opportunity to participate in the Ontario Ministry of Energy's consultation on the province's Long-Term Energy Plan.

With this submission, we reiterate and elaborate on our support for an expanded role for community owned power set out in the July 2013 *Community Power White Paper* submitted by the Federation of Community Power Co-operatives and five other provincial organizations. We believe OREC's experience with past rounds of provincial feed-in tariff (FIT) applications underscores three fundamentally important observations from the community level:

- The growing grassroots enthusiasm for renewable, community-based power
- The powerful potential of renewable energy co-ops to help the province insulate itself from many of the key risks embedded in a more traditional energy strategy, grounded primarily in centralized generation and transmission
- The urgent need to clear roadblocks in the FIT program that generate significant cost and risk for small producers, making it much more difficult for organizations like OREC to fulfill their potential as a cornerstone of Ontario's energy future.

Notwithstanding the urgent need to address operational issues with the FIT program, OREC appreciates and strongly supports the Ontario government's continuing commitment to the feed-in tariff as a catalyst for the development of a homegrown renewable energy industry.

Moreover, we draw great encouragement from Minister Chiarelli's recent announcement that the province will pursue all cost-effective energy conservation and efficiency measures before investing in new, higher-cost power plants. As the Ontario Clean Air Alliance (OCAA) noted last month, "this is a victory for consumers and common sense." Energy analysts have known for three decades that the cheapest unit of fuel or electricity is the unit you never have to produce, and we echo the OCAA's observation that Ontario has [huge energy efficiency potential](#) – we use 50% more energy per person than our neighbours in New York State. That means the best way to lower bills and greenhouse gas emissions (GHG) is to go all out on improving efficiency.

From the perspective of a renewable energy co-op, we would add that a continuing commitment to reducing energy demand is central to any long-term strategy that relies more heavily on renewable power, and hence the key to achieving a low-carbon energy future. As we outlined in our September 3, 2013 briefing to the Minister of Energy, **a few specific changes to the Co-operative Corporations Act would open the door for renewable energy co-operatives across Ontario to invest in energy efficiency, as well.**

Like every other industrialized economy, Ontario faces the challenge and the obligation to achieve an 80% reduction in GHG emissions by 2050. Over the last year, the Trottier Energy Futures Project (TEFP) has determined that Canada as a whole will [have sufficient supplies of renewable energy](#) to reach the 80% target, but that the objective [will be most effectively attained](#) through a specific sequence of steps to:

- Maximize the potential of energy efficiency to reduce demand
- Electrify specific energy end uses that have traditionally been supplied by other means, including space heat, personal transportation, and some industrial processes
- Decarbonize the electricity supply
- Maximize the [sustainable production of biofuels](#) to offset hydrocarbons.

OREC is positioned to help the province deliver on each of these steps in the sequence, but we recognize that the ultimate impact of our efforts depends on broader, integrated policy, including many policies that are already in effect in Ontario.

The Appetite for Renewable Power and the Role of Social Capital

OREC's experience to date demonstrates the enormous appetite for renewable power in Ottawa.

- In its first offering statement, OREC initially sought \$500,000 in local investment to fund local photovoltaic projects. In nine weeks, we raised \$991,000, all of which has been directed to installing or supporting five community-based projects across the region. Our second offering statement, submitted to the Financial Services Commission of Ontario in early August, seeks to raise \$1.25 million.

The ability of renewable energy co-ops like OREC to raise social capital is an important tool in the toolbox of financing options for any provincial government that hopes to increase its reliance on clean, carbon-free energy. Unlike centralized energy sources that represent a drain on the province's tax and rate base—look no farther than the continuing Darlington debt service charge for the impact of past unfortunate generation choices—*OREC is not asking for a penny of government funds to pursue its investment strategy.* All we require is transparent rules, consistently applied, and an end to institutionalized bias against decentralized, localized grid design.

We can only imagine how much more latent interest and support we would encounter if not for the complex rules that have characterized the FIT application process to date. This is particularly noticeable in the most recent round of applications in which, incredibly, not a single project was approved for the entire Ottawa area.

We do understand that increased renewable electricity generation in the Ottawa area is currently constrained by the capacity of existing transmission infrastructure, particularly

at Hydro One's Hawthorne Transmission Station. This points to a definable, relatively simple local solution that will unleash the very significant potential to address a regional supply bottleneck through local generation, once upgrades are complete in 2014.

Renewable Power as Risk Mitigation

Grid resilience is an emerging challenge with multiple dimensions, all of which can be addressed or mitigated to some degree through decentralized generation.

Amory and Hunter Lovins [first documented the brittleness of the North American electricity grid](#) in 1982, and systems have only become more antiquated since then. As the authors noted in their re-release of *Brittle Power* in 2001, United States energy policy "continues to promote the most centralized, unforgiving, and vulnerable sources and infrastructures, while ignoring or suppressing the more efficient, diverse, dispersed, localized, and renewable options that could in time make major supply failures impossible by design." In the 2003 blackout, Ontario saw the impact of grid design choices that, in this respect, were largely indistinguishable from decisions in the U.S.

Almost 10 years later, Hurricane Sandy cast a harsh light on the continuing vulnerability of large, centralized infrastructure. According to [a June, 2013 post at resilience.org](#):

In the hardest hit areas, outages lasted two weeks or more; in high rise buildings, the elderly and disabled were left stranded, often without access to food and unable to flush toilets for extended periods.

Meanwhile, outages throughout suburban New York and New Jersey shut down gas stations, leading to long lines and runs on gasoline in many places.

These failures led many observers to wonder if America's aging electrical grid – once the most reliable in the world – was up to dealing with emerging climate and other challenges.

After experiencing Hurricane Sandy, jurisdictions in the northeastern United States are taking a closer look at microgrids, according to a [recent online news report](#) by Climate Central. "When the traditional power grid is down, a self-contained microgrid creates an effect called 'islanding' – a network of buildings with their own power lines and source of electricity are an island in a larger area stricken by a power outage." "By enabling carbon-free supply sources like community solar, the concept is both about becoming less vulnerable to storms and other power disruptions, and reducing a city's impact on a changing climate."

As climate change makes extreme weather events more frequent and severe, Ontario's grid will become even more vulnerable to failure. Next year, much of the *Fifth Assessment Report* of the Intergovernmental Panel on Climate Change is expected to focus on the challenge of adapting to climate change, but the Ottawa region has already had a dramatic example of what is almost certainly in store: When a severe ice storm hit eastern Ontario, southern Quebec, parts of the Maritimes, and upstate New York in January 1998, many households were without electricity for weeks. Where the lights were on, it meant customers had access to backup generators – or, even 15 years ago, to onsite renewable power and storage.

Nearly 16 years after the ice storm, Ontario’s Long-Term Energy Plan should reflect the understanding that:

- Renewable solar power produced by a co-op like OREC is inherently less vulnerable to severe weather than centralized generation, since much of it is used within metres of the point of generation.

Other Advantages of Distributed Solar Generation

Ontario’s Long-Term Energy Plan should also reflect the following valuable features of distributed solar generation:

- In Ontario, community solar systems can make a significant contribution to peak shaving, since they generate electricity during the summer peak when it is needed most. According to recent post on resilience.org, distributed local generation in microgrid applications that incorporate smart grid features can reduce base load demand by 20% and peak load by 50% in some installations.
- The FIT program itself stands as proof that renewable energy is a fabulous job creator. According to the Ontario Ministry of Energy summary of the program’s two-year review, the first round of FIT “attracted more than \$27 billion in private sector investment, welcomed more than 30 clean energy companies to the province, created more than 20,000 jobs, and is on track to create 50,000 jobs.” In its November, 2012 analysis, *More Bang for the Buck*, [Blue Green Canada](http://BlueGreenCanada.org) reported that the \$1.3 billion in annual federal oil and gas subsidies could produce the following employment results:

Jobs Created Per \$1.3 Billion in Government Investment	
Scenario	Jobs
Investment in wind, solar, hydro, and biomass per industry targets	20,113
Investment in wind and solar sufficient to meet a climate change stabilization target	18,947
Investment in energy efficiency	18,296
Oil and gas extraction	2,340 to 2,860

Making the Right Choices

Severe weather challenges a community’s resilience and job creation builds it. But in energy, a provincial government can build or undermine resilience for decades by choosing sound or unsound generation technologies. In Ontario, community-based renewable electricity – along with the other elements of a low-carbon scenario identified at the beginning of this submission – can help legislators avoid the costly mistakes of the past.

- Distributed power is more cost-effective and less prone to cost escalations than nuclear generation and, in Ontario’s immediate future, nuclear refurbishments. In August, [the Ontario Clean Air Alliance](http://theOntarioCleanAirAlliance.org) noted that Pickering A is the highest-

cost nuclear generating station in North America, and Pickering B is the fifth-highest. Phasing out Pickering, rather than accepting Ontario Power Generation's proposal for a four- to six-year extension of the plant's operating life, "would [reduce our electricity bills by \\$850 million per year, or five percent.](#)" From the perspective of a renewable energy co-op that devotes considerable volunteer effort to raising each million dollars it invests, it is horrifying and offensive to imagine our members' tax dollars being directed to a competing, obsolete power source.

- The independent [World Nuclear Industry Status Report 2013](#) cited a litany of economic and safety concerns that have eroded governments' and investors' confidence in nuclear generation. "The gap between nuclear rhetoric and nuclear reality has been a fundamental impediment to wise energy policy decisions for half a century now," the report states. "Academic and governmental studies a decade ago understated the likely cost of new reactors and overstated their potential contribution to fighting climate change." But the executive summary of the report concluded that:

The nuclear renaissance – whatever it may be called throughout the world – has always consisted entirely of the number of reactors whose excess costs governments were prepared to make mandatory for either customers or taxpayers. Investor capital cannot be conscripted. Investors of the sort that nuclear power must attract study risks carefully. They know the information in this report, and so should everyone else with responsibility for energy decisions that allocate nuclear risk.

- This analysis is a long-overdue antidote to the policy decisions documented in one [recent research report](#) from California, which showed that nuclear received four times the subsidies available to solar over a time span that was six times longer. Against similar preferential treatment of competing generation sources, Ontario decision-makers should at least try to imagine what renewable power producers like OREC could deliver on a level playing field. Or better still, don't imagine it. The province will find out what distributed generation can achieve if the next Long-Term Energy Plan eliminates the barriers that have kept renewable power in check.
- And finally, while engineers in Japan scramble to build a sophisticated ice wall, in a desperate attempt to limit release of radiation from the Fukushima Daiichi plant into the Pacific Ocean, the development of Ontario's Long-Term Energy Plan should recognize that a news report of a "massive solar spill" would really just be a reminder to slap on some sunscreen and enjoy a nice day.

Recommendations

Building a Vibrant, Citizen-Based Community Power Sector to Deliver Clean Power and Energy Conservation

To maximize the impact and contribution of Ontario's community power sector, OREC calls on the provincial government to:

1. ***Establish a dedicated community power procurement target of 1000 MW installed by 2018*** for community projects (majority-owned by co-ops, Aboriginal communities, and municipalities), to be met by renewable energy technologies – solar, wind, small hydro, biogas, and biomass. The targets for installed capacity should be as follows:
 - 500 MW community power under SmallFIT
 - 500 MW community power under MidFIT.
2. ***Establish a Medium FIT Program (MidFIT) or Community FIT (ComFIT) for projects in the 500 kW to 10 MW range***, connecting directly to the distribution system and distributed across five renewable energy technologies – solar, wind, small hydro, biogas, and biomass.

The province should set a MidFIT target of 500 MW installed by 2018 with eligibility restricted to community proponents.

3. ***For large procurement based on RFP, contracts should be awarded on the basis of a point system where community benefit results in a certain number of points.*** Points for community benefit could include:
 - Community ownership with 20% as the minimum
 - Community benefit fund
 - Communal land lease agreement with adjacent landowners.
4. ***Establish an Ontario Community Energy Foundation to provide funding and financing tools that are informed by and reflect the needs of the sector.*** The Foundation would support applications for early-stage funding, capacity building, and support for bridge funding through the construction period.

Extend the mandate of the Infrastructure Ontario Loan Program to include community power co-operatives, providing access to and increasing the affordability of long-term debt for community power project proponents with single projects or relatively small portfolios.
5. ***Expand renewable energy co-operatives' ability to generate and sell electricity*** by allowing them to:
 - Sell behind-the-meter renewable electricity for peak demand reduction , and
 - Sell renewably-generated electricity to their members.
6. ***Expand the model of renewable energy co-operatives through amendment of the Co-operatives Corporations Act*** to include the :
 - a. The generation and sale of bio methane and district energy, and
 - b. Investment in energy conservation and efficiency services, including energy performance contracting, energy management services, technology selection, and oversight of installation.

Expanding the Role of Renewable Energy in Ontario's Energy Mix

To remove barriers and support the increase of renewable power in Ontario's energy mix, OREC calls on the provincial government to:

7. *Set a target for the procurement of 3500 MW of new renewable capacity by 2025 in addition to the 10,700 MW 2018 target.*
8. *Require municipalities to identify and set aside land for renewable energy generation in their land use planning processes.*
9. *Accelerate local interface upgrades* between local distribution companies and Hydro One (e.g. the Hawthorne station in Ottawa).
10. *Allow approval of FIT contracts* based on the anticipated completion date for local interface upgrades.
11. *Provide full transparency for the capacity available* for FIT projects, three months before a FIT window opens, to allow bidders to select projects with the greatest chance of success.
12. *Expand the FIT program* to include cogeneration for municipalities and industry, as well as a standby option for hospitals and other institutions that require backup power
13. *Provide a FIT or other program for the procurement of power storage and eliminate pricing barriers and other obstacles to the true valuation of storage*
14. *Eliminate the requirement that nuclear supply 50% of Ontario's electricity demand.*
15. *Conduct a public review* of the costs and benefits of nuclear generation compared to other energy sources.
16. *Adjust the compensation formula for senior Hydro One and Ontario Power Generation executives* to include significant incentives and penalties to support reduced line loss and increased renewable generation.

