Corporate Welfare Goes Green in Ontario



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I. Executive Summary

Ontario ratepayers are on the hook – and will be for years to come – for the billions of dollars of subsidies paid to support the province's rush into renewable energy. While the province's renewable energy policy was presented as a win-win for local communities and regular Ontarians, the benefits from that policy have accrued to a small group of companies. Nowhere is this more evident than in the subsidies going to companies that own the windmills now dotting the province's countryside.

Some 82% of all subsidies to wind generators have gone to foreign, out-of-province, or multinational companies with annual revenues of more than $1 billion. Nearly 60% of all wind subsidies have gone to companies with more than $10 billion in annual revenues. Less than 10% of all subsidies to wind generators have gone to small-scale or local owners.

Those subsidies continue to be paid as a result of contracts signed by the Ontario Power Authority (OPA) – the provincial agency in charge of energy planning and contracting – that offer wind generators a guaranteed price for their output. In the case of windmills, the contracts signed by the OPA offer them a guaranteed price for their generation – and priority access to the grid – well in excess of that power's value on the province's energy market. That difference is made up through a charge paid for by all ratepayers.

Despite the fact that electricity demand – and the market price of power – has been in long-term decline across the province, particularly in the wake of the 2008-09 financial crisis, the hydro bills of Ontario ratepayers have been increasing, largely as a result of contracts signed by the OPA, as well as the other costs associated with the Green Energy Act and other renewable policies. Hydro bills continue to increase at a higher rate than overall inflation in the province.

The surge in renewable energy contracts has also resulted in a massive oversupply of electricity in the province, which has led Ontario to dump this power on neighbouring electricity markets – often at times when demand for power is low and the price received from neighbouring jurisdictions is well below what is being paid to renewable energy generators in Ontario. The price of power in Ontario has at times even become negative – Americans have been paid to take surplus power off Ontario's hands.

The multinational companies and other big businesses receiving the lion's share of these subsidies have little to lose in the current environment. They receive a fixed, above-market rate for their power, while ratepayers are left footing the bill – whether or not such output is needed. Rather than becoming an engine of a new green economy, green power has become a drain on ratepayers' pockets.

II. Province Promises Green Energy to be a Win-Win for all Ontarians

In 2009 the Ontario government launched its flagship energy policy, the Green Energy Act. Then Minister of Energy, George Smitherman, hailed the policy as one that would solidify earlier moves by the province to support renewable energy and "transform the Ontario economy" and "create a green economy." But he also promised that Ontarians of all stripes would be the beneficiaries and would play an integral role in the transition to a government-led green economy.

In debates leading up to the passing of the bill, Queen's Park repeatedly highlighted that the bill would present opportunities for everyone, not just the large companies already involved in the utility and energy sector.

"We see opportunities all across the landscape for local communities, not just to be host to such projects…we see opportunities for people to be investors in such projects."

"We see opportunities in our rural communities for farmers, not just to lease their land for big companies that are the proponents of wind farms, but indeed for clusters of farmers to see themselves as investors in projects."
Minister of Energy George Smitherman, February 24, 2009

"One of the things in the proposed act about which I am most excited is the potential for the emergence of thousands of smaller green energy projects—microgeneration—in urban as well as rural areas. The benefit of this is manyfold, but perhaps most important, it lets individual citizens and their communities be part of our green solutions."

"We looked at our own experiences here in Ontario from our renewable energy standard offer program and from the competitive processes that we've run, and we sought to establish a price which was a good price—not just a fair price, but a good price—that has some degree of incentive, with the strongest incentives associated with small-scale projects, because we really want to encourage not just big developers that can invest $50 million or $100 million or $200 million, but mom and pop on the top of the variety store or their local home, clusters of individuals living in the same neighbourhood, school boards and local distribution companies and municipalities working together. We really want to create opportunities for thousands and thousands of points of microgeneration, and the feed-in tariff is very much modelled toward trying to encourage those as well."
Minister of Energy George Smitherman, April 8, 2009

III. Green-Washing Corporate Welfare to the Tune of $1.7 Billion

The reality of the province's support for the wind sector – both before and after the Green Energy Act – has been exclusive and not one that includes all Ontarians. Big business, international corporations and their subsidiaries have received billions of dollars in wind subsidies as part of Ontario's push to replace coal with renewable power. Using data from the province's electricity market operator, this joint study by Energy Probe and Consumer Policy Institute[1] estimates that at least $1.7 billion in wind subsidies have been given to wind farm operators in Ontario since 2006, the earliest date for data.[2]

Eleven companies have received 90% of those subsidies. Around 82% of all subsidies to wind generators have been handed out to nine companies (or subsidiaries of those companies) – seven of them based outside of either Ontario or Canada – with annual revenues in excess of $1 billion. Nearly 60% of all wind subsidies have been funnelled to six companies with more than $10 billion in annual revenue. Small-scale and local wind generator companies have received 10% of all subsidies.

Canadian companies Brookfield Renewable Energy, TransAlta and Enbridge have the most capacity under contract with the OPA and in commercial operation, at 414, 398, and 379 MW of capacity, respectively. The combined annual revenues of those three companies (or their parent company in the case of Brookfield Renewable Energy) was more than $54 billion in 2013.

Samsung – which had $217 billion in revenue last year – will soon shoot to the top that list. The company currently has 270 MW of wind capacity in the province, but that figure will jump more than three-fold to 869 MW by 2016, under a contract it signed with the provincial government in 2011. It also signed contracts for hundreds of MW worth of solar power.

We estimate that those companies will receive an addition $5 to $8 billion of subsidies over the next decade and as much as $13 billion over the next 20 years.[3]

Table 1 shows that of the 2,881.5 MW[4] of wind energy currently in commercial operation in Ontario, 275.4 MW – or less than 10% – came from small scale producers with projects having less than 10 MW of capacity. These small projects were signed through the Renewable Energy Standard Offer Program (RESOP) that has since been rolled into the general Feed-In Tariff and microFIT program. Of the new wind capacity that is slated to come online in the next few years, 60 MW – or 3% of all new capacity – will come from small-scale wind projects, defined here as less than 10 MW of capacity.

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[1] Energy Probe and Consumer Policy Institute are both divisions of Energy Probe Research Foundation.
[2] The data used by Energy Probe and Consumer Policy Institute starts in 2006 and ends in September 2014, the most recent data published by IESO during the production of this report.
[3] We estimate future subsidies by using the dollar amount of subsidies in September and expand it over time, factoring in new capacity that is projected to be built in the coming years.
[4] The OPA lists that there is 2,852.5 MW of wind generation in commercial operation, slightly less than our calculations. OPA would not provide details why their calculations were different than ours, but the figures are only slightly different and would have no material impact on our calculations.

While the government highlighted the opportunity for small-scale energy producers – such as rooftop solar – to participate in the new green economy, the largest player has been, and will continue to be, industrial wind turbines (typically more than 300 feet tall and with a capacity of at least 1.5 MW). Of the 8,256 MW of renewable[5] energy capacity that has either begun operating or is under development and is under contract with the OPA, 70% of that is from wind turbines. Just 6% of all renewable capacity has gone to rooftop solar producers.[6]

Table 1 lists the names of the major wind farms in commercial operation across the province, their nameplate capacity, the date they first started feeding power into the grid, the type of contract they have with the province's power planner, the company behind each wind farm and the annual revenue of that company.

Table 1 Ontario Wind Farms in Commercial Operation

Developer	Name of wind farm	Capacity (MW)	Date in operation	Type of Contract	Developer's Annual Revenue 2013
Brookfield Renewable Energy Partners	Comber	165	February 2013	Feed-in Tariff (FIT)	$20 billion
Brookfield Renewable Energy Partners	Goslfield	50.6	September 2010	Renewable Energy Standard (RES)	$20 billion
Brookfield Renewable Energy Partners	Prince Farm	189	September 2006	RES	$20 billion
Transalta	Melancthon	200	March 2006 and November 2008 (two Stages)	RES	$2.3 billion
Transalta	Wolfe Island	198	June 2009	RES	$2.3 billion
Enbridge	Greenwich	98.9	October 2011	RES	$32 billion
Enbridge	Spence (Talbot)	99	December 2010	RES	$32 billion
Enbridge	Underwood	182	February 2009	RES	$32 billion
Invenergy	Raleigh (Dillon)	78	January 2011	RES	Undisclosed. Has offices around the world and is North America's largest wind company.
Capital Power	Kingsbridge	39.6	March 2006	RES	$1.4 billion

[5] In this report renewable is defined as wind, solar and bio-energy.
[6] For a more detailed look at Ontario's electricity sector, read the background to this report. http://probeinternational.org/library/wp-content/uploads/2014/11/background-corporate-welfare-ontario-goes-green.pdf

Capital Power	Port Dover and Nanticoke	105	November 2013	FIT	$1.4 billion
Capstone Infrastructure	Port Burwell (Erie Shores)	99	May 2006	RES	$389 million
Krueger Energy	Port Alma 1 (Port Alma)	101	October 2008	RES	$2 billion
Krueger Energy	Port Alma 3 (Chatham)	101	January 2011	RES	$2 billion
Suncor	Ripley South	76	December 2007	RES	$39 billion
Suncor	Adelaide	40	Fall 2014	FIT	$39 billion
International Power (GDF Suez)	East Lake	99	Spring 2014	FIT	81 billion euros
International Power (GDF Suez)	Erieau	99	Spring 2013	FIT	81 billion euros
International Power (GDF Suez)	Pointe-Aux-Roches	48	November 2012	FIT	81 billion euros
Next Era	Bornish	73.5	September 2014	FIT	$15 billion
Next Era	Summerhaven	125	September 2013	FIT	$15 billion
Samsung	Samsung	270	Summer 2014	Provincial Contract	$217 billion
Northland Power	McLeans	60	November 2013	FIT	$557 million
	Blake*7	1			
<10 MW	Renewable Energy Standard Offer Program (RESOP) 8	275.4		RESOP	<10 MW

How the Subsidy was Calculated

Our study calculated the dollar amount of subsidies by summing the difference between the price of power guaranteed to wind generators through contracts signed with the OPA and the value of that power on the province's wholesale electricity market, measured by the Hourly Ontario Energy Price (HOEP).[9] In many cases, the guaranteed rate used by

7 The data for capacity is publicly available for all projects (greater than 10MW) based on output from IESO data, with the exception of Blake. Energy Probe requested the data from OPA, but was refused repeatedly. Therefore, Energy Probe could not determine the capacity of this project, who developed it, or if a contract existed with the OPA.

8 RESOP program was designed for small-scale producers with capacity under 10 MW. See our supplementary study for more information.

[9] http://www.ieso.ca/Pages/Power-Data/default.aspx#price

Energy Probe in that calculation was based on government policy at the time and would not be verified by the OPA, which refused Energy Probe's requests for such information.

For example, the Adelaide wind farm owned by Suncor produced 53 MWh of power between 2 p.m. and 3 p.m. on September 1st, 2014. Using the Feed-in Tariff (FIT) guaranteed rate of $135 per MWh of generation and the $28.96 price per MWh on the Ontario market, the wind farm received $106 in subsidies for every MWh of generation in that hour. In total, the wind farm received $5,620 in subsidies for that one hour of generation.

Energy Probe used this methodology for all wind output, dating back to 2006 and adjusting for the different contracts offered by the OPA to various wind farms, to reach its calculation of $1.73 billion in subsidies to the wind sector.[10]

[10] Download the spreadsheet here.

How Power Prices Are Established in Ontario

Since 2002, when the Ontario government abandoned its plan to fully privatize the electricity market, the province's electricity sector has turned into what has often been referred to as a "hybrid" model. Under this model, there is a wholesale "market" run by the Independent Electricity System Operator (IESO) – a provincial agency – which forecasts demand each day and then establishes a series of "auctions" in which generators across the province bid the price at which they are willing to sell power into the grid to meet that demand.

The IESO accepts the lowest priced offers in the auction and then "stacks" additional, higher-priced offers until demand for power is matched by adequate supply. The wholesale market price for power is set at the highest offer and paid to all generators who bid below that price. The final price in Ontario is known as the Hourly Ontario Energy Price (HOEP), and is an average of the 12 auctions that take place every hour in the province.

Under Ontario's "hybrid" model, a majority of the generators that participate in the auctions have signed contracts with the Ontario Power Authority (OPA) – a provincial agency created in 2004 to oversee energy planning in the province – that guarantees them a set price for their output, regardless of the market price. The OPA currently has contracts accounting for about 66% of all generation in the province. The remaining generators either have their rates set by the provincial energy regulator, the Ontario Energy Board (OEB), or – to much lesser extent (about 10%) – sell directly into the market without a guaranteed rate and receive the market price for their output. All renewable energy producers – wind, solar and biomass – have contracts with the OPA.

The guaranteed rate offered to generators has in recent years been significantly higher than the HOEP. When that happens, the difference between what generators sell their output for on the province's wholesale electricity market and the rate they are guaranteed through contracts is made up by the Global Adjustment (GA). The GA is paid for by all ratepayers each month. The final commodity price of electricity – which excludes distribution, transmission and regulatory charges – charged to ratepayers is then made up of these two factors, the HOEP and the GA. Distribution, transmission and other charges are added to ratepayers' bills on top of the commodity cost.

The price for power in the wholesale market and the GA move in opposite directions. As the price of power falls – due to a drop in demand or oversupply – the guaranteed rate to generators remains the same, so the GA must increase to offset the decline in prices. See our supplementary report for a graph comparing HOEP and the Global Adjustment. The price of electricity for most ratepayers is set every six months by the Ontario Energy Board as part of its Regulated Price Plan.