Ontario Sparks Provincial Power Run

CANADA’S FEDERAL GOVERNMENT HAS BEEN ACCUSED OF FAILING THE RENEWABLES INDUSTRY BY NOT EXTENDING OR EXPANDNG ITS NATIONWIDE ECOENERGY FOR RENEWABLE POWER INCENTIVE PROGRAM. THE PROVINCIAL GOVERNMENT OF ONTARIO HAS, IN STARK CONTRAST, BEEN HAILED AS A GLOBAL STAR, AND IT IS RAKING IN THE INVESTMENT THAT COMES WITH THAT, AS GAIL RAJGOR REPORTS.

The Canadian province of Ontario (capital Toronto – pictured) became the precedent-setting star of North America’s renewable energy market when it passed its Green Energy and Green Economy Act in May 2009. The jewel in the legislation’s crown was North America’s first full-scale, fully comprehensive, feed-in tariff (FIT) to support project development and industry growth.

Offering guaranteed prices for power from renewable plants, under 20-year power purchase agreements (PPAs), the FiT-along with other measures in the Act such as a minimum local content requirement (see box)-has pole-vaulted the province into the global limelight. Not least because it quickly resulted in one of the biggest renewable energy investment agreements in the world, a US$7 billion plan by Korean giant Samsung, which will see four manufacturing plants built in addition to 2 GW of wind farms and 500 MW of solar capacity.

Agreed with the province’s Government in late 2009 and announced in January, the deal will see Samsung build two wind plant factories (one for towers and one for blade production) along with facilities for solar inverter manufacturing and solar module assembly.

In return, Samsung is guaranteed FiT rates under 20-year PPAs for its projects plus additional incentives, although these are conditional on its manufacturing facilities being operational by 2013. “Through some of the most progressive legislation in North America, Ontario has sent a powerful message that it wants renewable energy – and it wants it now,” noted Hagen Lee, manager of business development and government relations for Samsung Renewable Energy, back in January when the company announced its plan.

And Lee is right. Ontario’s authorities have wasted no time in putting the legislation to work effectively. While the deal with Samsung was negotiated late in 2009, within the first four months of this year, more than 1500 MW of additional wind capacity got the green light to proceed...
Ontario’s Green Energy Act Explained

Ontario’s FiT Programme is North America’s first comprehensive guaranteed pricing structure for renewable electricity production. Qualifying renewable fuel sources include biogas, renewable biomass, landfill gas, solar photovoltaic (PV), waterpower, onshore wind and offshore wind.

There are two streams – the main FiT programme for projects over 10kW and a micro-stream for projects under 10kW. Under the 10kW-plus programme, waterpower (hydro) projects must not be greater than 50 MW, while ground-mounted solar PV projects must not be greater than 10 MW per property.

The main FiT prices vary for each type of fuel source, ranging from C$0.103/kWh for landfill gas to C$0.713/kWh for rooftop solar PV projects under 250kW. Prices, which will escalate in line with the Consumer Price Index, are designed to cover project costs and allow for a reasonable return on investment over the contract term.

Power purchase agreements will run for 20 years for all technologies except hydropower, which will have 40-year contracts. The OPA will pay for all electricity delivered but will not penalize contract holders for not generating.

Contracts can be terminated however if a project does not generate electricity for two consecutive years. Under the terms of the FiT contracts, projects must reach commercial operation within a set timeframe. This is three years for wind, solar and bioenergy, four years for offshore wind, and five years for hydro projects.

Price Adders

To encourage production at peak periods when electricity is most needed, a peak performance factor has also been included for technologies that are not intermittent. Specifically, projects that use renewable biomass, biogas, landfill gas and water, will get higher payments (35% more than standard FiT rate) during peak hours while for generation during off-peak hours the standard FiT rate announced for these technologies actually falls by 10% under FiT, in addition to hundreds of megawatts of solar and other renewable energy projects.

In March, 510 renewable energy contracts totaling 112 MW were announced for small projects, quickly followed in April with first round FiT contracts for large ones (over 500kW) covering 2500 MW across 184 projects, including the 300 MW Lake Ontario offshore wind development near Kingston’s Wolfe Island, planned by local developer Windstream Energy.

First round contracts also went to 76 ground-mounted solar photovoltaic projects, 47 onshore wind and 46 hydro, as well as 7 biogas, two biomass, four landfill gas, and one roof top solar project. The awards represent the “the largest green energy investment of its kind in Canadian history” according to the Ontario Power Authority (OPA), which is in charge of implementing the FiT.

“These projects are the latest accomplishments of the Green Energy Act which is making Ontario a destination for green energy development, manufacturing, and expertise,” added Ontario’s minister of energy and infrastructure, Brad Duguid, speaking about the April awards. “The investments generated by FiT will not only create green jobs, but will also build a coal-free legacy for future generations.”

Meanwhile, projects that operate 24 hours a day every day of the year earn the same total revenue as they would if they had earned the posted FiT price, says the OPA.

Significantly, the programme contains two provisions designed to encourage the development of Aboriginal and community-based projects: reduced security payments and an additional price incentive called a “price adder.” The maximum additions to the standard FiT contract prices range from C$0.06-C$0.15/kWh for aboriginal projects and C$0.04-C$0.1/kWh for community. And projects are eligible for a price adder in proportion to the percentage of equity ownership of the Aboriginal or community group.

Where that percentage control is 50%-100% a project would get the full price addition; where equity is just 10%-24% the adder would be less than half the maximum addition allowed. Projects where Aboriginal or community equity interest is less than 10% are not eligible for the adder. Adders are designed to help ensure these projects are economically viable and level the playing field for groups that may otherwise be excluded from developing renewable energy projects.

Meanwhile, according to the Ontario Power Authority, which is responsible for implementing the FiT, these additional incentives are structured to encourage local partnerships and help Aboriginal and community partners maximize their equity share in projects.

In addition, the Act includes a minimum content rule for wind projects greater than 10 kW and all solar projects, requiring that a minimum amount of goods and services come from Ontario. The minimum required amount of Ontario-based content will increase over time and is determined by the year a project is planned to start commercial operation. The requirements are 25% for wind projects operating by end 2011 and 50% for those starting from 2012 onwards. For solar, the requirement is 50% for projects starting this year, rising to 60% for those coming into operation from 2011 or later.

“Their legislation in North America, Ontario has sent a powerful message that it wants renewable energy – and it wants it now…”

– Hagen Lee, Samsung Renewable Energy

The Ontario Government is aiming to eliminate coal-fired generation in the province by the end of 2014. “Ontario is the first jurisdiction in North America to demonstrate it will phase out large amounts of coal power using renewable energy,” says Tim Weis, Director of Renewable Energy and Efficiency for the Pembina Institute. The FiT contract announcement “shows just how quickly can be done when you get the policy right.”
Indigenous Strength

Meanwhile a “made in Ontario” minimum mandatory requirement for technologies and services under the Act is aimed at making the province North America’s leader in green jobs and manufacturing. OPA says the 694 FIT contract offers announced to date will create 20,000 direct and indirect green jobs and attract about $9 billion in private sector investment, as well as investment in new Ontario-based manufacturing: “The Feed-in Tariff program has delivered strong results and has more than exceeded our expectations,” according to Colin Andersen, OPA’s CEO.

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The Green Energy Act Alliance, a coalition of Ontario groups committed to furthering green power that includes the Pembina Institute, agrees. “Ontario has flicked the switch on a new era of green energy prosperity,” says Dr. Rick Smith, executive director, Environmental Defence, a member of the coalition. “The provincial Government has served notice that the new centre of global green investing is right here in Ontario. Ontario is the first jurisdiction in North America to adopt a feed-in tariff and it’s working even better than we had hoped.”

Something Ontario’s government is particularly proud of is that the Act is strongly focused towards enabling community and aboriginal participation in renewable energy development. To that end, 36 community and aboriginal projects, located throughout the province, were granted a first round FIT contract. “I’m pleased to see aboriginal and local communities across Ontario as active participants in the green energy movement,” said Duguid. “Their leadership enhances Ontario’s efforts to establish itself as a North American leader in renewable energy.”

For Brent Kopperson, chair of the Community Power Fund, in granting contracts to community power projects, “the Government has ensured the people of Ontario can directly share the financial benefits of these renewable energy investments”.

The wind power industry was the biggest winner in capacity terms from Ontario’s first round FIT programme. By the end of March, the OPA was managing 1889 MW of wind power contracts, with around 690 MW of that under development and construction, and the rest in commercial operation.

The 48 wind projects awarded contracts in April will almost double that. More than 1500 MW of wind got FIT deals, which represents one of the largest single investments in wind energy in Canada’s history, says the Canadian Wind Energy Association (CanWEA).

The onshore projects will get C$0.135/kWh under the 20 year PPAs, while the Lake Ontario project will get C$0.19/kWh. “This is a very significant step for the government of Ontario and the Ontario Power Authority in realising the huge potential for wind energy under Ontario’s Green Energy Act,” says CanWEA president Robert Hornung. “Ontario has established itself as a clear leader in North America in moving towards a Green Economy. Going forward, the long-term success of the Act will ultimately depend on a continued commitment to open and fair access to the Feed-in Tariff, as well as accelerated investment in new transmission infrastructure.”

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Hornung seems set to get his wish. To accommodate further projects, Ontario’s electricity transmission network will be expanded, says the OPA. Projects that did not receive a first round FIT contract offer will be put through an Economic Connection Test (ECT) to identify transmission or distribution system expansion projects that support renewable generation and meet economic requirements.

The first test is planned for August/September. Renewable energy projects enabled by these expansions projects will be eligible for a FIT contract once work begins on the projects.

Potential Threat

Not everyone in Ontario is happy though and for the wind sector uncertainty now hangs in the air. Ontario’s Progressive Conservative Party has called for a moratorium on wind energy. However, according to Hornung, this would be a disaster for the wind industry: “…passage of the Progres-
Sparking a Provincial Rebellion

Ontario’s pioneering move to introduce its Green Energy Act – and the announced investment flows that have followed – has quickly spurred action by other Canadian provinces. Flying in the face of federal inaction, British Columbia (BC) and Nova Scotia both announced serious plans for new legislation to boost renewables investment and deployment early this year.

In February, the BC government outlined plans for a new Clean Energy Act that, among other things, seeks to improve energy procurement processes and streamline existing regulatory processes. The Act, which received royal assent in the BC legislature in June and is now law, advances 16 specific energy objectives by expediting clean energy investments; protecting BC ratepayers; ensuring competitive rates; encouraging conservation; strengthening environmental protection and aggressively promoting regional job creation and First Nations’ involvement in clean electricity development opportunities, says the provincial Government. Significantly it includes a renewable energy target of 93% and aims for total self-sufficiency by 2016, with an additional 3,000 GWh of insurance generation planned by 2020. It also includes a feed-in tariff for emerging technologies.

“Our goal is to build on our unique competitive advantages with record investments in our historic ‘two rivers’ public power system and with new clean and renewable electricity investments and partnerships,” says the province’s Premier Gordon Campbell. “We want British Columbia to become a leading North American supplier of clean, reliable, low-carbon electricity and technologies that reduce greenhouse gas emissions while strengthening our economy in every region.”

The wind industry was particularly delighted: “We are very encouraged by the government’s vision of the positive role that wind and other renewable energy sources can play in British Columbia’s economy and its energy future,” commented Robert Hornung, president of CanWEA. “This announcement follows on from the Green Energy Advisory Task Force, which identified the enormous potential for wind energy in the province and the substantial social, economic and environmental impacts that this development would bring.”

In 2009, BC saw the commissioning of its first operational wind farm at Bear Mountain, and studies have identified more than 5 GW in near-term wind development opportunities across the province. “A Clean Energy Act which improves procurement processes, and creates regulatory efficiency and certainty, will send a strong signal to investors that BC is serious about realising its green energy opportunities,” says CanWEA.

Nova Scotia meanwhile has committed to a new law setting a mandatory target for 25% of its electricity demand to be met by renewables by 2015. This, it says, will rise to 40% by 2020. The law “provides the necessary framework to ensure development of all types of wind by all types of proponents, from large-scale utility projects to medium-scale community projects, to small wind turbines for farmers and homeowners,” says Hornung. It includes a feed-in tariff for municipalities, First Nations, co-operatives and non-profit groups. Businesses which operate through a Community Economic Development Investment Fund also qualify.

Half of all large- and medium-scale projects planned, however, will be set aside for Independent Power Producers, with bidding to take place under a competitive system. All bid processes will be managed by a new authority, the Renewable Electricity Administrator.

To maximize the benefits of setting the target, Nova Scotia will need to work quickly to facilitate regional co-operation and transmission upgrades, Hornung says. “This will allow the province to more fully develop its export potential with a focus on significant green energy markets in New England.” CanWEA will also be looking to the Government to provide unique pricing for small winds systems up to 300 kW under its FiT programme.

The motion presented by the PC Party’s John Yakabuski, expresses concern about the municipal role in wind energy project approval processes and also calls for further study on the environmental and health impacts of wind turbines. Municipalities are key stakeholders in any new local development and CanWEA “strongly” encourages them to take advantage of all opportunities to bring issues and concerns forward within the wind energy project permitting process. “We know that wind energy projects cannot succeed without community support and we are actively working to develop, in consultation with municipal leaders, best practices in community engagement for the wind energy industry that we will seek to make an integral part of the project development process,” said Hornung.

CanWEA has expressed “profound disappointment and shock” at Yakabuski’s motion. It points out that every 1000 MW of new installed wind generation capacity represents approximately C$2.75 billion in private sector investment, 1000 new jobs, and enough electricity to power 300,000 Canadian homes. It also provides C$3 million in annual lease payments for farmers and other rural landowners as well as a similar amount in new taxes for rural municipalities.

“Between now and 2020, it is projected that C$1 trillion will be invested in wind energy projects globally, creating more than 1.75 million jobs,” Hornung says. The FiT programme will “help Ontario capture a growing portion of this rapidly expanding global economic opportunity.” A moratorium on wind energy development would see these economic benefits and opportunities vanish, CanWEA says. “Passage of the Progressive Conservative Party’s motion would put thousands of jobs and billions of dollars of investment at risk at a time when jurisdictions throughout North America are aggressively competing to capture wind energy opportunities,” says Hornung.