

Welcome to *Renew* – a quarterly publication of the Ontario Waterpower Association (OWA). This issue continues to emphasize outreach and education, featured in the Spring 2006 edition, with a theme of “Building Capacity.” In electricity terms, this translates into new megawatts of clean, reliable waterpower in meeting the government’s target of doubling the contribution of renewable energy. At a community level, it means providing the means to facilitate the effective participation of those interested in new development. At an individual level, it can foster ability and expertise and expand the talent pool within the industry. Importantly, these “capacity building” possibilities are inherently related. As discussed in this issue, new waterpower development in Ontario is now a provincial priority, is being actively pursued with local involvement, and is attracting new players. But we haven’t built anything new yet. Efforts to build capacity will only be successful if accompanied by opportunity – and the window of opportunity is only narrowing. This is no time to become complacent. ■

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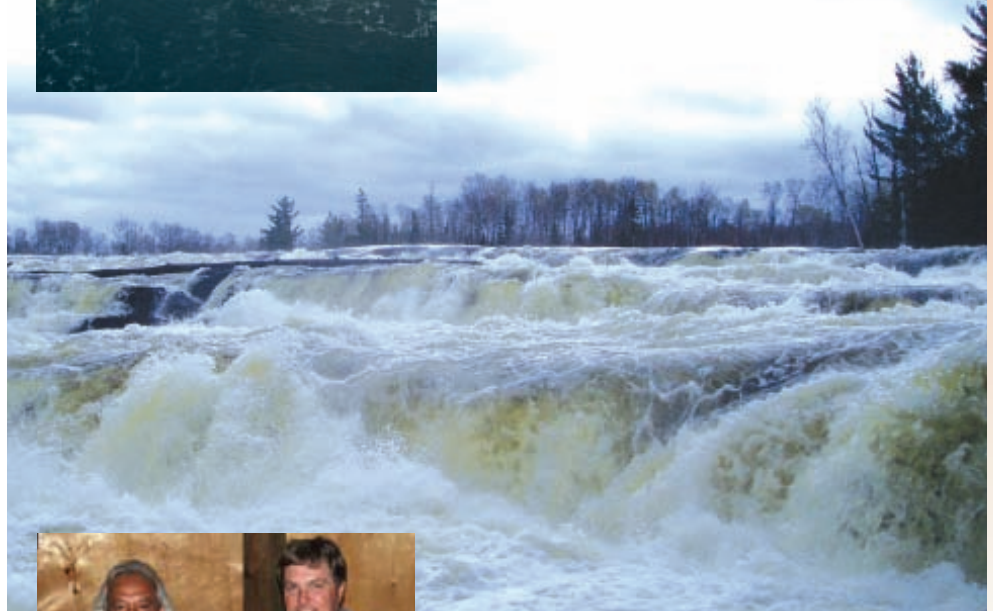
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Partnership Formed for New Waterpower Development



In June of this year, Chant Construction (an OWA member) and the Lac La Croix First Nation announced the establishment of the “Nagaquon Lake Hydro Development Limited Partnership” and the “Ojibway Power and Energy Group General Partnership” (OPEG) to develop a \$40 million, 9.6 MW project at two of three potential hydro sites on the Namakan River south-west of Atikokan, Ontario (below, and left). ■



According to Chief Jourdain (left), the hydroelectric development of High Falls and Hay Rapids “represents the first step to the economic independence of our people and the goal to be self sustaining, with reduced reliance on governments or government funding. It is a community driven project that will change the social and spiritual fabric of our community.” Ted Chant, President of Chant Construction (right) called this “A partnership built on trust and a respect for each other’s values.”

Federal Member Raises Waterpower Profile in Proposed Waterway Review

On June 16, 2006, Bruce Stanton, Member of Parliament for Simcoe North introduced a Private Member's Motion in the House of Commons that, if passed, would compel the government to evaluate the future of the Trent-Severn Waterway (under federal jurisdiction). In Mr. Stanton's motion, the evaluation of the waterway would focus on its potential to become:

- a premier recreational asset;
- a world-class destination for recreational boaters;
- **a greater source of clean, renewable electrical power;**
- a facilitator of economic opportunity; and
- a model of environmental sustainability.

The Ontario Waterpower Association is supportive of Mr. Stanton's initiative, as it clearly recognizes the benefit that waterpower already provides on the system, and the significant additional potential. In an assessment undertaken by waterpower producers on the system, it was concluded that:

- The 18 waterpower facilities on the Trent-Severn system account for almost 100 MW of installed capacity and annually produce, on average, 500,000 MWh of clean, renewable energy. This represents an annual offset of approximately 40 million kg of CO₂ – roughly equivalent to the annual emissions of 100,000 cars.

- Relatively modest modifications to existing operational regimes can create substantial opportunities for increased production of renewable energy from existing facilities. It is conservatively estimated that operational efficiencies could result in a 10 to 20% increase in energy production.
- There are new developments being actively pursued on the waterway and re-development opportunities across the system. It is reasonable to expect that efficiency improvements, re-developments and new developments could increase renewable energy production by more than 50%.

Mr. Stanton's motion is scheduled to be debated in the fall sitting of the legislature – at a time when it is widely expected that direction on climate change/renewable energy will be articulated. The Trent-Severn provides an ideal opportunity for the federal government to lead by example and to demonstrate that waterpower has a key role in contributing to social, economic and environmental sustainability. ■



What's Old is New Again

While it may be difficult to discern, this photo is of two waterpower facilities. Located on the Trent Severn Waterway just outside Campbellford, the facility on the left was constructed in the early 1900s and still produces electricity when there is more than enough water to run the adjacent facility to the right, constructed in the 1990s. Improved efficiencies and water management tools can result in much more renewable energy production across the system.

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Building Capacity – Together



Above: Valerie Helbronner (right) leads a panel on “shared experiences”. Ed Chilton (centre) and Roy Michano (left) are among the panel members.

On July 11 and 12 the Ontario Waterpower Association, the Ministry of Natural Resources and First Nations representatives collaborated to deliver the first “Building Capacity Together – An Introduction to Waterpower” workshop in Sault Ste. Marie. The program was designed to focus on the information and knowledge requirements of First Nations actively involved or interested in waterpower development. Instructors experienced in all aspects of waterpower proposals presented a course that carried participants through the identification and assessment of a waterpower opportunity to consideration of key business

development elements. Course content included:

- Waterpower in the Context of Ontario’s Evolving Energy System
- New Site Development on Provincial Crown Land
- First Nations Economic Development Opportunities
- Hydrology and the Determination of Waterpower Potential
- Navigating the Regulatory Approvals Process
- Civil Infrastructure and Operations
- Transmission and Distribution
- Business Relationship Models and Approaches
- Environmental and Ecological Considerations
- Financial Analysis and Project Development
- Renewable Energy Contract Components



Above: Karen McGhee, IBI Group, introduces hydrology and the determination of waterpower potential



Above: Bill Touzel, Water and Earth Sciences Associates, outlines financial and investment considerations.

Right: Workshop participants agreed in a post session evaluation that it was an important step in helping to build knowledge.

The audience of more than two-dozen included representatives from individual communities, economic development officers from tribal councils and experts from First Nations organizations. In addition to the presentations and question/answer periods, a panel of proponents was convened to share their experiences in waterpower development and offer advice. The session was opened and closed with prayer offered by Chief Wilmer Noganosh, Magnetawan First Nation. Based on the participation and the positive feedback, plans have now begun to build on the workshop and explore additional initiatives to further the relationships established. ■



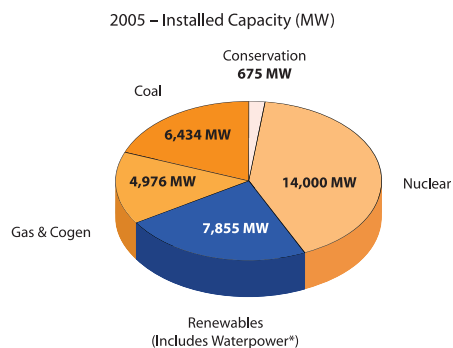
Above: Michael Fox, Nishnawbe-Aski Development Fund, overviews First Nations economic development strategies.



Doubling Ontario's Renewable Energy Capacity – Waterpower in Perspective

The province's much anticipated "Electricity Supply Mix" announcement on June 13 confirmed two key facts for the future of waterpower in Ontario: flexibility in production will become increasingly important; and transmission planning and expansion must begin immediately to optimize our untapped potential. With a target of adding almost 8,000 MW of new renewable energy to the supply mix over the next 20 years, it is apparent that much more than the 1,500 MW of "unconstrained" Ontario waterpower identified in the Ontario Power Authority's (OPA) Supply Mix Report will be pursued. It is practical to plan that at least half of the new capacity required can come from our indigenous resource. It is equally apparent that, in the context of a system mix that retains the capacity of base-load nuclear, encourages the integration of new wind power and maintains the commitment to phase out coal-fired generation, the "system" value of flexible waterpower will only increase. This reality has been identified by the Independent Electricity System Operator (see *RENEW*, Summer 2005), affirmed by the OPA's background report on Hydroelectricity (Section 3.6, OPA Supply Mix Report), and is now firmly acknowledged in the government's direction for the path forward. Simply put, the ability of waterpower facilities to store kinetic energy and produce electricity in response to demand fluctuations is a matter of provincial electricity interest.

Ontario's Proposed Electricity Supply Mix



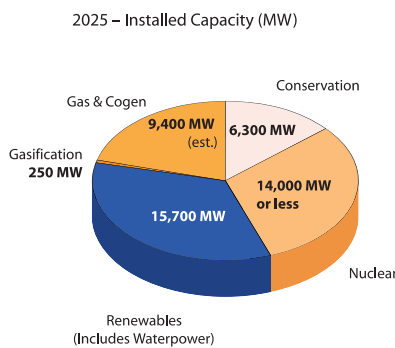
*7,700 MW of installed waterpower capacity was operating in 2005

Several of Ontario's existing "working rivers" are strategic provincial energy assets and should be valued as such. New development opportunities should also be assessed considerate of this role.

As importantly, the Minister's direction to the OPA in the Electricity Supply Mix directive recognized the need for proactive transmission planning and development to liberalize the significant waterpower potential in northern Ontario. The vast majority of Ontario's remaining significant renewable waterpower potential is located in areas of the province either currently constrained by or lacking access to transmission. Recognizing this potential, and the renewable energy objectives, in the preparation of the first Integrated Power System Plan, the OPA is to strengthen the transmission system to:

- enable the achievement of the supply mix goals set out in the directive;
- facilitate the development and use of renewable energy sources in parts of the province where the most significant development opportunities exist; and
- promote system efficiency and congestion reduction and facilitate the integration of new supply.

Establishing concrete renewable supply objectives and positioning transmission as a facilitator is key to the optimization of



Source: Ministry of Energy

Ontario's significant waterpower potential. With this established, alignment across government should become a focus for moving forward. For waterpower, responsive land use and resource management planning will become increasingly critical to ensuring that the potential is realized and that the system benefit of load-following generation is recognized. Effective, efficient and integrated regulatory and policy processes will be required to put the potential into production when it's needed. Procurement mechanisms must anticipate new northern Ontario development. And, for potential investors, all of this must have the same degree of clarity as the targets for new renewable energy. The success of any plan is not measured by its elegance, rather its implementation. ■

Last Word

With decisions now made on Ontario's Supply Mix and the commencement of effort in earnest on the Integrated Power System Plan, there appears to be a lull in the sense of urgency that had become the norm for the electricity sector. Factor in the 20-year time horizon that has become the focus of discussion and one begins to wonder what all the hype was about. But now is not the time to relax. Consider this – it has taken 100 years to build the first 8,000 MW of renewable energy in Ontario – we have 20 years to do it again. Most recent estimates suggest that it takes 4 to 6 years or longer to move through the myriad regulatory and policy requirements for a waterpower development in this province and, with the water policy agenda in particular becoming more complex, these timelines do not appear to be improving. It takes months to be awarded an opportunity to pursue a new Greenfield development – with no certainty of a contract for new energy. It is still very much a puzzle that needs to be pieced together – we know what the picture is supposed to look like – we have put the edges in place – but there is a lot left to do to fill it in. And the clock is ticking... ■

Paul Norris, OWA President

