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### Can Ontario's Green Energy Act Really Work?

Ontario's Green Energy Act (GEA) Bill 150, and related amendments to other legislation, received Royal Assent on May 14, 2009. Work is now underway across government to develop the regulations and other tools needed to fully implement the legislation. As these are developed, the various schedules and other elements making up the GEA will be proclaimed. The legislation is designed to foster growth in clean and renewable sources of energy such as wind, solar, hydro, biomass and biogas.

Stimulus to the industry is needed to counter various challenges in advancing green energies in Ontario. For example, developers are often thwarted by the environmental and community approval processes required to advance from the planning stage to implementation. Can the Government do more? The Ontario Society of Professional Engineers' (OSPE) new GEA Task force has some recommendations for Queen's Park.

The Task Force first divided the issues into five subject categories: Meeting Environmental Objectives; Anticipated Economic Growth; Electrical Distribution Challenges; Governance Implications; and the Role of the Engineering Profession.

#### Environmental Objectives

Wind and solar sourced energy fluctuate based upon resource availability. This requires judicious forward supply-demand management and grid analysis to accommodate the input of such energy into the Ontario electrical grid that is known to have specific capacity limitations and range of operation.

Consequently, wind and solar energy are best employed in conjunction with localized power requirements that do not place demand on the grid transmission network. Good examples of energy demand systems that can operate with variable inputs are thermal mass buffered space heating, hydro reservoir replenishment or hydrogen production. Co-generation and geothermal technology, including both ground sourced as well as deep sourced thermal reserves, should also play a significant role in reducing the energy required to heat homes and businesses. OSPE believes that the government and the Bill should support cogeneration and geothermal technologies.

#### Anticipated Economic Growth

OSPE applauds the job creation aspect of the Act, but it is concerned that it will not create the number of jobs anticipated. Success in job creation goals will only come from continued investment in research, development and commercialization in the province. OSPE requests that the Bill identify measures to encourage domestic equipment supply and the use of local engineering and other resources.

Many people are unaware that selling excess energy into the grid requires significant investment by producers for the interconnect. The grid is not typically set up to allow for input of energy with metered systems ready for the connections. Home and commercial building owners generating energy will need to purchase another meter and pay additional billing administration charges, while local energy facilities will need to be upgraded to bring small generators online. These additional costs must be considered in greater detail together with other alternatives such as building code changes to better utilize passive/active solar energy and thermal storage.

#### Electrical Distribution Challenges

OSPE recommends that the supply mix incentives take into consideration distribution impacts and set appropriate targets or limits on the various forms of energy generation. OSPE also recommends the Bill encourage energy producers and users to reduce green house gasses and other forms of air pollution rather than a primary focus on the generation of electricity.

### Governance Implications

Energy planning in Ontario is complex as there are many bodies with overlapping mandates. OSPE is concerned that the GEA and, in particular, the proposed Renewable Energy Facilitation Office (REFO), may add to this complexity.

The powers invested in the proposed REFO are worrisome. An independent appeals process for green energy companies or local distribution companies and ratepayer groups who feel disadvantaged by a decision from the REFO must be built into the Bill. Asking these entities to appeal to the office that disadvantaged them in the first place is contrary to good business practice.

OSPE requests that the Bill be revised to clearly designate the Ontario Power Authority with the responsibility of setting priorities for adding new green generating capacity to reflect its supply plan. It should designate the Ontario Energy Board to administer an appeals process of decisions made by the Renewable Energy Facilitation Office and must clearly identify and provide an extended mandate to all forms of green energy production and utilization, not just electrical generation.

### Role of the Engineering Profession

Ontario's Professional Engineers Act, combined with academic and on-the-job-training, has fostered a culture of professionalism and responsibility within the engineering profession. As engineers, we take our commitment to public safety seriously (please reword this last sentence and use direct quote from the Act). Electrical generating companies are required to use professional engineers in the design, operation and maintenance of their facilities and, consequently, complied (voluntarily) (remove) with the public safety provisions of that Act.

Bill 150 opens energy generation to individuals who are often neither trained nor (accountable) licensed under the Professional Engineers Act.

OSPE requests that the Bill be revised to ensure the provisions of the Professional Engineers Act apply to all green energy production and utilization projects that have the potential to affect public health and safety.

### Green Energy Forum

Realizing the potential impact of this legislation, OSPE, in cooperation with McMaster University, convened a

breakfast forum of experts and stakeholders to discuss the implications of the GEA in the Spring of 2009.

About 80 OSPE members came to enhance their understanding of this bill from Amir Shalaby of the Ontario Power Authority, Dr. Bryan Karney of the University of Toronto and David Booz, PEng, a professional engineer in private practice. Dr. Gail Krantzberg, director of the McMaster Dofasco Centre for Engineering and Public Policy, moderated the panel. For Dr. Krantzberg, Bill 150 is a "revolutionary and exciting Act"

Mr. Booz highlighted the Act's emphasis on renewable energy through the feed-in tariff; the streamlined approvals for renewable energy; the obligation to connect renewable sources to the power grid; and the arrival of the "smart grid" which needs to be flexible and reliable to respond to demand. However, Mr. Booz said conservation, one of the primary objectives of the Green Energy Act, is a hard sell because it is not a profit centre for investors.

Regarding the feed-in tariff, Mr. Shalaby spoke of the importance of a favorable rate of return, assuring a price that makes investment worthwhile, but he identified the challenge of shaping renewable sources into a product consumers can use. There is a lack of storage capacity and there are a myriad of forms and regulatory regimes between municipal, provincial and federal levels of government. Nonetheless, Mr. Shalaby is convinced Ontario is approaching the "next frontier" by increasing its dependence on renewable sources such as wind power.

According to Dr. Karney, Bill 150 is a lever to create a more sustainable Ontario that people can proudly embrace, but he urged a more interdisciplinary approach that incorporates economics and policy. He also encouraged a holistic view of energy systems instead of considering only the disparate parts.

When the speakers concluded, Dr. Krantzberg described Bill 150 as a fine, if flawed, Act. Some audience members disagreed with the upbeat tone. One questioned whether the GEA, with its range of instruments and programs, was constructed on a wish and a prayer. Mr. Booz argued that all of the renewable technologies are "ready for prime time." The objective is to determine which source, be it wind, solar or biomass, makes sense from an economic and legislative standpoint.

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Another audience member asserted the panelists did not discuss the actual impact of Bill 150. He contended there was no data to support the claims of benefiting Ontario when the feed-in tariff and the "smart grid" resembled a tax increase. In reply, each speaker explicitly agreed electricity prices would rise under the new, green regime. Dr. Karney said electricity is so cheap and so under the radar that people are oblivious to its costs. "Canadians want to go green, but they don't want to pay for it," said Mr. Booz.

OSPE believes that the Ontario government is moving in the right direction with respect to reducing our dependence on fossil fuels but clearly more needs to be done. We hope our concerns will be heard and our recommendations will be implemented to help ensure the Bill results in a healthier environment together with a stronger economy.

Annette M. Bergeron, M.B.A., P.Eng., is President and Chair of the Ontario Society of Professional Engineers – The Voice of Ontario's Engineers. Learn more at [www.ospe.on.ca](http://www.ospe.on.ca).

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## The Ontario Association of Architects: Commitment to Consumer Protection

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areas in which complaints tended to recur and have alerted Council about educating the membership on avoiding these pitfalls through articles in the OAA e-bulletin publication. Matters of interest to building officials have featured in these articles as well.

In a recent case review of past complaints, it was noted that during a four year period, 8 of 63 complaints were received from building officials and dealt with by the Complaints Committee. In a previous period and its review, the number of complaints received from building officials reflected a higher percentage.

Established under the Architects Act, the Discipline Committee hears allegations of professional misconduct against a member of the Association, holder of a Certificate of Practice or a holder of a Temporary Licence. The allegations may arise through referral of a matter by the Complaints Committee. In addition, Council may direct the Discipline Committee to conduct a hearing into allegations of professional misconduct in a specific situation.

All Discipline hearings are conducted by a tribunal comprised of two senior members of the Association and

a member of Council appointed by the Lieutenant Governor in Council.

As a further extension of its consumer protection mechanisms the OAA, in cooperation with Professional Engineers Ontario, established the OAA/PEO Joint Liaison Committee to deal specifically with those matters that have been forwarded to our respective organizations in accordance with section 8(9.1) of the Ontario Building Code Act. Once again I would like to remind all Chief Building Officials to forward directly to the Ontario Association of Architects (OAA) and/or Professional Engineers Ontario (PEO) any documents or information pertaining to permit submission or general review that you have reasonable ground to believe will contravene our respective acts. A second edition of our Joint Bulletin titled: Design & General Review Requirements for Buildings in Ontario was sent to all building officials in the month of June. Additional copies are available on the OAA web site at [www.oaa.on.ca](http://www.oaa.on.ca)

The Ontario Association of Architects appreciates the opportunity to provide information to building officials through the OBOA quarterly journal and to continuing the positive relationship that has grown over time.

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President