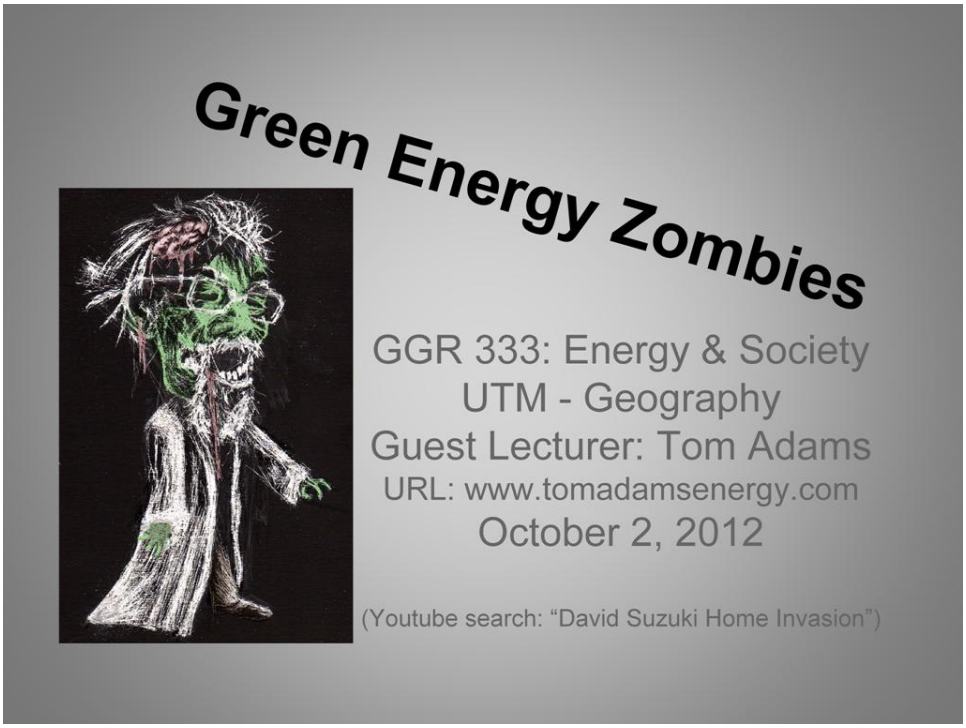
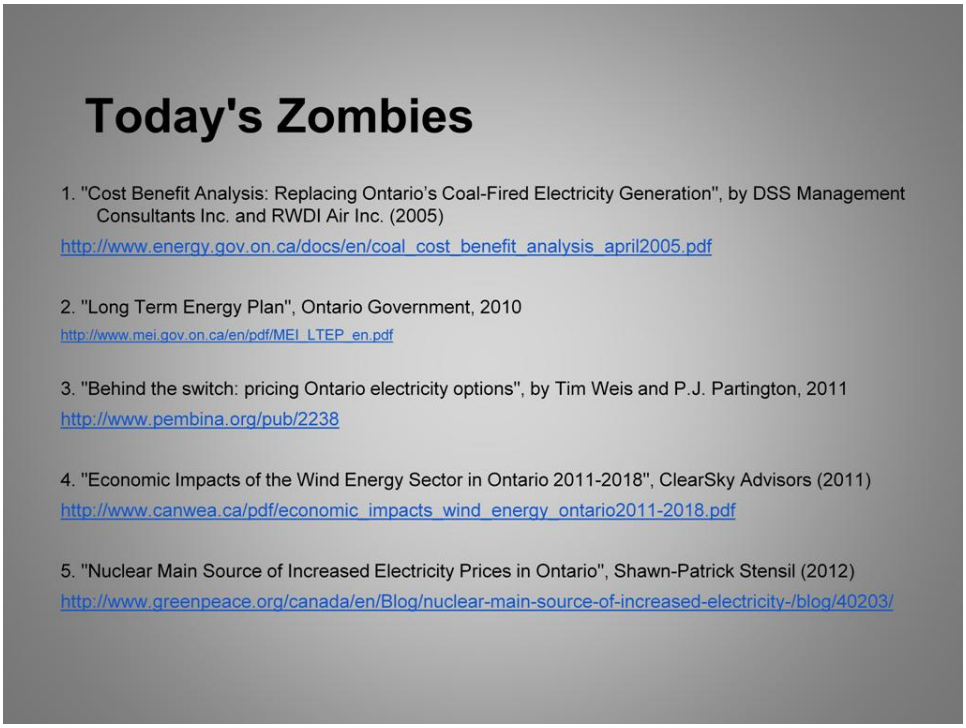


As a coincidence, about an hour before this lecture the Ontario legislature issued a finding of political contempt against the Energy Minister. The purpose of this presentation is to express intellectual contempt.

Not very far back in history, Ontario consumers paid electricity prices well below the North American average, albeit with the benefit of what may in hindsight seem like small subsidies like tax holidays, dividend holidays and loan guarantees. With the off-coal policies that date back to Elizabeth Witmer's role as Environment Minister under Conservative Premier Harris and later the policies subsidizing renewable energy that culminated in the Green Energy Act (2009), Ontario has embarked on a radical transformation of its power system. By the end of 2013, Ontario consumers will pay the highest power rates of any province (except PEI) or U.S. state. I have explored this history with your predecessors. Here is last year's lecture which focused on the current situation with particular attention to the Green Energy Act. http://www.tomadamsenergy.com/2011/11/29/lecture-to-utm-geography-energy-and-society-ggr-333/

For those interested specifically in the price history, the provincial Auditor General's 2011 report provides an excellent summary at Figure 3 describing what has happened to prices since 1999. http://www.auditor.on.ca/en/reports_2011_en.htm



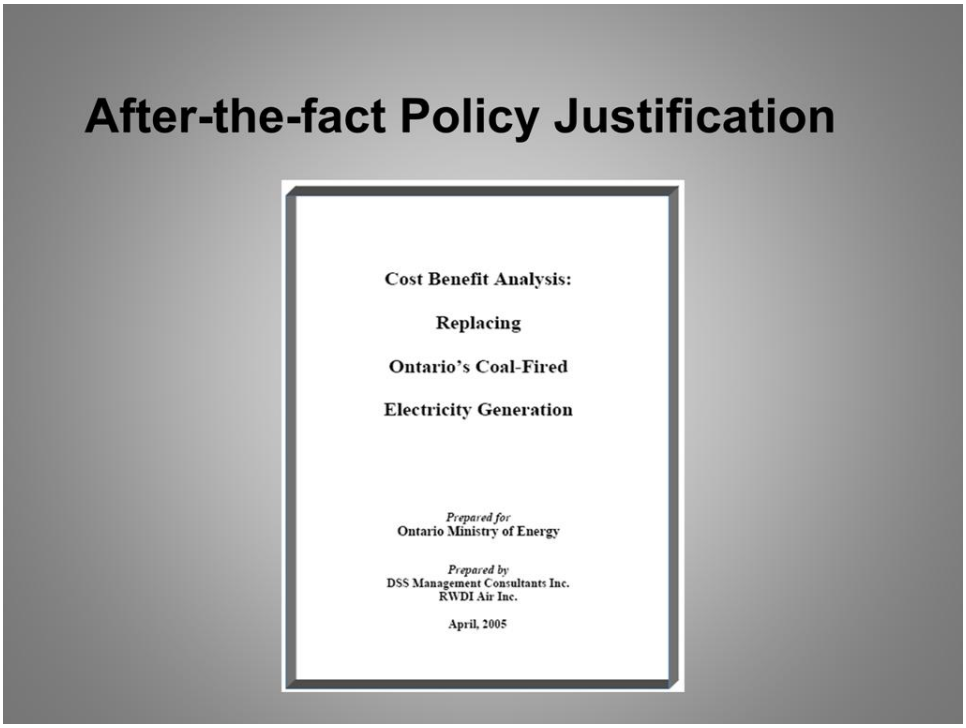
When hunting zombies, pick off the important ones first. I suggest that these are important zombies. Each of these has played an important role in creating the electricity future that Ontario is now marching toward. Each of them have been and continue to be treated with far too much respect.

Here is what these zombies want you to think:

1. Ontario's coal power kills hundreds of people per year.
2. The Ontario government has a plan for the power system.
3. Wind and solar power are no more expensive than the alternatives.
4. Renewable energy creates lots of jobs.
5. Nuclear power, not renewable energy, is driving up Ontario's power rates.

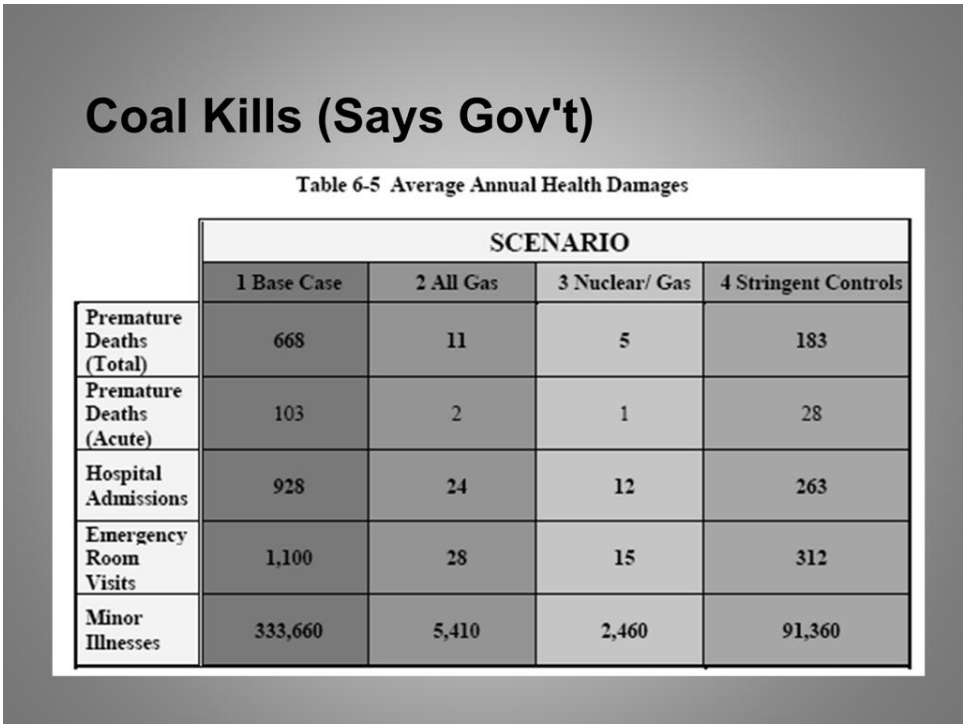
I will argue that these are all propaganda statement that do not stand up to review.

I draw your attention to the sponsorship of the studies. The first two we will examine are directly government controlled or authored. The next group of three are interest groups, two of which are funded by government or feed indirectly off subsidies. Increasingly, the government's green energy propaganda effort is contracted out.



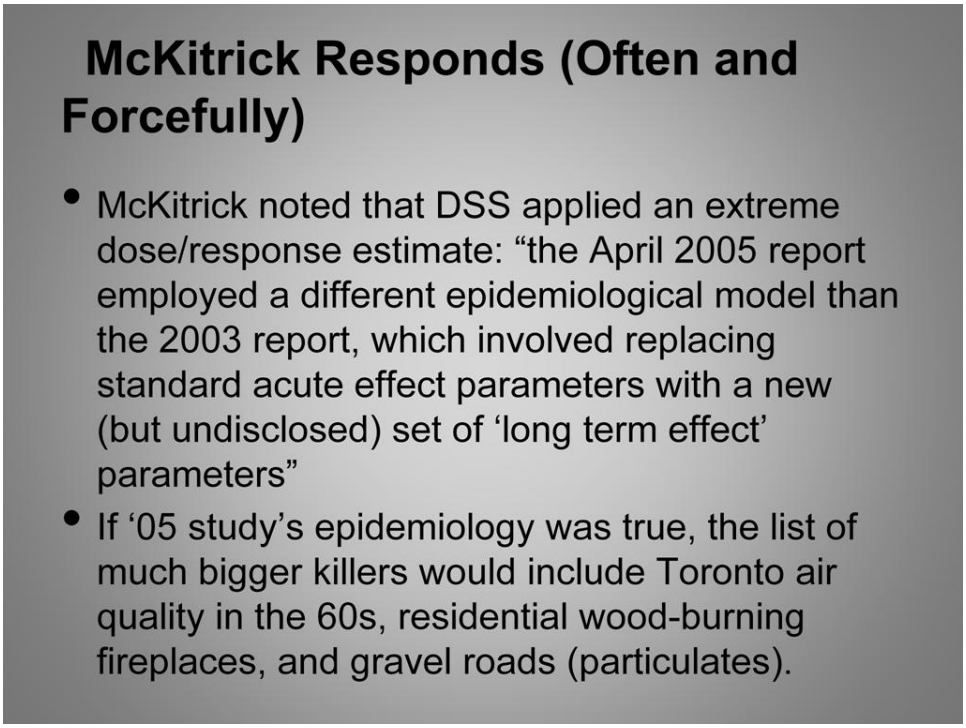
Prior to the 2003 election campaign, all major parties had committed to eliminating coal in Ontario. During the campaign, the McGuinty's Liberal campaign, following the lead of the NDP, had promised to phase out coal by 2007. After the election, the costs of coal phase-out became controversial. This study was a key element of the government's response to that controversy.

This study has been massively cited. Of all the green zombies reviewed in this presentation, perhaps this one will be remembered longest into the future.



Here chart is what the zombie propagandists wanted you to focus on. They succeeded. This chart became embedded in the electricity policy discussions of the province. The 668 deaths due to coal has been cited innumerable times after. Advocates citing this included the Ontario Clean Air Alliance, the Ontario Medical Association, Canadian Association of Physicians for the Environment, and many others.

But what is this estimate based on?



University of Guelph Professor of Economic, Ross McKitrick responded, noting that DSS had changed the epidemiology model from previous DSS studies on the same subject, cherry picking one study that claimed a high rate health impact due to pollution exposure, thereby jacking up the death number.
http://www.rossmckitrick.com/uploads/4/8/0/8/4808045/cbareview.pdf
Over the years he has noted that residential *wood*-burning fireplaces emit 23,303 tonnes (of PM2.5), or 33 times the amount from the power generating plants. http://www.rossmckitrick.com/ontario-energy-policy.html
Unpaved roads are a much bigger source of fine particulate.
Although the proximity to down-wind populations and emission control technologies of coal-fired power plants vary dramatically, the DSS study bundled together irrespective of location and emissions profiles.
Air pollution levels are declining but at the dose/response assumed in the 2005 DSS study would have had massive lethality:
http://www.rossmckitrick.com/uploads/4/8/0/8/4808045/ontcoalpanel2.pdf

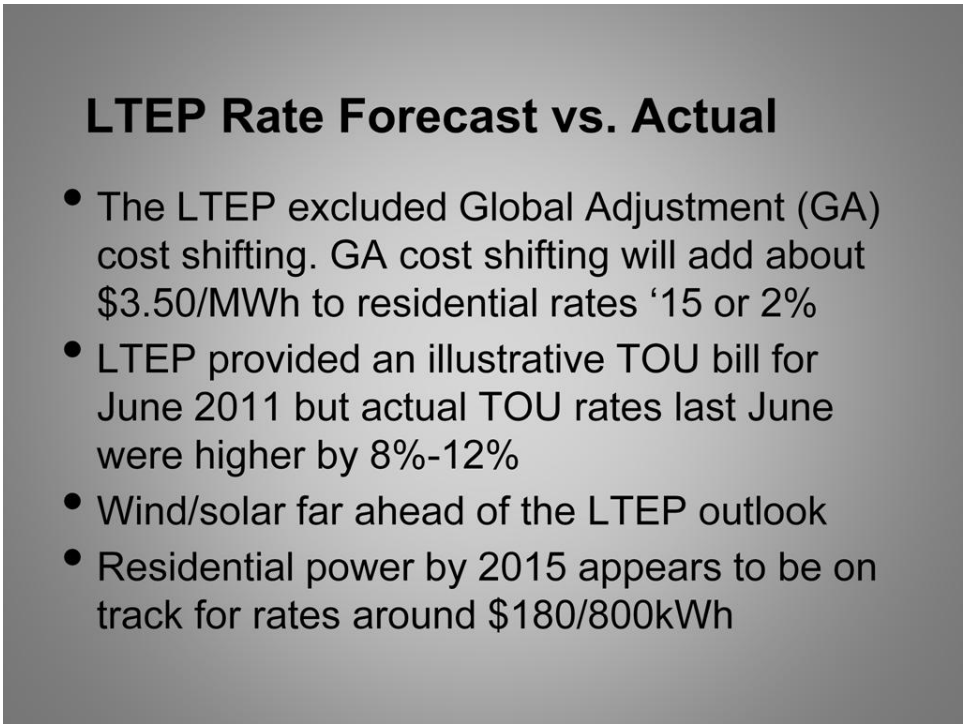
McKitrick’s critiques have comprehensively destroyed the Ontario-coal-kills-Ontario-citizens-in big-numbers argument. However, the “killer coal” zombie lives on.

Note that some of Professor McKitrick’s work on coal policy has been sponsored by the Power Worker’s Union, an interest group with a direct stake in coal closure.

Issued in 2010, the LTEP signaled that the government had seized control of power system planning from the agency it had set up to do this job in 2004, the Ontario Power Authority.

Speakers at Ontario energy industry conferences rarely miss an opportunity to extol the genius of the LTEP green zombie.

Government policies following the issuance of the LTEP have departed significantly from the plan, suggesting that the plan was more of a marketing and electoral document to promote the government's image than it was a real power plan.

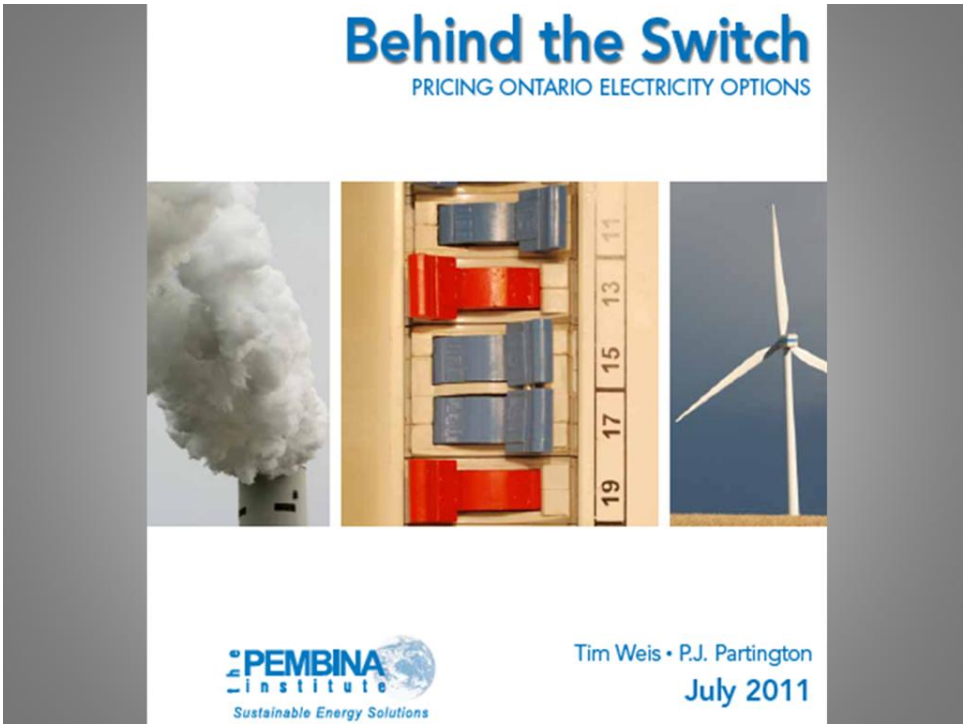


The LTEP forecast that monthly residential costs would rise from $114/800kWh in 2010 to $167/800kWh in 2015 — a 46% nominal increase or a 33% inflation-adjusted increase. It also signaled an accelerated renewable energy contracting program. In both cases, the LTEP forecasts departed significantly from actuals.

Power rate impacts are not the only issue of concern. The LTEP overlooks reliability threats and operational problems created by the new fuel mix.

Suggested sources for more detailed critique:

http://www.tomadamsenergy.com/wp-content/uploads/2011/01/comments-on-draft-supply-mix-directive.pdf
http://www.tomadamsenergy.com/2012/01/26/ontario-power-rates-headed-for-1-by-2013/
http://www.tomadamsenergy.com/2011/12/05/ontarios-auditor-general-snowed-again/

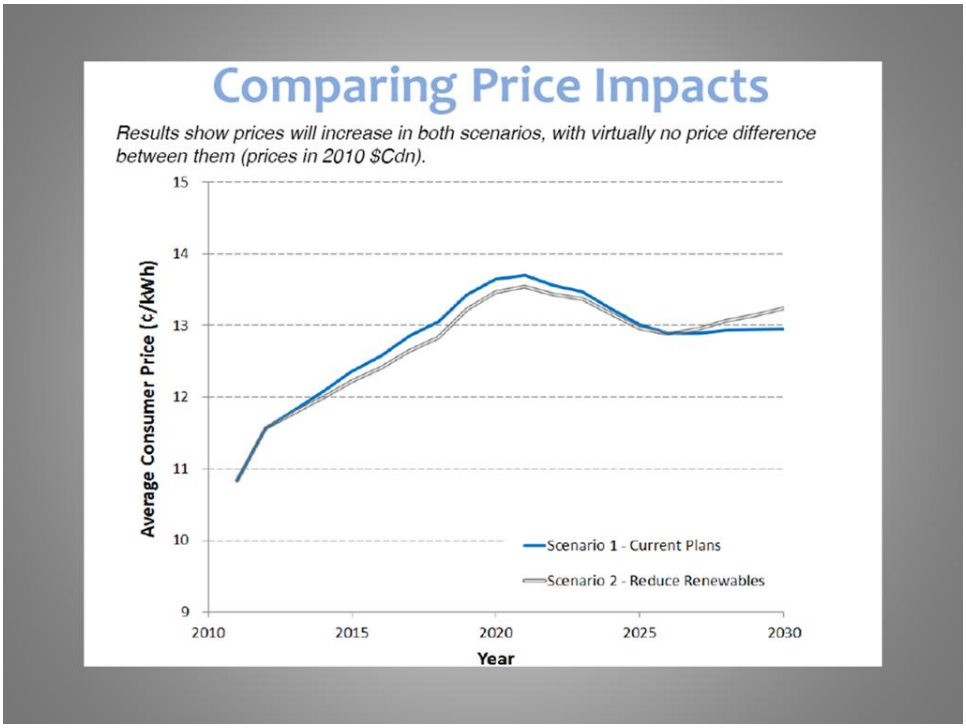


Pembina has been a key architect and beneficiary of the Ontario government's renewable energy policies. Dr. Weis has had a longstanding involvement in the Green Energy Act Alliance.

Pembina gets substantial income from Ontario government agencies such as OPG. Here is an example:
http://www.opg.com/power/thermal/Pembina%20Biomass%20Sustainability%20Analysis%20Final%20Rev%2015%20April%202011.pdf

Key points in "Behind the Switch":
- Increasing rates are directly caused by the age of the power system and are unavoidable.
- There is a nation-wide trend toward higher rates.
- The report states that there is a high impact on health budget due to Ontario's coal-fired power generation.
- The report states that, "The 2003 blackout underscored a need for greater planning and investment in Ontario's electricity system." (Expert reviews of the '03 Northeast blackout focused not on greater planning and investment, but on better maintenance and communications between control centres. See for example, the 2004 U.S.-Canada Power System Outage Task Force, https://reports.energy.gov/BlackoutFinal-Web.pdf)

"Behind the Switch" report cited frequently, including in "Ontarians Have a Good Deal: Review of the December 2011 Annual Report
by the Office of the Auditor General of Ontario", By Bridgepoint Group Ltd. (June 2012), commissioned by Environmental Defence (Tim Weis is identified as a contact in the press release accompanying the release of the study. Self-referencing is a common green zombie technique.)

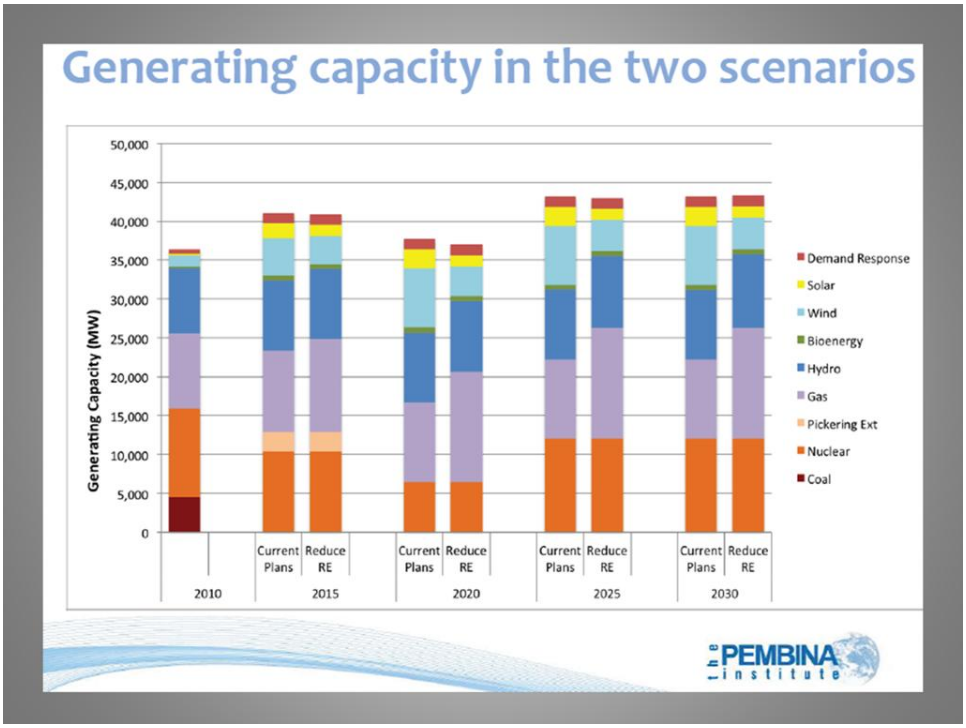


This is the image the green zombie propagandists want in your head.

Where does that graph come from?

One little aspect of the study is that it forecast that gas prices in 2012 would be more than twice as high as they turned out to be. Forecasting is a risky game.

The methodological underpinnings of the study are much more important that the parameter assumptions.



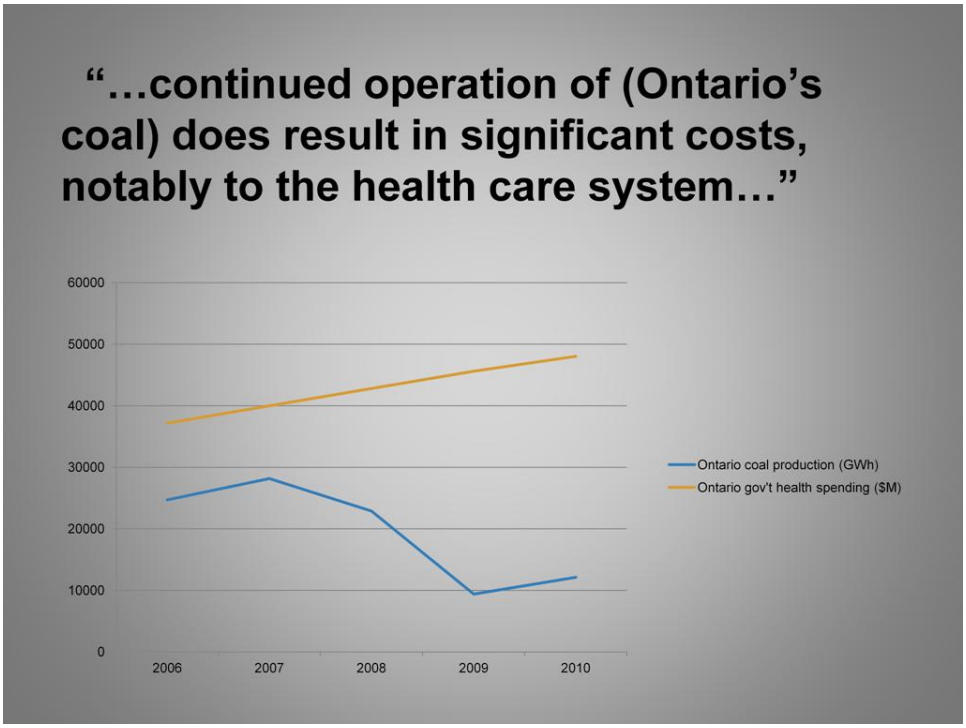
The key point is that under limited renewables/big gas scenario vs. high renewables arising from a continuation of the current policy, the amount of installed capacity is approximately equal. What Pembina is recommending here is substituting reliable, dispatchable generation for non-reliable, non-dispatchable generation on a one for one basis. The scenario is of high renewable penetration has a lower reliability than the scenario of the lower renewables penetration.

Only discussion of in the Weis/Partington study of the integration challenge relies on a GE study for the IESO/OPA done in 2006. Pembina's authors don't appear to be aware that in 2010 GE finally admitted that its '06 study contained a critical error. Here is that story: http://www.tomadamsenergy.com/2010/05/12/major-cracks-confirmed-in-ipsp-operability-assessment/

Declining rates in the US

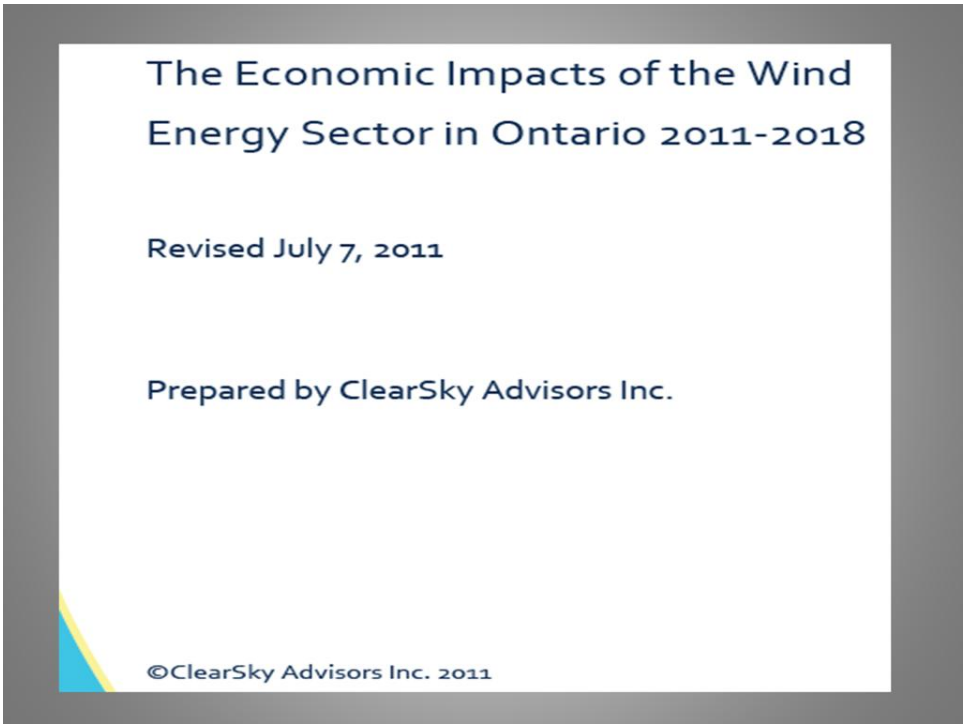
- US EIA: inflation adjusted power rates in US peaked in '08-'09, declined since. Meanwhile, Ontario rates soar. (Annual Energy Review issued September 27)
- While US average power rates are forecast to remain steady, New England (oldest in US) are forecast to decline according to EIA Annual Energy Outlook (2012)

The theory that increasing rates are unavoidable is contradicted by the rate experience in the US. The low cost of capital, low gas prices and weak demand has resulted in lower rates there. According to the US EIA, rates are expected to decline fastest in the near term in the part of the country that probably has some of the oldest electricity infrastructure.



Contradicting Pembina's assertion quoted here, coal-fired power production in Ontario and government health care spending have been negatively correlated over recent years.

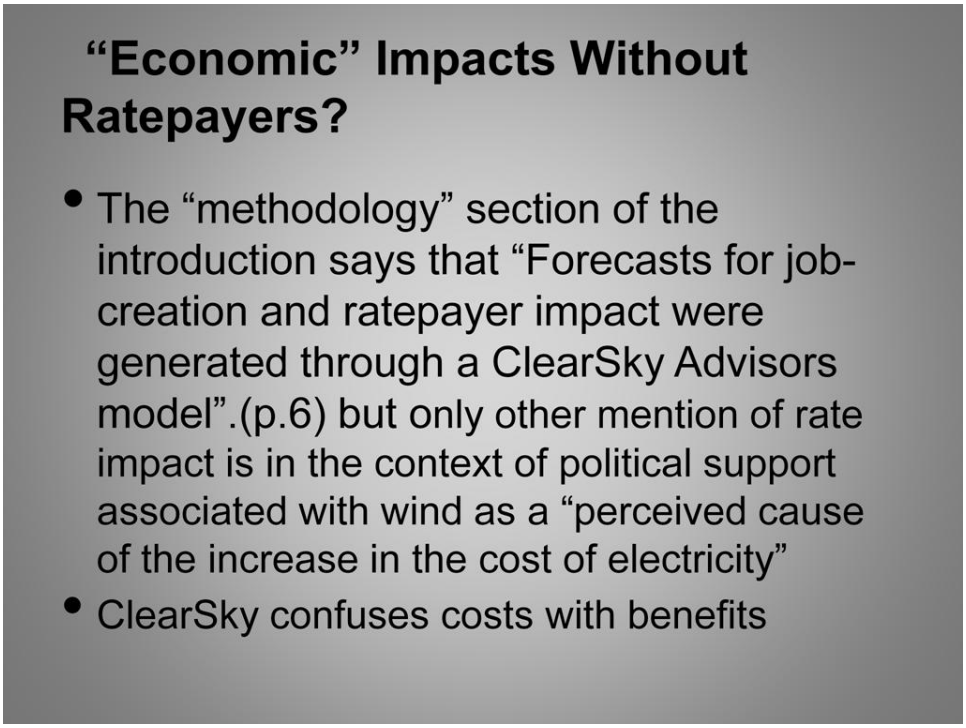
Sources:
•OPG SD report for all years except IESO press release for 2011
•Canadian Institute for Health Information, "National Health Expenditure Trends, 1975 to 2011," October 2011, Tables B.4.1; downloaded from http://secure.cihi.ca/cihiweb/products/nhex_trends_report_2011_en.pdf



Self Description: “ClearSky Advisors is a research and advisory firm dedicated to developing effective insights and strategies suitable for companies and governments in the renewable energy sector that require growth.”

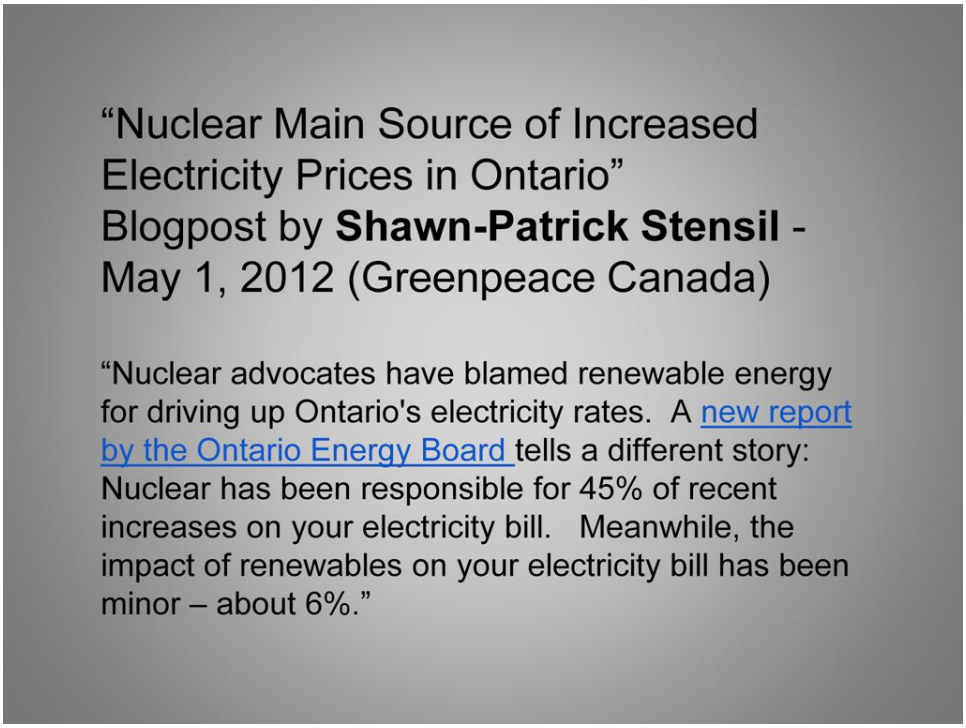
The 2011 study was commissioned by the Canadian Wind Energy Association (CanWEA).

ClearSky Advisors describes it as, “the most comprehensive study ever undertaken on the economic impacts of the wind energy industry in the province. According to the study, Wind energy developments in Ontario will create more than 80,000 person years of employment and attract more than $16 billion in private sector investments.”



There is a ignoble tradition in Canada when doing energy policy analysis of confusing costs with benefits. Energy sources that require a lot of inputs to produce a unit of output appear to create more jobs than more efficient energy sources. If the rate impacts of inefficient sources were considered then it would be more evident that inefficient energy sources produce jobs in their specific sector at the cost of a loss of prosperity elsewhere in the economy.

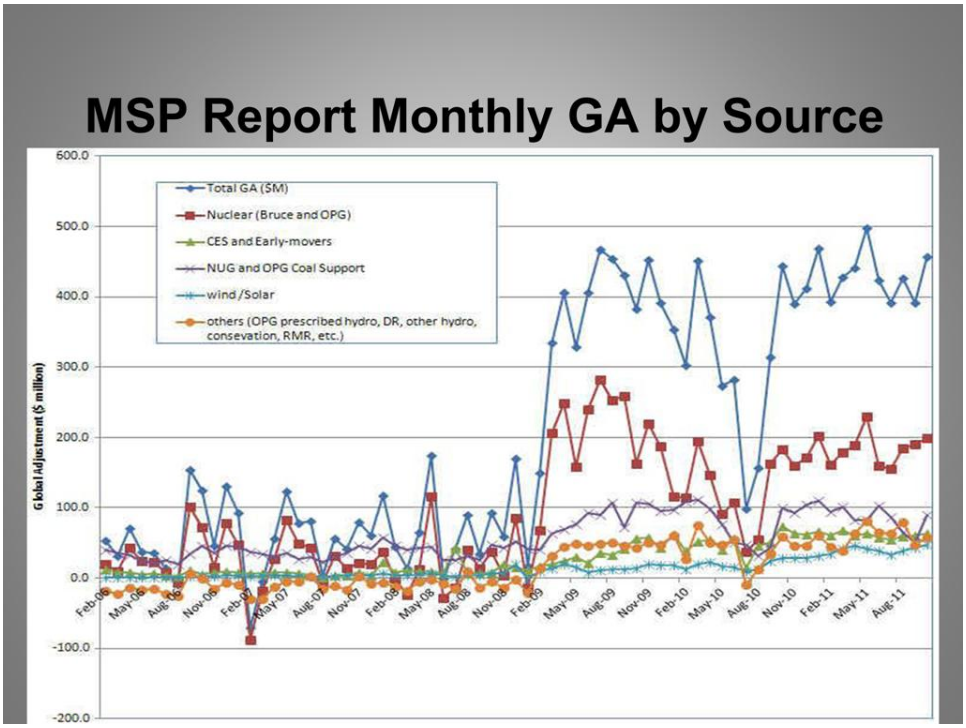
Inefficient energy producers love to promote their "jobs" benefits. The Canadian Nuclear Association and the ethanol industry have issued dozens of these type of studies.



Reference: http://www.greenpeace.org/canada/en/Blog/nuclear-main-source-of-increased-electricity-/blog/40203/

314 "likes" on Facebook as of October 2, 2012 am

Stensil is a prominent energy analyst in the organized environmental movement in Canada.



Stensil relies on this graph from the Market Surveillance Panel's May 2012 report.

Here is where it can be accessed:
http://www.ontarioenergyboard.ca/OEB/Industry/About+the+OEB/Electricity+Market+Surveillance

Propaganda Alert (1)

- MSP doesn't say that Nuclear has been responsible for 45% of recent increases on your electricity bill. The report carefully lays out at pages 59 and 60 the components of Global Adjustment, not "your electricity bill" as Stensil cites.
- Although there are nuclear advocates criticizing McGuinty's green policies, most of the critics are rural land-owners concerned about property values.

"Global Adjustment" accounts for differences between the market price and the rates paid to regulated and contracted generators and for conservation and demand management programs. It is one component of the commodity cost of power shown on residential consumer bills.

Propaganda Alert (2)

- Stensil relies on a snap-shot and without normalization
- On a per unit basis and looking at the near future, new renewables are about to have a massive rate impact
- Existing nuclear is priced at 5.6 cents/kWh to about 8 cents/kWh whereas new wind starts at 11.5 cents/kWh and new solar starts at 34.7 cents/kWh

Propaganda Alert (3)

- Stensil says -- "Luckily for consumers, however, the Green Energy Act is also designed to reduce prices paid for new wind and solar installations as prices drop due to innovation in the industry. And the government reduced prices paid for renewables earlier this year." (emphasis added)
- Contrary to Stensil's assertion, the government did not reduce prices paid for renewables. All wind/solar in Ontario operates under 20 year contracts with escalators built in. The government reduced only the rate paid for new renewables, although the new prices far exceed market value.
- Stensil's comments illustrate how a culture of deceit can take root in a complex field.

Propaganda can be vulnerable to educated, critical inquiry.