

## Herr Scheer Needs Energy Rethink

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Tyler Hamilton of the Toronto Star provides so much questionable material in his columns that it would be a full time job responding to them all. However, “Green giant urges energy rethink” is so flawed that a response is required. The “Green giant” in the title is indicative of the whimsical nature of the content. When are we going to hear from someone who knows what they are talking about? Herr Scheer clearly demonstrates that he does not understand the electricity situation in Canada or Ontario. The ultimate effects of his policies on Germany remain to be seen.

Here are some of Herr Scheer’s comments, all of which should be read very carefully. Emphasis has been added to illustrate this.

*“Ontario could power itself exclusively on renewable energy **one day**...”*

Actually, he is right. It is possible – one day. That day is probably up to 50 years in the future and considerable research and development must precede this happening. Unfortunately Herr Scheer suggests we can get there today. His advice is:

***“Aggressively add wind, solar, biomass and new hydroelectric generating sources to the grid and use existing hydroelectric facilities as backup for intermittent renewables. In the meantime, modernize transmission and distribution lines as necessary...”***

Herr Scheer would have us do this now, and aggressively, with wind and solar, which are incapable of supplying any appreciable amount of electricity as well as the steady, reliable electricity that we need. Hydroelectric generation will be covered below. Biomass is a separate and relatively small resource, but is worthy of consideration. Within the next five years, Ontario already plans to implement the same relative amount of wind capacity as Germany. The word “relative” is important because no country can use more wind production domestically as a percentage of overall electricity production than Germany has, that is about 5 per cent. Ontario will reach this level by 2015.

As far as the grid is concerned many countries will probably move from today’s grid structure to “smart” grids in a 30-50 year time frame. It will be a considerable investment and more research and development is advisable. When we achieve this, the new renewable energy source that will most likely be predominant is solar, and will probably easily eclipse wind. It is in solar that we should be focussing and investing for the future. For today, the attention that Germany is giving to solar installations on individual buildings is one area worthy of early emulation.

Is it possible that Herr Scheer wants us to add wind aggressively, because he will be only too pleased to see Germany supply the wind turbines or build plants here as soon as possible, which we would have to subsidize heavily as a consideration? There is talk of Germany being involved in a manufacturing plant in Ontario for their new larger offshore wind turbines, provided we show commitment to this strategy. It is very questionable that Germany will proceed with major offshore installations themselves, as discussed in “Germany, A Case Study” and “Offshore”.

Another consideration is that German renewable energy manufacturing industries, especially for wind turbines, will be dwarfed by those in the U.S. and China within the next few years. These countries can do this for their own markets alone without reaching the unsustainable domestic implementations that Germany has made. Germany is currently second only to Denmark in supplying international markets. The German investments in this industry will soon face strong competition.

He also says:

*“...Ontario’s **vast** hydroelectric resources give the province more flexibility than it appreciates.”*

He must be confusing us with Quebec. In Ontario, we do not have “vast” hydroelectric resources, and this is a major basis for his advice to us. Many his comments are in error on this point alone. By 2027 the OPA plan will add a little more than one-third to the hydroelectric capacity that we now have, and this will use any reasonably available amount of this resource.

Further, Germany is not a green energy “powerhouse” except perhaps in its own publicity efforts. It temporarily took the lead in wind power installations from the U.S. in 1997 and lost it back in 2007. Germany obtains 14 per cent of its electricity from renewable sources, more than half of which is hydro and biomass. Canada obtains 60 per cent and

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Ontario 23 per cent, going to over 30 per cent with the removal of our coal plants. Germany is going in the opposite direction implementing 25,000 MW of new coal plant installations, which almost equals the total Ontario capacity. Germany obtains 60 per cent of its electricity from fossil fuels, Canada and Ontario 26 per cent. It has raised the issue of special consideration with respect to its CO2 emissions targets when it removes its nuclear plants, because this will cause an increase in these emissions by over 100 million tons per year. The massive implementation of wind power has been no help.

Wind proponents take note. Herr Scheer admits that natural gas plants are needed to shadow wind plant production to mirror their fluctuating output. In light of his mistaken impression of Ontario's "vast" hydroelectric resources, he argues at some length that Ontario should use hydro for this purpose rather than gas. A realistic assessment of Ontario's electricity system is that we need hydro for base power. Otherwise, we would have to substitute additional fossil fuel or nuclear production for this purpose. So, if our hydro is to be used for wind backup, be very clear that hydro capacity equal to almost the full amount of wind would have to be involved. Any remaining difference can be made up from normal operating reserves, especially spinning reserves, which are already available to meet the normal random, much smaller variations in demand. Many think such reserves are all that are needed for wind shadowing backup, but are suitable for only a small portion of this. Wind does not replace any fossil fuel in this arrangement. It just distracts the hydro from its base load mission. We need clearer, better informed thinking. Herr Scheer's is a very sparse theory carried beyond practical considerations.

A further twist to this analysis is set out separately here. If there has been no growth in demand, why add wind capacity only to displace some hydro? So a reasonable implicit assumption is that there is growth and that is why wind capacity has been added. The reason cannot be to displace fossil fuel generation because it is hydro that is being displaced. This is why the hydro being removed from meeting base load must be replaced with other base load generation capacity, nuclear or fossil fuel, otherwise the growth in demand will not be met.

The article makes the point that Germany added 16 TWh of renewable energy in 2007, which is not necessarily remarkable. As already indicated, hydro and biomass provide a major share. Wind production was down in 2008 compared to 2007 due to poorer wind conditions so there is no trend. The fact that this represents 10 per cent of Ontario's production is not a basis for comment. Germany is four times larger, and in proportion, Ontario will be adding similar amounts.

Germany's green-energy law grants priority for use of new renewable energy sources. Thoughtful evaluations have concluded that setting such policies in an electricity system, especially if minimum levels are mandated, are very questionable and do not contribute effectively to the reduction in CO2 emissions. Actual emissions reductions targets should be set, not questionable "proxies". It is a politically-oriented strategy only.

If there is a paradigm that has to be rethought, it is Herr Scheer's. If there is a myth of indispensability that he claims surrounds nuclear fission and fossil fuels, the myth is that Herr Scheer is an indispensable part in any reasonable discussion about the needs of electricity systems world-wide, including Germany.

One possible explanation for his views is that Herr Scheer is looking out solely for Germany's interests. I can even hear an echo of the jolly green giants "Ho, Ho, Ho" as I consider his comments.

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