

Green Economy, Green Jobs

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The Ontario Green Energy Program (Green Energy Act, GEA) is one of the largest programs in the history of the Province of Ontario. Because it is funded by electricity surcharges rather than a provincial budget line item, its costs are largely hidden. Ontario's Auditor General estimated that Ontarians will pay \$170 billion extra for electricity between 2006 to 2032. This \$6.8 billion per year¹ represents 4-5% of provincial government revenues, or about 1% of provincial GDP.² For a program of this scale and scope, Ontarians are entitled to demand and receive good value, with commensurate economic benefits.

Ontarians abruptly transitioned from some of the lowest electricity prices in North America in the 1990s to become among the highest electricity cost jurisdictions today. Significantly, high electricity prices, along with the strong Canadian dollar, accelerated the pace of decline of Ontario's traditional manufacturing industries over the past decade.³

The Green Energy Act could still have been a qualified success had Ontarians received good value for their money. Value can be assessed in many ways, including the reduction of GHG emissions that is both a moral and legal treaty obligation of the Government of Canada. What is missing in the assessment is whether proper metrics have been applied to assess the cost-benefits of the GEA, and whether proper evaluation metrics shall be applied in the future..

Remarkably, it appears that no reliable published metric was used to assess GEA-funded program activities in terms of the metric that truly matters: the per tonne cost to reduce GHG emissions. When different choices exist to reduce GHGs, shouldn't Ontarians choose the most economic methods so that diverted resources are used to best effect?

It is not clear that arbitrary choices of "good" options like solar, wind, biomass, etc., necessarily and automatically yield the best value for money. Another way to assess programs is to quantify spin-off benefits (e.g. technology, manufacturing jobs created).

In its initial iteration, the GEA had domestic content requirements in an attempt to limit participants in the industrial subsidies to "Green" industries that did manufacturing and R&D in Ontario. However, these discriminatory and protectionist measures became the subject of a trade complaint under WTO and had to be abandoned by 2013.⁴ Then, Ontarians were left with the bills for subsidies, but the key instruments to enable significant economic benefits had disappeared.

¹ The opinions herein are the writers', not those of WISE or other agencies with which the writers are affiliated.

Technological change and competitive shifts for “renewables” and “fossil” fuels that the GEA architects failed to foresee exacerbated the problems. Subsidized Chinese manufacturers flooded into the renewable equipment market and prices collapsed; solar PV modules have fallen to below US 55¢/watt today, with more reductions likely.⁵ This put an end to anything beyond token job creation from a few small solar and wind manufacturing facilities in Ontario; most sector jobs are in created in sales and installation of imported Chinese panels.

Meanwhile, the outlook for “fossil” fuels that everyone feared would become depleted and which were expensive in 2006 changed dramatically. Vast quantities of oil and gas have been discovered and made economic to extract with new technologies like hydraulic fracking. Crude oil plunged from peak prices of USD \$147/bbl to as low as \$28/bbl recently, while natural gas fell from nearly USD \$16/MMbtu to \$2.18 today.

The GEA failed in its goals, but Ontarians nonetheless retain commitments that extend decades into the future. The Ontario government should wind down the GEA / FIT program as rapidly as legally feasible before more damage is done. The Province can do better by simply creating a level playing field for all competing technologies to play a part in reducing GHGs, rather than picking what appear to be winners. Legislation cannot respond rapidly to changes in the competitive and technological landscape of today’s world as we rapidly sort through various options for best effect at modest costs as we move toward a zero net carbon future.

¹ The cost between 2006-14 was \$37 billion which included a ramp up in the early years, hence it is more accurate to count it as 25 vs. 26 years. A more accurate gauge is to take the program cost over 25 years (\$170 billion from the Auditor General) and average it.

² Estimates of the burden of the Green Energy Act varies considerably depending on forecasts of economic growth, population, provincial debt, and many factors that are difficult to estimate out to 2032 including the likelihood of the program being sharply cut back. The above figures is based on a crude estimate based on 2014 [Provincial GDP of \\$722 billion](#) from Statscan, and Ontario Provincial revenues of about [\\$116 billion for 2013-14](#). Note that the estimated costs do not include the burden of HST and transmission charges.

³ Toyota, one of the largest employers in the Province, elected to undertake their next major expansion in Mexico and the US. Other manufacturers like GM, Ford, Chrysler, have sharply curbed their North American share of manufacturing activities in Ontario.

⁴ See: WTO DISPUTE SETTLEMENT: [DISPUTE DS412](#) Canada — Certain Measures Affecting the Renewable Energy Generation Sector, and, [“Ontario to change green energy law after WTO ruling”](#), May 29, 2013.

⁵ See US DOE, SunShot, [2015 Edition](#).