



COLLEGE OF MANAGEMENT AND ECONOMICS
Department of Economics and Finance

Ross McKittrick
Professor

March 28, 2013

Mr. George Brown
Lake Superior Action Research Conservation

RE: "Economic Impact of the Greenwich Wind Farm"

Dear Mr. Brown

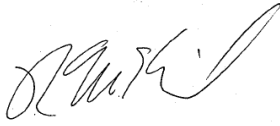
Thank you for sending me a copy of the above report (herein the EIGWF). I have read it as you requested, and I offer the following opinions on its methods and findings.

1. Just because the authors say they use "rigorous methodologies widely accepted and recommended by the economic literature" does not make it so. In fact the methodology of this report bears no relation to conventional economic analysis and has yielded grossly misleading results.
2. The conventional method for assessing the economic impact of a public project is called a Cost-Benefit Analysis. As the name implies, it entails surveying the *costs* as well as the benefits. In the EIGWF report, the authors have only added up the alleged benefits and have ignored all of the costs. This alone discredits its findings, even before enumerating the many flaws in its analysis of the benefits. I am at a loss to understand how a study could claim to have quantified the net economic benefits of a public project without having taken account of its costs, including the direct and indirect tax burdens, the marginal cost of public funds, electricity price increases for consumers, reductions to the rate of return to capital for the mining and forestry sectors, the costs of building new grid capacity to remote generating sites, and so forth. These should have been elementary components of the project evaluation and I am mystified not only at how they could all have been overlooked, but at the fact that the Ontario Ministry of Natural Resources has attached its imprimatur to such a flawed analysis.
3. A simple way to illustrate the foolishness of the authors' methods is to point out that, if it cost just as much to dismantle and remove the wind turbines as it did to build them, applying the methodology of this report would lead to the conclusion that the "regional economic benefit" of building the wind farm could be doubled by ordering it to be taken down and discarded.
4. The authors' parenthetical comment (p. viii) that reductions in greenhouse gas emissions due to the use of wind energy will lead to additional health benefits, that would add to the overall project

benefits, shows how far out of their depth they are with this material. Health consequences of air emissions are associated with Criterion Air Contaminants such as ground-level ozone and aerosols, not greenhouse gases. Remote communities in Northern Ontario do not have levels of CAC's associated with any health effects, and have not for many years. The 2005 Cost-Benefit Analysis to which the province routinely appeals in defence of the Green Energy Act assumed there were no health-related economic benefits arising from reducing CAC emissions in Northern Ontario. With regard to the provincial electricity grid as a whole, the more wind energy is added, the more natural gas-fired backup generators are required to manage the fluctuating power levels, and as has been pointed out on many occasions, most recently by the Wind Energy Task Force of the Ontario Society of Professional Engineers, the overall result is that air pollution emissions will likely not be reduced and in many places will increase.

5. The “multipliers” upon which the study is based are derived using fixed input-output coefficients that assume either that there will be no price changes as a result of the project implementation, or that people do not respond to price changes. Either way the assumption is false. Fixed-coefficient input-output modeling of the kind used in this study has not been acceptable methodology in economics for many decades. It was already obsolete when I began studying economics nearly 20 years ago.
6. Among the other elementary errors, the cost of labour associated with the project is deemed a benefit rather than a cost. In any ordinary project evaluation, it is understood that the cost of labour belongs on the cost side of the ledger, which is why it is referred to as the “cost” of labour. The corresponding “benefit” is the value of whatever the labour produces. In this case, the labour is being hired to produce wind turbines that lose so much money, the province has to bribe people to build them and then force the grid operator to buy the output, at well over twice the wholesale cost. 80% of the power being produced by Ontario wind turbines is surplus baseload that gets dumped on the export market at a considerable loss to the system. So the “benefit” of the labour is negative.
7. Notwithstanding these errors, the EIGWF report still reveals some of the economic damage associated with wind farms, by examining its cost-of-jobs estimates. Tables 1.1 and 1.2 report the “employment multipliers” associated with every \$1million in expenditures. Without endorsing these groundless claims, they nonetheless imply that the project will “create” 6.75 jobs per million\$ in construction spending and 8.72 jobs per \$million in operational spending. This implies a cost per job of \$148,000 and \$115,000 respectively. The Auditor General has noted (and the province has acknowledged) that the jobs associated with wind energy projects are temporary, most of them lasting only a few years at most. If the jobs pay a median wage of \$40,000 per annum, the job subsidies likely cost more than the entire earnings. In other words, the region would derive a comparable benefit at a lower cost if the workers who would have been hired were simply paid to stay at home.
8. However, the incoherence of the methodology is revealed by the fact that the job-creation figures are amplified as the regional scale goes up to the provincial level (Tables 3.1-3.3). While it might be possible to argue that the costs of the project can be ignored at the Dorion level if the politicians are able to foist them entirely on the rest of the province, it is obvious that the same trick cannot apply to the province as a whole because there is nowhere else to foist the costs on. The EIGWF report, at this point, apparently resorts to fantasy to make the costs to the province disappear and the job gains increase.
9. The private sector creates jobs free of charge, when it is profitable to do so. The fact that the Greenwich project needs to be subsidized by such enormous amounts in order to create small numbers of jobs shows that it is a wealth-destroying undertaking that must harm the economy, locally and provincially. Taking into account the tragic harm this project will do to the priceless North Superior landscape and ecology, you and your colleagues are right to oppose any such projects as strongly as you possibly can. I wish you every success.

Yours truly,

A handwritten signature in black ink, appearing to read 'R. McKittrick', written in a cursive style.

Ross McKittrick
Professor of Economics
(519) 824-4120 Ext. 52532
ross.mckittrick@uoguelph.ca