

THE GLOBE AND MAIL

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COMMENT • A21

THE GLOBE WAS FOUNDED IN 1844. THE MAIL WAS FOUNDED IN 1872.



ENVIRONMENT

Red flags on green energy

Ontario's wind-farm moratorium is the first sign of a more sophisticated understanding of the ramifications of renewables



JATIN NATHWANI

Professor and Ontario Research Chair in Public Policy for Sustainable Energy Management, University of Waterloo

Offshore industrial-scale wind farms – and their onshore cousins – have stirred up an unholy alliance of forces and opposition drawing from a fountain of discontent that would have been difficult to predict and that has surprised both opponents and proponents.

Was the Ontario government right to call last week for a moratorium on offshore wind farms? The decision can be best characterized as an attempt to avoid the Scylla of public outrage as well as the Charybdis of financial distress. It is a deft but strategic decision that should provide a welcome reprieve on the march to an uncertain energy future within the confines of the province's Green Energy Act.

Ontario sorely needs a plan for the electricity sector guided by a rational but balanced approach that can sustain the transformation to a cleaner energy future without a social rebellion. What is beginning to be well understood is that the Green Energy Act, through the tariffs, will embed large costs into the future mix if not modified. What is less well known is a contradiction at the heart of green energy technologies – namely, the large environmental footprint associated with resources such as wind, solar and biomass.

The cruel laws of physics dictate how low power densities and low efficiency of conversion of renewable resources inevitably lead to a much larger environmental footprint.

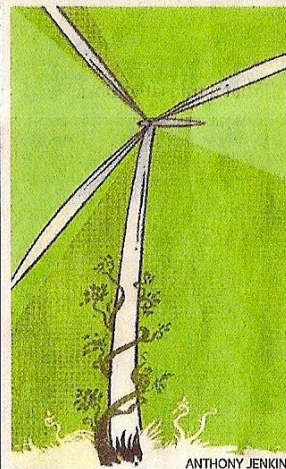
Mismatch between available useful energy from renewable resources and relatively high power densities of modern final energy use means that large-scale diffusion of energy from renewable resources will require anywhere from 100 to 10,000 times the land area compared to conventional resources. Such an expansion of land-use requirements, in relation to the useful unit of energy

output, does not rule them out, but they do raise a red flag about “green” assertions.

The unexamined proposition has been that if it is declared to be green, it deserves no further scrutiny or analysis. The large land footprint of renewable sources of generation often collides with other purposes for use of land. This will set in motion a dynamic of social friction with unintended, unpredictable consequences.

The placement of renewable energy resources greatly depends on how land is currently used. Additional facilities in an already built-up or residential area would probably not be welcome. A solar roof may provide a partial answer to the energy needs of a household, but a large-scale ground-mounted “industrial scale” solar facility may attract opposition because it affects other community use. Would energy plantations be welcome to displace forest reserves or a wilderness area? How far do you site a wind installation from a wetland, even if you have met the requirement for setbacks from a farmer's house?

To date, much of the debate in the energy sector has centred on issues of cost impacts, intermit-



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tency, reliability and whether renewables can be integrated effectively into the existing power grid. Whether subsidies are adequate and efficient, and whether they create jobs. The sleeper issue, however, has been the potential impact of green energy on the environment.

The moratorium announced by the government need not be cast in a particularly cynical view. It is perhaps the first sign in an awakening, a more sophisticated understanding of the ramifications of implementing “green” energy options. Much closer attention to the environmental impacts of such systems, both their positive attributes and some of the problematic areas, is required. These would certainly include biophysical effects, such as the protection of sensitive ecosystems and water resources, but also issues related to health.

For a truly sustainable energy system to evolve, however, there is a compelling need to address the social and political concerns and that will require a far more sophisticated understanding of the views of a community. Perhaps the government has it right on this one.

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SOVEREIGNTY

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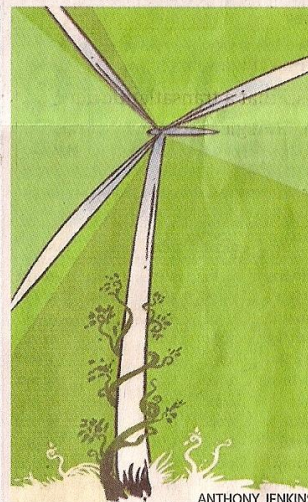
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