

Ontario's Electricity Dilemma –

Achieving Low Emissions at Reasonable Electricity Rates

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Why Will Emissions Double as We Add Wind and Solar Plants ?

- ✧ Wind and Solar require flexible backup generation.
- ✧ Nuclear is too inflexible to backup renewables without expensive engineering changes to the reactors.
- ✧ Flexible electric storage is too expensive at the moment.
- ✧ Consequently natural gas provides the backup for wind and solar in North America.
- ✧ When you add wind and solar you are actually forced to reduce nuclear generation to make room for more natural gas generation to provide flexible backup.
- ✧ Ontario currently produces electricity at less than 40 grams of CO₂ emissions/kWh.
- ✧ Wind and solar with natural gas backup produces electricity at about 200 grams of CO₂ emissions/kWh. Therefore adding wind and solar to Ontario's grid drives CO₂ emissions higher. From 2016 to 2032 as Ontario phases out nuclear capacity to make room for wind and solar, CO₂ emissions will double (2013 LTEP data).
- ✧ In Ontario, with limited economic hydro and expensive storage, it is mathematically impossible to achieve low CO₂ emissions at reasonable electricity prices without nuclear generation.

