THE RIGHT FIT?

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Feed-in tariffs (FITs) have been widely touted as a way to promote renewable energy. Under these schemes, governments agree to pay a premium for green electricity, giving individuals and businesses a financial incentive to expensive photovoltaic systems, wind turbines and biogas digesters.
Under Ontario's Green Energy Act, for example, the province currently offers producers a 20-year contract guaranteeing $0.71 per kilowatt hour for small-scale photovoltaic rooftop installations.

While FITs can quickly increase renewable energy capacity without up-front costs to the public purse, the result is higher long-term electricity costs. Is this a trade-off worth making? According to WISE members David Fuller, Mehrdad Pirnia and Jatin Nathwani, the answer is no for the Ontario program, which goes too far, too fast.

The researchers developed a mathematical optimization model that examines the long-term economic impact of FIT programs, taking into account everything from supply constraints to the lead time required to bring new electricity generation online. They compared the province's current FIT program with two other scenarios: no FIT incentives and a FIT program that caps the amount of renewable electricity eligible for premium pricing.

The results reveal a substantial cost to Ontario's FIT program. Compared to the no-FIT scenario, the researchers predict that the current program will cost consumers an additional $71 billion over the next two decades by encouraging substantially more wind and solar energy. If FIT-eligible generation is capped, however, new capacity will rely more heavily on gas-fired and nuclear generation, costing consumers only $21 billion more.

By revealing the impact of different scenarios, the researchers' model gives the Ontario government a powerful tool for long-term electricity supply planning.