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# Energy builders



Canadian governments need the right policy mix to encourage consumers to use less carbon. ISTOCKPHOTO.COM

## Government strives for new approach to energy: will it work this time?

Once again, Canada has made a bold commitment to tackle climate change by reducing greenhouse gas (GHG) emissions. At the COP21 gathering in Paris late last year, the new Liberal government said it would reduce GHGs by 30 per cent from 2005 levels by 2030.

Such commitments are not new. The previous Conservative government had a similar GHG reduction target, and Liberal governments before that also pledged to bring down emissions, none of which were met.

Could COP21 be a turning point? Anthony Hobley, CEO of the UK-based Carbon Tracker Initiative, believes it is.

"This is a new kind of inclusive global agreement providing a framework for action. It sends a strong signal that will accelerate the low-carbon transition that is already underway," he said after the conference.

Mr. Hobley went even further, predicting that the necessary carbon budget to deliver on the temperature reduction commitments "means the fossil fuel era is well and truly over."

Kenneth Green, senior director of natural resource studies at the Fraser Institute, is a bit more skeptical about the COP21 targets.

"As I've observed over the years, politicians can rarely resist the urge to set 'aspirational' targets that are almost completely divorced from reality when it comes to being able to reach the targets," he says. "We've seen this over and over again, with targets for the adoption of electric vehicles, targets for increased ridership on mass transit, targets for improving home energy efficiency, and now, targets for reducing greenhouse gas emissions."

Jason Langrish, president of the Energy Roundtable, a private-sector



"Consumers will become irritated at paying for the development of someone else's products and services with what will in effect be a tax."

Jason Langrish is president of the Energy Roundtable

forum launched in 2004 to help define the Canadian energy sector's role in domestic affairs and international oil and gas markets, says it's hard to say at this stage what it's going to take for the commitments to be met this time.

"There certainly seems to be a political commitment supported by a consensus that climate change is a real problem that is getting worse and that something needs to be done," he says. "Internationally, only time will tell if countries such as China, India and the U.S. can be brought into a binding treaty to reduce GHGs — some of this would depend on presidential support and congressional approval, for example. So if Trump becomes president, don't count on it."

In Canada, Mr. Langrish hopes that the federal government and the provinces can agree on a joint approach to cut GHG emissions. If not, the federal government may be forced to establish a minimum federal price for carbon.

He believes that the most important

thing that government can do is provide a predictable, long-term regulatory framework in which the clean tech industry can operate.

"Part of this framework could be a revenue neutral carbon tax, with the proceeds being used to help develop infrastructure, including via tax credits, for clean technologies that reduce GHGs," says Mr. Langrish.

But if it becomes a game of the government using the funds to pick winners and throwing money at those industries, then this approach is unlikely to work, he adds.

Dr. Green says carbon tax is a complicated issue.

"Sure, the government can fine people for generating greenhouse gas emissions, and use those fines to subsidize lower-carbon forms of energy, and in theory, cut greenhouse gas emissions. But the question is, 'at what cost, and to what benefit?'," he says.

Forcing energy generators to switch from low-cost energy such as natural gas to higher-cost wind or solar energy will increase the cost of everything in the economy, he adds.

Mr. Langrish says governments will need to be careful about taxing people and industries for their carbon use and then providing those revenues to entirely different industries.

"Consumers will become irritated at paying for the development of someone else's products and services with what will in effect be a tax. An important feature of decarbonization will be keeping the public and industry onside with the government's plans," he says.

Canada's burgeoning clean tech sector is often held up as a beacon for the future and a sure way to tran-

sition from fossil fuels as a mainstay of Canada's economy. According to Analytica Advisors, an Ottawa-based company that monitors and reports on Canada's expanding clean technology sector, the sector now employs over 50,000 people, and the Toronto Stock Exchange hosts more clean tech companies than any other country in the world. But can this sector really challenge oil and gas?

"Not in the near future, but looking out say 20-40 years, it is not only possible, but likely," says Mr. Langrish. "The oil and gas sector is still very large and employs a lot of people and generates a lot of economic activity. The clean tech sector is certainly growing, but I would think that a clearer long-term regulatory framework is required that makes clean tech investment more scalable."

For example, he adds, this would include a predictable price on carbon, long-term commitments to funding clean tech development, and the advancement of key technologies and their infrastructure, such as clean energy storage and green vehicles.

Dr. Green says clean tech jobs are almost always dependent on government subsidies or mandates, many of which turn out to be unsustainable.

"Studies that have looked at 'green jobs,' routinely show that for every job created, the government has to divert so much money from the general economy that more jobs are either destroyed or not created in the economy as a whole," he adds.

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### ABOUT THE ENERGY ROUNDTABLE

The Energy Roundtable is a private-sector forum that was launched in 2004 to help define the Canadian energy sector's role in domestic affairs and international oil and gas markets. The Energy Roundtable delivers high-level, thematic conferences that:

- Promote Canada as a stable and growing supplier of energy in a resource constrained world.
- Profile innovative ideas on how to sustainably develop Canada's vast energy resources domestically and get them to international markets.
- Explore the commercial opportunities that this presents to investors and service providers.

The annual conference series gathers leaders in Toronto, Calgary and London, whose communities are invested in developing Canada's energy future.

[www.energyroundtable.org](http://www.energyroundtable.org)

### INTERVIEW

## It's time to wean Canada off carbon



Q&A with Chris Ragan, Associate Professor of Economics at McGill; Chair of the Ecofiscal Commission

### Why is it important for Canada to move away from a carbon-based economy?

If we take seriously the science regarding the causes and consequences of climate change — and I certainly think we should — then the entire world will need to make a transition away from carbon-based fuels and products over the next several decades. Canada is a small country in a large world, but there is no reason why Canada shouldn't be equally involved in this transition. As a significant producer of fossil fuels, our path forward may not exactly match the paths of the many non-oil-producing

It will probably take 60 years or more to reduce global fossil fuel use to a level 80 per cent below current levels. During that long transition period, someone will need to supply the oil that will still be needed, and there's no reason why Canada shouldn't try to be an active supplier in that global market.

countries, and that's OK. The details will naturally look a little different across countries. The important thing is that we fully and constructively participate in the global effort to make this crucial transition to a low-carbon economy.

### Why is carbon pricing the best way to wean Canadians off oil and gas?

For any government that wants to design climate policy, there are essentially two choices. The first is to use prescriptive regulations that direct industries and consumers how and how much to reduce emissions. This approach can be quite effective at reducing emissions, but it is generally very costly for the economy. Our goal should be to reduce emissions while maintaining the greatest possible economic prosperity. And this objective suggests the second policy approach — carbon pricing. The beauty of carbon pricing is that policy sets a price on carbon emissions and then private markets determine the least-cost pattern of emissions reductions. Research from Canada's Ecofiscal Commission suggests that for every Canadian province to achieve its 2020

emissions-reductions targets, using carbon pricing rather than regulations is better by over 3 per cent of GDP. That is a permanent and huge advantage of carbon pricing.

### With the new federal government's focus on cutting GHGs and promoting renewables, is there still a place in the economy for Canada's oil and gas sector, and if so, what is it?

Yes, certainly. Canada is blessed with a natural resource that is valued all over the world, and will be for many years into the future. The global transition toward a low-carbon economy is real, but it will be gradual. It will probably take 60 years or more to reduce global fossil fuel use to a level 80 per cent below current levels. During that long transition period, someone will need to supply the oil that will still be needed, and there's no reason why Canada shouldn't try to be an active supplier in that global market. However, much of Canada's oil supply is relatively high-cost and carbon-intensive, so Canada will only secure its place on that global supply curve if it can reduce costs and

carbon intensity. By driving innovation, a carbon price can be an important part of that security.

### What's it going to take for Canada's GHG reduction commitments at COP21 in Paris last year to be achieved?

If we want to achieve our current emissions-reductions targets for 2030, and do it in a way that maintains the highest possible level of economic prosperity, we need to have a pan-Canadian carbon price. This has two parts. First, we should have a common carbon price in every part of the country. Second, the common carbon price needs to increase over time so that there is a growing incentive to reduce GHG emissions. Whether this price is achieved by provincial action and co-ordination, by federal action, or by some combination of federal and provincial action, is a crucial question, and one that is being determined behind the scenes as we speak. I think the next few months will be fascinating to watch as the federal and provincial governments figure out just how this policy landscape will unfold.



For further information or to register visit [www.energyroundtable.org](http://www.energyroundtable.org)

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## OPINION

# Ontario's commitment to nuclear is good news for jobs and greenhouse gas reductions



By Don MacKinnon,  
President, Power Workers' Union

The Ontario government's support for extending the operation of the Pickering Nuclear Generating Station by four years to 2025 and the refurbishment of the Darlington and Bruce Nuclear Stations is good news for the province's environment and economy. These investments are clear evidence of the province's continuing commitment to achieving: real greenhouse gas (GHG) emission reductions; securing a long-term, Ontario-based electricity supply; mitigating rising electricity costs; and supporting and creating jobs.

Ontario Power Generation's (OPG) Pickering Station generates 3,100 megawatts of safe, low-cost, low-carbon electricity for Ontario. A recent analysis by Strategic Policy Economics (Strapolec) confirms that each year the station's output helps avoid millions of tonnes of GHG emissions while annually contributing hundreds of millions of dollars to the economies of Durham Region and Ontario. As well, extending the station's operations by just four years reduces electricity system costs by over \$600-million, saves \$4-billion from avoided energy imports and provides over \$1.2-billion in additional revenues to the provincial government. That's good news for

According to the Conference Board of Canada, the economic activity from refurbishing the Darlington Station will generate, on average, more than 11,000 jobs per year between 2014 and 2023.

the environment, Ontario's economy, consumers and taxpayers.

In fact, over the past seven years, Ontario's nuclear stations have safely and affordably provided more than half of the province's electricity. Each year, the province's three nuclear stations have helped avoid tens of thousands of tonnes of smog-producing pollutants and about 60 million tonnes of GHG emissions. That's equivalent to taking about 12 million vehicles off the road! Moreover, Ontario's Independent Electricity System Operator indicates that the all-in cost of the electricity produced is less than the average cost of electricity in Ontario today.

OPG's Darlington Station and Bruce Nuclear Station are among the top performing nuclear facilities in the world. The mid-life refurbishment of the nuclear units at these two facilities secures another 30 years of affordable, reliable, 24/7, GHG emission-free electricity for our homes and businesses. As noted in Ontario's 2013 Long-Term Energy Plan, these refurbished stations will produce electricity more affordably than any other new source of generation, including electricity imports from Quebec.

Generating electricity in Ontario keeps economic wealth and jobs here instead of exporting these benefits to other jurisdictions. Nuclear energy is not just Ontario's electricity workhorse, but also a major contributor to the province's economy. Ontario is the heart of Canada's \$6-billion-plus, 60,000 job nuclear industry. This includes 180 supply chain companies located in communities across the province and support for high-tech innovation-focused R&D at Ontario's universities and colleges.

Currently, Ontario's three nuclear stations are among the province's biggest employers. OPG's Pickering and Darlington stations are the largest industrial employers in Durham Region, and the Bruce Nuclear Station employs more people than GM's Oshawa Plant. Most importantly, these are high-skilled, well-paying jobs.

Analyses show that extending the operation of the Pickering Station and the mid-life refurbishments of the Darlington and Bruce stations will generate billions in GDP, thousands of good jobs and more high-value, innovation-focused R&D. The Pickering

extension will support 40,000 person years of employment alone. Renewing the Darlington and Bruce stations will add hundreds of thousands of person years of employment including ongoing station operations and maintenance, construction trades,

manufacturing of materials and supplies, and engineering.

According to the Conference Board of Canada, the economic activity from refurbishing the Darlington Station will generate, on average, more than 11,000 jobs per year between 2014 and

2023. Ontario workers and businesses are expected to receive 96 per cent of the economic benefits.

For more than a century, Ontario has focused on developing a secure electricity supply as the foundation of its economy. Nuclear energy has

been, and will continue to be, a major provider of reliable, low-carbon, low-cost electricity for decades to come.

This is good news for the environment and another generation of Ontarians who will benefit from the high-skilled, middle-class jobs.

# A Great Decision For Our Province

Extending the operation of the Pickering Nuclear Station to 2025 and refurbishing the Darlington and Bruce Nuclear Stations will deliver tremendous environmental and economic benefits for Ontario.

- Avoids 10s of millions of tonnes of greenhouse gas emissions every year
- Delivers long-term, low-carbon energy security
- Keeps billions of dollars here in Ontario
- Contributes to affordable electricity prices
- Sustains and creates hundreds of thousands of person years of high-skilled, good-paying jobs
- Supports Ontario's role as an innovation leader

Ontario's nuclear technology advantage is clearly our province's best option for tackling climate change while generating economic prosperity and good jobs.

For more information please go to: [www.pwu.ca](http://www.pwu.ca)

**FROM THE MEN AND WOMEN WHO HELP KEEP THE LIGHTS ON.**

