Ontario's Energy Future: A Climate Change Perspective

sustainable WATERLOO REGION

David Suzuki Foundation

SOLUTIONS ARE IN OUR NATURE

Ontario's Energy Future: A Climate Change Perspective

is a collaboration between the David Suzuki Foundation and Sustainable Waterloo Region.

Acknowledgements

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This report would not have been possible without the detailed and timely response of the following political parties:

» **Green Party of Ontario**

» **New Democratic Party of Ontario**

» **Ontario Liberal Party**

The David Suzuki Foundation and Sustainable Waterloo Region have released this report to contribute to the public discourse, and do not advocate for the support of any one political party.

The David Suzuki Foundation

works with government, business and individuals to conserve our environment by providing science-based education, advocacy and policy work, and acting as a catalyst for the social change that today's situation demands.

Sustainable Waterloo Region

is a not-for-profit that advances the environmental sustainability of organizations across Waterloo Region through collaboration. The organization's primary focus is the Regional Carbon Initiative (RCI), which facilitates voluntary target-setting and reductions of carbon emissions by local organizations.

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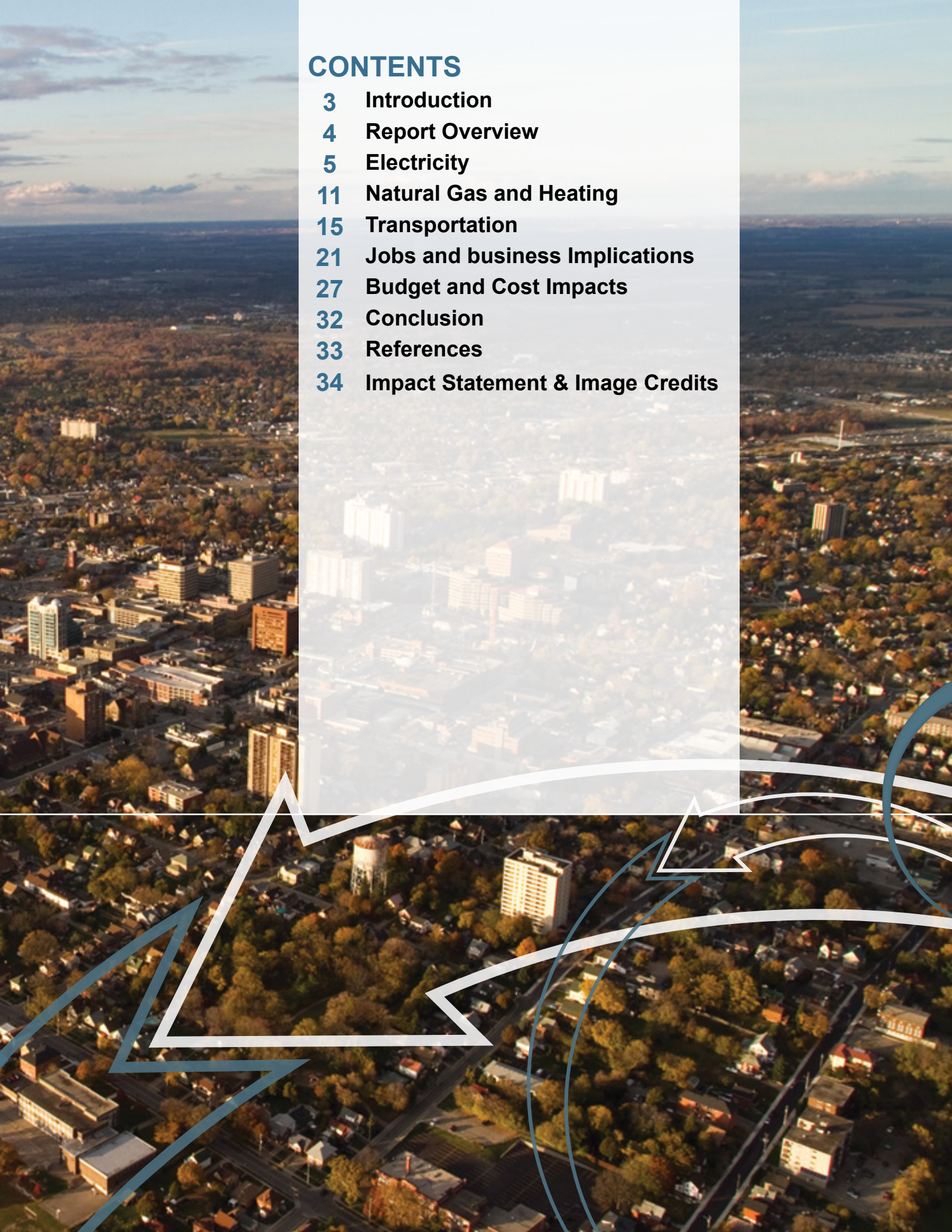

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Introduction

In the lead-up to the October 6, 2011 Ontario Election, the David Suzuki Foundation and Sustainable Waterloo Region have partnered to create this expert review of the energy policies of leading political parties with the goal of informing the debate surrounding the province's energy and climate future.

Our organizations share a common vision of a future where a strong economy and vibrant environment exist interdependently. We recognize climate change as both an incredible challenge requiring us to fundamentally change the ways in which we live, as well as an incredible opportunity to improve our standards of living and the natural environments that sustain us.

Elections provide a means for this opportunity to be explored as we discuss big ideas, and evaluate competing approaches. We are happy to see energy and environmental issues brought to the forefront of this election, and we look to our political leaders to face the challenges, as well as embrace the opportunities. We also challenge the public to inform themselves on the pressing issues in this election. We hope this report contributes to the public knowledge, and provides a resource for informed discussion and debate.

Peter Robinson
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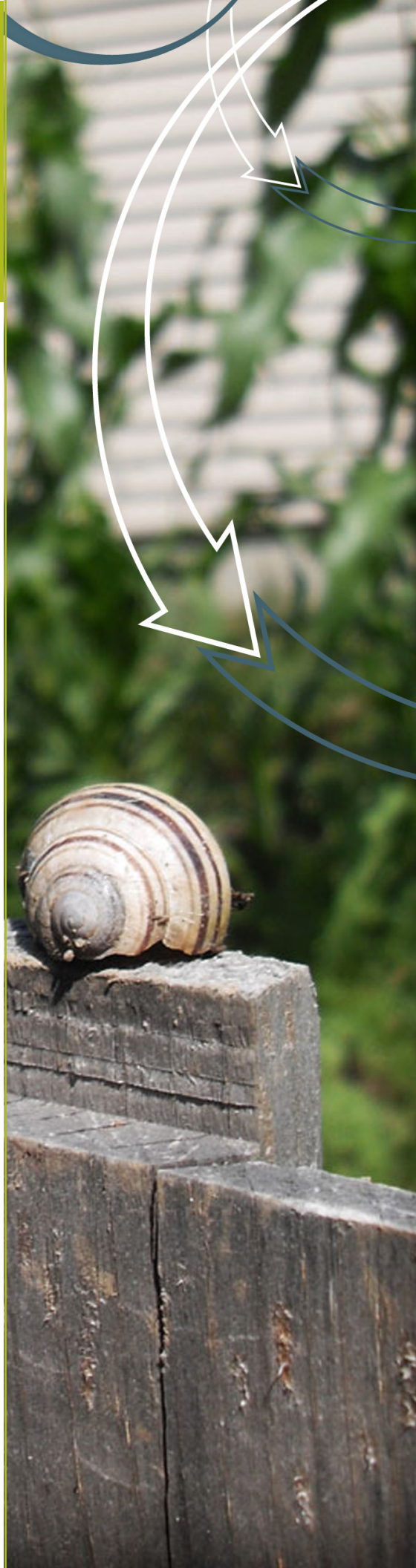


Report Overview

This report is a non-partisan review of the energy policy platforms of the leading political parties in the October 6, 2011 Ontario election. The policies are reviewed from a climate change perspective by considering how the policies will mitigate against, or adapt to, the impacts of climate change. Twelve questions were submitted to the parties in relation to the categories of electricity, natural gas and heating, transportation, jobs and business, and the provincial budget and private cost impacts.

Each category in this report begins with a brief primer that provides a background on the issue's importance to energy and climate change policy. The questions are then listed, with responses sorted alphabetically by the parties as:

Green Party of Ontario

New Democratic Party of Ontario

Ontario Liberal Party

Ontario Progressive Conservative Party

Party responses are shortened for the purposes of this report. Unfortunately, no responses were received from the Ontario Progressive Conservative Party, and answers within this document were taken where possible from the party's Change Book. Full un-edited party responses, which were used for review purposes, can be found online at: www.sustainablewaterlooregion.ca/OntarioEnergy/

The David Suzuki Foundation and Sustainable Waterloo Region partnered with academics and non-profit experts, referred to in this report as 'Expert Contributors', in order to review the responses of the parties to the submitted questions. Expert Contributors were asked to provide commentary on the ability of each party's energy policies, independent of other parties, to provide for Ontario's energy future from a climate change perspective. A complete list of Expert Contributors can be found in the acknowledgements on the inside cover of this report.

The Expert Contributor's reviews are listed below the party responses.

Electricity

The Ontario Power Authority estimates that as much as 80 per cent of the province's existing power facilities will need to be refurbished or replaced over the next 20 years, leaving a gap of 30,000 MW between available and required capacity by 2025 as indicated in Figure 1[1]. The retiring of this percentage of Ontario's electricity supply presents an expensive challenge but also the opportunity to meet provincial greenhouse gas (GHG) emission targets that aim to reduce emissions 80 per cent by 2050[2].

The current electricity supply in Ontario is highly centralized, with large-scale nuclear, hydro, coal, and natural gas plants providing for the vast majority of the province's energy needs[3]. With few opportunities remaining to develop hydro power within the province, and all parties committing to end the use of coal by 2014 at the latest, tradeoffs must be made between nuclear, natural gas, and renewables[4].

For nuclear, concerns continue to exist over safety and waste disposal. Additionally, "not a single reactor in Ontario's history has ever been built on time or on budget."[5]. Nuclear does, however, produce virtually no greenhouse gas emissions compared with fossil fuels sources like natural gas and coal[6].

Renewable energy technologies like wind and solar offer the promise of producing electricity without greenhouse gas emissions, and are quickly becoming an important component of the provincial energy mix[7]. Challenges exist in storing the energy for use during peak hours, and connecting new supply to the province's aging electricity infrastructure. Currently, continuously operation nuclear and hydro plants provide a base-load of electricity, with renewable energy sources supplying additional power when available[8].

Ontario's Ministry of Energy recognizes conservation as the most effective option because it "reduces consumption and therefore demand on the system. By avoiding the need to build new generation, all consumers benefit through cost savings."[9]

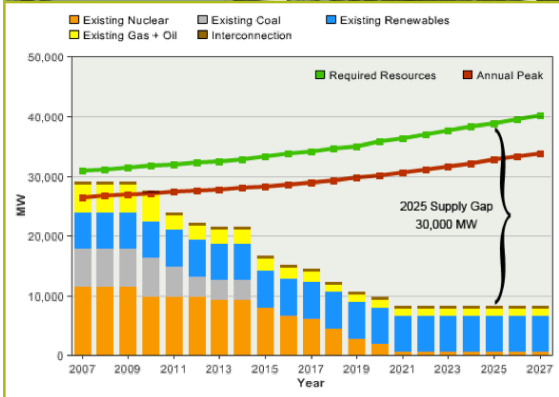


Figure 1: Ontario's Ministry of Energy predicts there will likely be a 30,000 MW gap between available and required capacity by 2025. Source: Ministry of Environment (1)

Q: What policies do you have to improve the regulation and management of Ontario's electricity supply and demand?

green PARTY OF ONTARIO

- Start with energy efficiency and conservation to decrease the need for new supply, and prioritizes community-based renewable energy
- Issue a directive to the Ontario Energy Board (OEB) instructing them to approve all cost-effective energy efficiency and conservation programs that are proposed by municipal electric utilities and local distribution companies

Expert Response:

- *Supportive of prioritization of conservation and energy efficiency as they are often the lowest cost and most effective at reducing greenhouse gases*
- *Conservation and community green energy initiatives are unlikely to deal with the capacity deficit on their own. Conservation saved ~1,700 MW between 2005 and 2009. We can do better, but perhaps not 30,000 MW better, especially if there is a push to electric cars*

ONTARIO NDP

- Consolidate the Ontario Power Authority, Hydro One, and the Independent Electricity System Operator to eliminate waste and duplication
- Put conservation first, pursuing all possible conservation before contracting for new supply
- Ensure that new supply is cost effective and clean by subjecting the long-term energy plan to a full environmental assessment

Expert Response:

- *Supportive of prioritization of conservation and energy efficiency as they are often the lowest cost and most effective at reducing greenhouse gases*
- *NDP concentrate on energy conservation, efficiency, which is great, but is unlikely to deal with the capacity deficit on its own. Conservation saved ~1,700 MW between 2005 and 2009. We can do better, but perhaps not 30,000 MW better, especially if there is a push to electric cars*
- *Long-term plans are short on details*
- *Conducting a strategic environmental assessment on any new long-term energy plan is fine in principle, but creates a lot of uncertainty for manufacturers and developers who have set up as a result of the Green Energy Act*
- *Experimentation with industry consolidation not prudent unless there is a compelling rationale, either in terms of cost savings to consumers or establishing a reliable electricity system for the long term*

Q: What policies do you have to improve the regulation and management of Ontario's electricity supply and demand?

» Created a comprehensive Long-Term Energy Plan last fall which outlines projected energy demand over the next 20 years and how Ontario can meet that demand with cleaner sources of power such as wind and solar

Expert Response:

» *Must not forget to focus on conservation efforts as well*
» *The Long-Term Energy Plan was a significant and forward thinking document. A previous lack of long-term planning led Ontario to a difficult place in 2002/2003*
» *Strengths of the Long-Term Energy Plan include a phase out of coal and significant increase in renewable energy. A number of specific measures should be re-examined and improved upon*
» *Continued reliance on nuclear should be re-examined for cost-effectiveness, and associated environmental and health risks*

ONTARIO PC

» Close the Ontario Power Authority to eliminate bureaucracy
» Focus on proven technologies like natural gas, hydroelectric, and nuclear

Expert Response:

» *Not very innovative. Missed opportunity to take a leadership role in the green economy*
» *Not clear why wind and solar are not considered "proven technologies" – they very much are*
» *Continued reliance on nuclear should be re-examined for cost-effectiveness, and associated environmental and health risks*
» *Cancellation of the Green Energy Act will create uncertainty in the market at a time when new generation is badly needed*
» *OPA is responsible for strategic, long-term planning – an essential process. Perhaps these would have to be performed under the umbrella of other agencies. The costs can be reduced only if you choose not to perform the function*

Q: *What policies do you have to address the emission of greenhouse gases? Specifically, what are your proposed policies that pertain to: Feed-In-Tariff (FIT) program; nuclear energy; coal power-plants; renewable energy; smart grid (including time-of-use-billing)*

green PARTY OF ONTARIO

- Strengthen the FIT program with revisions to the Green Energy Act to:
  - Ensure local participation, local decision-making and community benefits from renewable energy projects
  - Prioritize grid access for locally owned and community-based renewable energy projects
  - Establish a loan guarantee program for public benefit, community-based renewable energy projects
  - Create an open and transparent process for establishing financially sustainable FIT pricing and a timeline for FIT pricing reviews
- Immediately put coal-fired electricity generation on emergency standby and completely phase it out by 2014
- Do not build any new nuclear plants due to long build times and cost overruns associated with every nuclear power project to date in Ontario
- Create a smart grid that focuses on distributed generation
- Implement a $10 per tonne carbon tax to all burning fossil fuel emissions. The tax will rise to $15 per tonne over time to maintain revenue as greenhouse gas emissions decline

Expert Response:

- *Immediate shutdown of coal would reduce emissions significantly and more quickly*
- *Abandoning nuclear power investment is positive for the environment, lowers system costs, and increases the capacity that can be supplied by renewables. This position on nuclear, however, may not be tenable if coal is shutdown as the increases in intermittent renewable capacity will put additional pressures on base load generation with a larger requirement for natural gas. This link needs to be clearly understood from a systems perspective*
- *Supportive of community focus, but it may not provide for the most reliable and low cost renewable energy system. Need to consider massive (5000 MW) wind farms offshore, as well as interconnections with Manitoba and Quebec*
- *It is good to see a carbon tax being proposed, although $10 is much too low and it is unclear why $15 is chosen as a cap and over what time frame this rise will occur. In Pembina's consultations, it was suggested that the system should be designed to result in a starting price of at least $30/tonne*

ONTARIO NDP

- Commit to reducing greenhouse gas emissions in Ontario by 20% below 1990 levels by 2020 and 80% by 2050
- Maintain the feed-in-tariff for small and community-based projects. Move to public ownership for new larger renewable projects
- Most buildings and factories use natural gas to produce heat, but it would be more efficient if they used it to produce both heat and electricity
- Do not build any new nuclear reactors and assess the need for further refurbishments
- Immediately put coal-fired electricity generation on emergency standby and completely phase it out by 2014. Assess alternative ways of powering the plants using biomass
- Exceed the current targets for renewable energy with 10,700 MW in 2018
- Now that the smart meters have been installed do not remove them, but explore better ways to make use of them (e.g. instant feedback on electricity usage for consumers) and more effective supports and incentives to reduce peak demand

Expert Response:

- *Strong GHG reduction targets, but measures and intermediate targets are required to ensure it is possible to achieve a 20% reduction from 1990 by 2020, which is effectively only 8 years from now*
- *Immediate shutdown of coal would reduce emissions significantly and more quickly*
- *Positive commitment to exploring cogeneration and biomass, the latter of which is challenging to do sustainably and requires strict limits*
- *Renewable energy target is good but need a policy to understand if it is possible. Requiring large renewable energy projects to be publicly owned removes incentive for private investment, and has significant implications with respect to the manufacturing market and numerous project developers that have begun in Ontario*
- *Engagement with smart metres opens the door for consumer responsibility, innovation, and investment*

- The comprehensive Long-Term Energy Plan created last fall outlines projected energy demand over the next 20 years and how Ontario can meet that demand with cleaner sources of power such as wind and solar
- Decrease proportion of electricity that comes from nuclear from 52 per cent to 46 per cent
- Close all coal-fired plants by the end of 2014
- Invest in developing a Smart Grid that allows for more distributed energy to be brought onto the grid, preparing Ontario for the advent of the electric vehicle and providing better, more efficient management of the energy produced

Expert Response:

- *They're running on their history of success but should be commended as they have slowly but surely progressed environmental issues for the past 8 years, and have shaped the debate so that all parties now support shutting down coal plants*
- *The Feed-in Tariff has been the most ambitious renewable energy policy in North America and the continued commitment to it is positive*
- *Investment in smart-grids, distributed generation, and policies to bring on more electric vehicles offer a powerful future path for improving Ontario's emissions performance and strengthening the economy through the electricity sector*
- *A continued heavy reliance on nuclear (even if it reduces from 52 per cent to 46 per cent) creates a ceiling on renewables by 2018*

- Discontinue mandatory smart meter time-of-use-billing, and introduce a Small Business Bill of Rights guaranteeing this
- Complete the closure of coal powered plants by 2014, and use the soon-to-be closed coal plants as sites to provide newer, cleaner energy from sources like natural gas or biomass
- Eliminate Green Energy Act and Feed-in Tariff program. Cancel contract that would obligate Samsung to invest $7 billion in clean energy

Expert Response:

- *Positive commitment to exploring biomass, but it is challenging to do sustainably and requires strict limits*
- *Discontinuing time-of-day metering is a step backwards in terms of accurate consumer pricing, and moves back to a distorted market*
- *It is unclear how a Small Business "Bill of Rights" would save anyone any money*
- *Replacing coal with natural gas is a step backwards in terms of climate progress, as the remaining coal is set to be replaced with non-emitting renewable sources*
- *Eliminating the Green Energy Act, including Samsung contract will mean higher natural gas usage and higher emissions*

Natural Gas & Heating

In Canadian homes, over 60% of energy consumed is for "space heating to keep our homes a comfortable temperature year-round."[10] This percentage is slightly lower, at around 50% of energy used, in commercial and institutional buildings[11].

Whereas electricity generation is highly centralized, heating in Ontario is typically produced on-site in a central furnace[12]. This presents the challenge to leaders of selecting incentives and regulation that will motivate homeowners and organizations to make necessary heating and conservation upgrades. The Federal Government's ecoENERGY Retrofit program is an example of a policy incentive where homeowners are provided with grants for completing energy efficiency upgrades[13].

Q: What policies do you have to change regulation and fees associated with heating in Ontario?

green PARTY OF ONTARIO

- Instruct the Ontario Energy Board to lift the cap on natural gas efficiency programs
- Direct the Ontario Energy Board to ensure that its rate design policies for gas utilities prioritize the efficient use of energy, not wasteful consumption and increased energy supply
- Eliminate the arbitrary cap on gas utilities' energy efficiency budgets and on utility conservation profits, which create unnecessary barriers to money-saving conservation programs

Expert Response:

- *Lifting the cap on gas efficiency programs necessary*

ONTARIO NDP

- Instruct the Ontario Energy Board to take a tougher look at return on equity guarantees
- More strongly regulate gas marketers so that consumers are not misled or ripped off by signing contracts

Expert Response:

- *No mention of NDP pledge to remove HST from home heating which will decrease price for the use of these fossil fuels and decrease incentive for conservation and energy efficiency. This also perversely favours bigger consumers (those with most ability to pay), having the least impact on low-income consumers*

Libéral ONTARIO

- Currently in the process of updating energy efficiency regulations for natural gas and oil space-heating equipment and appliances to harmonize with other leading jurisdictions

Expert Response:

- *Updating efficiency standards is positive, but regularly scheduled increases of standards would be even better*

ONTARIO PC

- Remove provincial portion of the HST from every home heating bill

Expert Response:

- *Removing HST from home heating which will decrease price for the use of these fossil fuels and decrease incentive for conservation and energy efficiency. This also perversely favours bigger consumers (those with most ability to pay), having the least impact on low-income consumers*

Q: What policies do you have to reduce the greenhouse gas emissions associated with heating demands in Ontario (including incentives for green buildings)?

green PARTY OF ONTARIO

- Create a comprehensive Green Building Program, including significant investments in energy retrofits to improve energy efficiency for homes and businesses
- Invest $1.6 billion over four years in refundable tax credits for home owners, tenants and businesses for energy efficiency projects and building retrofits
- Set a minimum EnerGuide Rating of 86 for all new buildings by 2013 and ensure all new homes and buildings are solar-ready for future solar investments
- Develop a long-term strategic plan to move homes and buildings towards Zero Net Energy, with a timetable to raise Ontario's minimum legally binding energy efficiency standards for new homes, buildings, appliances and equipment
- Mandate home energy efficiency audits, make the results available to potential home buyers and renters, and work with the banking sector to design a provincial program that facilitates "energy saver" mortgages and loans at preferential rates for homeowners investing in energy efficient retrofits

Expert Response:

- *Raising new home building standard to E86 is very good and would be the highest in the country*
- *Audits before home sales is good idea – one that was never implemented as part of the Green Energy Act*
- *Need to be a little more realistic about what efficiency improvements can deliver, as increased efficiency can make it cheaper to use energy consuming appliances like air conditioners and electronics*
- *A strategy to reach Zero Net Energy homes would be very ambitious and have significant impact on GHG emissions, although it is likely more realistic to aim for building energy demands that are small enough so that renewable energy can provide for demanded energy, whether it is provided on-site (as in zero-net energy buildings) or from more distant regions with more suitable wind or solar resources*

ONTARIO NDP

» Offer rebates of up to $5,000 for people who want to retrofit their homes, or grants up to $5,000 for qualifying lower-income homeowners and tenants
» Offer up to $10,000 in low-interest loans that can be paid back on hydro or gas bills

Expert Response:

» *Retrofit programs are important and can be successful, especially when targeting low-income households and in conjunction with improvements to the building code*
» *Low-interest loans, financed through energy bills, are a very good idea*

Liberal ONTARIO

» The new province-wide saveONenergy conservation programs are designed to encourage customers to invest in electricity conservation measures
» Replacing coal-fired electricity generation with cleaner generation will reduce annual carbon dioxide emissions by up to 30 megatonnes

Expert Response:

» *Nothing too creative. Stays the course*
» *The answer largely does not address the question, since very few buildings in Ontario are heated with electricity. The big options (energy standards and retrofit program) are missing from this answer*

ONTARIO PC

» Close coal powered plants by 2014 and replace with cleaner energy from sources like natural gas or biomass

Expert Response:

» *The answer largely does not address the question, since very few buildings in Ontario are heated with electricity. The big options (energy standards and retrofit program) are missing from this answer*

Transportation

Commuters in Ontario, such as those moving through the heavily populated Greater Toronto Area, face congestion, rising fuel prices, and limited transit alternatives[14]. Metrolinx, a provincial government agency tasked to create an integrated transportation system for the Greater Toronto and Hamilton Area, estimates that congestion in the region cost commuters $3.3 billion and the economy $2.7 billion in 2006[15].

In order to meet climate change reduction goals, political leaders must create policies to reduce commuting emissions as "transportation is responsible for the largest share of greenhouse gas emissions in Ontario," as shown in Figure 2[16]. "Personal vehicles are also the fastest growing source of [greenhouse gas emissions], increasing by 26% from 1990 to 2007. This is almost three times faster than the total GHG emissions growth in the province."[17]

The Pembina Institute has identified a number of options to reduce the climate change impacts of personal vehicle use, including road-pricing strategies to reduce congestion and fund transit, incentives to increase transit use, high-occupancy vehicle lanes on all 400 series highways, and regulatory support for the adoption of electric vehicles[18].

In Ontario, municipalities primarily control the construction and maintenance of roadways and transit systems; however, the province can influence this construction through funding and regulation. In many areas of the province, municipalities are beginning to adopt a complete streets approach to road design, where public transit, cyclists, and pedestrians are considered, in addition to automobiles, during the construction of roads[19].

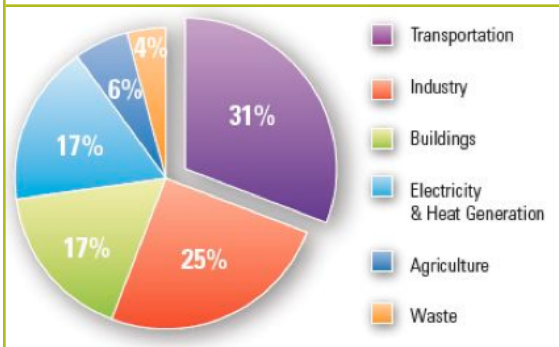


Figure 2: "Transportation is responsible for the largest share of greenhouse gas emissions in Ontario." Source: Pembina (16)

Q: What policies do you have to improve transportation demands in Ontario?

green PARTY OF ONTARIO

- Create a $200 million fund for municipalities to invest in safe roads, active transportation, and complete streets
- Invest $400 million in tax credits over four years for affordable commuter benefits to support ride sharing and car-pooling, flexible work, and a refundable provincial tax credit for transit users
- Establish more high-occupancy vehicle lanes to encourage car-pooling and faster commute times to work
- Promote new car insurance tools such as pay-as-you-drive insurance to establish financial incentives for drivers to choose other transportation options

Expert Response:

- *Transportation is such a local issue and this fits well with their decentralized platform. Hopefully they'll show leadership for cross-community transportation planning*
- *Tax credits encourage good programs – would need to ensure they are not offering free riders*
- *Ride sharing programs and high-occupancy vehicle (HOV) lanes can have modest benefits, so long as overall road capacity is not increased, i.e. HOV lanes are created from existing lanes not added on*
- *Research shows that pay-as-you-drive insurance reduces driving and emissions*

ONTARIO NDP

- Assume half the cost from municipalities of operating municipal transit systems, and freeze fares to make transit more affordable
- Make it law that drivers have to stay at least 1 metre away from a cyclist on the move
- Promote planning for complete streets on municipal and provincial roadways, ensuring the safety of all users when roads are developed or redeveloped
- Create a province-wide cycling infrastructure fund for investments in bike lanes, storage, and tourism

Expert Response:

- *Focuses more on bikes than other platforms. Nice for city dwellers, but less useful for rural residents*
- *Good emphasis on transit expansion*
- *No mention of plan to remove HST on gas prices, which is a step backwards and encourages more driving, congestion, and emissions*
- *Cost sharing with municipalities and freezing transit fares is an important commitment to transit, and avoiding fare increases will ensure that transit ridership does not decrease*

Liberal ONTARIO

» Increase border efficiency and to initiatives such as the Windsor-Essex Parkway and the Ontario-Quebec Continental Gateway
» Since 2003, committed $14 billion to roads, highways and bridges
» Invested $10.8 billion in public transit since 2003
» Created Metrolinx, an integrated regional transit authority to improve public transit across the Greater Toronto and Hamilton Area
» Has supported municipal public transit by dedicating two cents of the gas tax to provide ongoing and long-term transit funding for municipalities
» Invested over $582.2 million in public transit in Southwestern Ontario, including over $381 million in Waterloo Region

Expert Response:

» *Metrolinx shows a lot of promise. Great provincial/municipal partnership*
» *Continued construction of new roads and highways means more cars and higher emissions*
» *Past transit investment very significant, however, future investment uncertain due to investment delay from March 2010 budget*

ONTARIO PC

» Within three years, invest more than $35 billion to pay for new infrastructure – much of it in transit and transportation
» Increase the dedicated revenue from the provincial gas tax to transit, roads, and other infrastructure projects, giving all Ontario communities a share of the gas tax for the transportation projects that make the most sense for them
» Stop the war on the car, finding a balance between public transportation and automobiles

Expert Response:

» *Using the gas tax to pay for more roads does nothing to reduce GHGs, air pollutants, traffic congestion. Without dedicated funding for transit, much of that money will go towards road infrastructure*

Q: What policies do you have to reduce the greenhouse gas emissions associated with transportation in Ontario?

green PARTY OF ONTARIO

- Offer $238 million over four years for electric and fuel efficient vehicle tax credits
- Encourage the purchase of more fuel efficient cars through a $1000 credit for the most efficient 10% of cars on the market, and a $1000 fee on the most inefficient 10%
- Raise tailpipe emission standards steadily over 25 years
- Coordinate the electric vehicle industry to work with the Smart Grid program, to ensure cars are charged at off-peak hours to minimize the load on grid and to utilize electric vehicles for energy storage

Expert Response:

- *Good attention to electric cars*
- *Emissions standards are one of the most effective policies to reduce road transport emissions*
- *Little mention of transit here or in the preceding response*
- *$1000 feebate is good, but it should be higher and a sliding scale on all vehicles, not just top and bottom 10%*

ONTARIO NDP

- Take action to prevent urban sprawl, working with municipalities to expand the Greenbelt
- End deals to exempt developers from growth limits, such as those set out in the Greenbelt Act

Expert Response:

- *Limited discussion of transit or efficient and electric vehicles*
- *Smart urban planning that curtails sprawl (e.g. by expanding the Greenbelt and minimizing development in Greenbelt) is absolutely necessary*

Liberal ONTARIO

- Invested $10.8 billion in public transit since 2003, including $300 million to the Region of Waterloo's Rapid Transit project
- Created Metrolinx, an integrated regional transit authority to improve public transit across the Greater Toronto and Hamilton Area, which is leading the implementation of a $50-billion plan to get people out of cars and onto transit
- Opened seven new GO Train stations
- Building and paying for the Eglinton-Scarborough Crosstown Light Rail Transit (LRT)
- Partnering to extend the Spadina subway to York University and York Region
- Building and paying for an Air Rail Link that runs directly from Union Station to Pearson: it will remove 1.2 million cars from roads in the first year of operation
- Created a long-term HOV lane network plan that will add more than 450 kilometres of HOV lanes across the Greater Golden Horseshoe over the next 25 year
- Provide an incentive of between $5,000 and $8,500 toward the purchase of electric vehicles with a target to have one in 20 cars electrically powered by 2020

Expert Response:

- *Have made many impressive past investments in public transit, and the commitment to seeing them through is good, but lack of new commitments*
- *HOV lanes need to be taken from existing lanes rather than added on*
- *Several proposed policies to encourage growth in electric vehicles will pay off in medium term*

ONTARIO PC

- Invest in public transit options
- Lower greenhouse gas emissions by reducing congestion and time sitting in traffic

Expert Response:

- *Vague on public transit investments; focus seems to be on road infrastructure*
- *Clear focus on roads and highways in policy and communications ("Stop the war on the car") will increase emissions from vehicles*

Jobs & Business Implications

Conducted in a time of economic uncertainty, this election has expectedly focused on the creation of jobs for Ontarians struggling to find work and support their families.Provincial content rules in Ontario's Green Energy Act aim to incentivize renewable energy manufacturing and investment within the province[20]. As Ontario's manufacturing industry struggles, advocates for renewable energy and green buildings look to these emerging industries to provide jobs that cannot be outsourced[21].

Businesses from all industries in Ontario are faced with rising energy prices amid ever increasing globalization[22]. Leading organizations, as represented in Sustainable Waterloo Region's Regional Carbon Initiative membership, are meeting these challenges by adopting energy saving operational and facility management practices to realize cost savings, improve employee satisfaction, and further develop their brand and competitiveness[23]. These businesses are also responding to external pressures from foreign governments, and large customers like Wal-Mart capable of reshaping markets, that increasingly demand action to reduce climate change impacts[24].

Q: How will your party's energy policies impact the creation of permanent jobs in Ontario?

green PARTY OF ONTARIO

- Investments in energy efficiency programs not only create jobs in the Green Building sector, but help our businesses increase their productivity, operate more efficiently and be more competitive in the twenty-first century economy
- The Green Building Program energy retrofits will create good, sustainable jobs in trades and construction, design, architecture, engineering, and building supplies
- Create a smart grid that focuses on distributed generation. Develop a Conservation Energy Pool (CEP) to serve as a market for negawatts (i.e., electricity demand reduction). The CEP would enable entrepreneurs to develop viable businesses that pay people to save energy verified by available smart meter data

Expert Response:

- *Efficiency measures tend to create the most jobs, and so an emphasis here is good*
- *Does not discuss the implications of significant change in FIT plans which could disrupt current gains and industrial plans*

ONTARIO NDP

- Aggressively expand renewable energy in the province, outstripping the government's targets by 5,000 MW in 2030, creating certainty for investors and sparking new green jobs
- Shift investment from capital intensive nuclear power to conservation and home retrofits, creating thousands of new green jobs

Expert Response:

- *Shift from nuclear to other projects likely to create net jobs, but to be fair, nuclear does employ many people in Ontario*
- *Increasing renewable energy target good, but restricting private sector involvement in large renewable energy projects will not "create certainty for investors"*

» Clean energy plan is creating thousands of jobs in communities such as Windsor, Cambridge, Tillsonburg, Mississauga and Newmarket, to name a few. To date, over 20,000 jobs have been created, with 50,000 to be created by the end of 2012

Expert Response:

» *A job creation target of 50,000 appears to be on its way given recent estimates*
» *Feed-in Tariff is already creating many skilled jobs; more will be expected. Need to compliment this by adding regulation under the Green Energy Act to support conservation and energy efficiency*

» Reduce taxes and make energy prices more affordable to let job creators, and not the government, drive new job growth

Expert Response:

» *No mention of clean energy jobs*
» *Tax reductions tend to have little impact on job creation*
» *Major changes to FIT likely to be disruptive to job growth*

Q: *Business leaders are currently working to reduce their greenhouse gas emissions. How will your party's energy policies support their efforts?*

» Putting a transparent price on carbon provides market incentives that spur innovation and entrepreneurialism, and will help prepare businesses to compete in the emerging low-carbon global economy
» $800 million will be invested in refundable business tax credits over four years for businesses to invest in energy efficiency and building retrofits
» Provide $150 million over four years in refundable tax credits for investments in research and development in emerging sectors such as clean technology, green buildings, value-added manufacturing, renewable energy and knowledge-based services

Expert Response:

» *Implementing a carbon tax is typically the option preferred by businesses for tackling climate change, and will shift investment away from dirty energy sources. While $10/t is probably too low, it is a good start as was done in BC*
» *Carbon price increases need to be regularly scheduled to send a clear and predictable signal to businesses*
» *R&D tax credits are useful in medium and long-term*

ONTARIO NDP

» Join the Western Climate Initiative so Ontario firms can trade into a continental cap and trade plan, reinvesting revenues generated into reducing carbon emissions
» Work with other jurisdictions on a coordinated climate change strategy, continuing to push the federal government to move forward with a national plan

Expert Response:

» *Joining the cap-and-trade system of the Western Climate Initiative is a good step. Only businesses that are emitting above the 25,000 tonnes threshold would be directly affected by this. It is important to make sure there are not lots of loopholes as has been the case in other systems*

Liberal ONTARIO

» Currently working with businesses by offering a variety of conservation options through local utilities and the Ontario Power Authority
» By investing in renewable energy and phasing out coal-fired generation, the electricity system's carbon footprint is reduced

Expert Response:

» *No mention of the Western Climate Initiative. Although Ontario is a member, it has delayed joining the cap-and-trade system. Not proposing a carbon price for industry is a significant hole in their climate change plan*

ONTARIO PC

» Phase out coal-fired generation by 2014, cleaning the energy supply

Expert Response:

» *Positive that a commitment to phasing out coal by 2014 is being made, however, this is essentially business-as-usual now and is supported by all the other parties*

Q: How will your party's energy policies support the development of competitive advantages for Ontario companies?

green PARTY OF ONTARIO

» Reduce income taxes, reward efficiency, and place a price on carbon emissions to achieve carbon reductions

Expert Response:

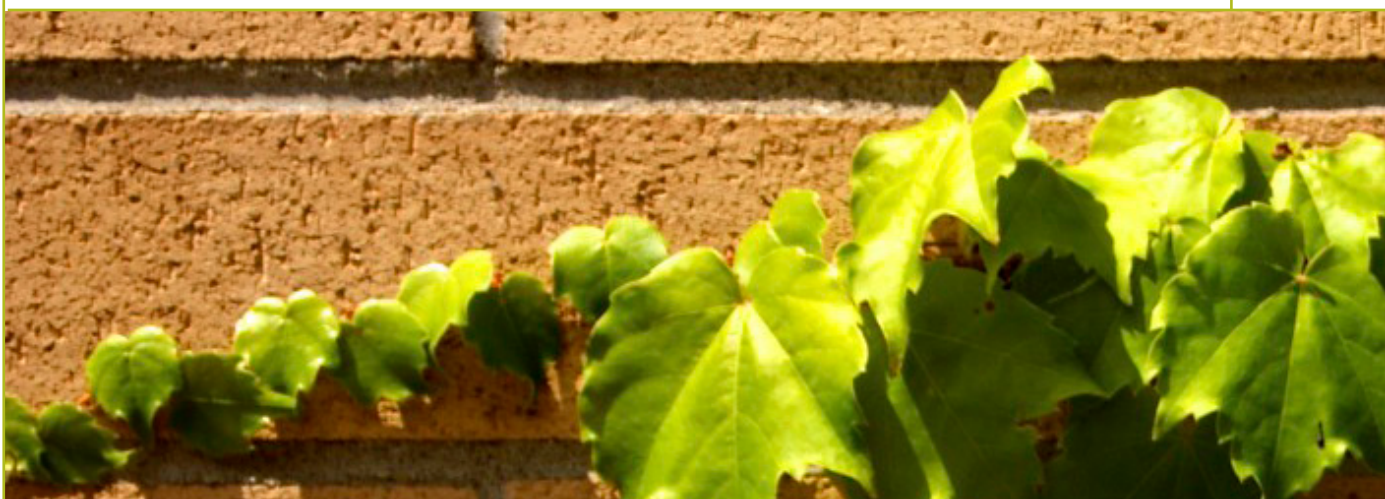
» *Shifting taxes to pollution and away from income is a good step, but payroll taxes would likely have a larger impact on businesses*

ONTARIO NDP

» Ensure strong domestic content requirements for new energy supply
» Commitment to conservation and home retrofits will benefit local companies who can provide these services

Expert Response:

» *Positive inclusion of retrofit and energy professionals industry*
» *Local content requirement is generally supported and will help to retain and create green jobs through investment*



- Worked closely with industry on the Industrial Conservation Initiative, which is helping Ontario's large industrial manufacturers to conserve energy, save on costs and bolster their competitive advantage
- The Ontario Power Authority's Industrial Accelerator program assists transmission connected industrial electricity users to fast-track capital investment in major energy efficiency projects that help reduce costs and increase the overall efficiency of the industrial operation
- The Long-Term Energy Plan has given businesses predictability with respect to prices
- Northern Industrial Electricity Rate Program provides electricity price rebates for qualifying northern industrial consumers who commit to an energy efficiency and sustainability plan

Expert Response:

- *The Long-Term Energy Plan and FIT have created a domestic market for renewables*
- *Conservation support is an important long-term market advantage given rising dollar*
- *Local content requirement is generally supported and will help to retain and create green jobs through investment*

- N/A

Expert Response:

- *Drawing from other answers, it is likely that lower taxes would be advocated for in order to reduce prices and increase price competitiveness*

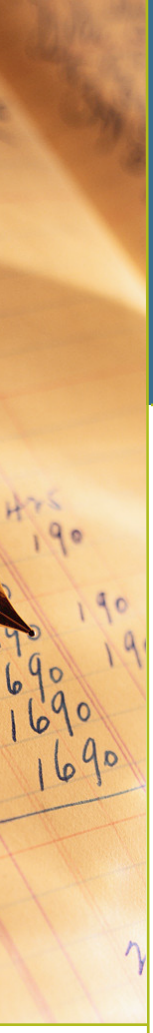
Budget & Cost Impacts

Half of today's power plants will need to be replaced or rebuilt in the next 10 years, and over 50% of the transmission system in Ontario is over 50 years old[25]. Ontario is phasing out its coal plants by 2014 and Ontario's entire fleet of nuclear plants will reach the end of their operational lives in the next 20 years.

Building new power plants in the coming years is inevitably more expensive than continuing to use old infrastructure that was paid for years ago. The need to build and fix power plants will mean rising costs for electricity consumers. Residential rates will likely rise 3.5 per cent annually for the next 20 years[26]. Ontario is not alone in this challenge; across Canada electricity customers are experiencing higher costs. Between 2002 and 2010, rates in Saskatchewan rose 36%; in Nova Scotia rates rose 37%. Rates are forecast to rise by 33 per cent from 2010 to 2013 in B.C. In Alberta, rates are forecast to rise 50% from 2010 to 2016[27].

Rates will rise regardless of whether Ontario chooses to build new nuclear plants, shift to clean energy, or burn more fossil fuels. A recent study by the Pembina Institute modeled the price of electricity under two scenarios: the current long-term energy plan for Ontario which anticipates significant growth in renewable energy, and an alternate path where that investment in renewables is replaced largely with natural gas. In both cases prices are forecast to rise. The difference in prices was minimal. While the increase would be slightly slower in short term (approximately 2 per cent at most, or about $4 off the average monthly household bill). In the long run, investments in renewables now are likely to result in longer-term savings, in part because renewables are not exposed to the rising price of natural gas[28].

There is no way to completely avoid price increases and keep the lights on in Ontario. But the necessary renewal of Ontario's electricity infrastructure does provide an opportunity to compare costs and benefits of renewable and non-renewable energy options and decide how best to make a modern electricity grid for Ontario.



Q: How will your party's energy policies impact the provincial budget in the short and long terms?

green PARTY OF ONTARIO

- Prioritizes energy efficiency and conservation as the most cost-effective and financially responsible approach to meeting our energy needs
- Generate long-term sustainable savings through significantly increasing energy efficiency of government buildings
- Oppose new nuclear reactors in Ontario which are more expensive than all forms of renewable generation except solar, where the price is expected to decline
- Eliminate subsidies that reward the wasteful use of energy

Expert Response:

- *Good emphasis on conservation, but this alone will not meet the provinces energy needs and major investment will be required*
- *Ending investments in nuclear power and subsidies on wasteful, dirty energy are both good moves that will save money for the province directly, and through related environmental and health expenditures*

ONTARIO NDP

- Subject the long term energy plan to an environmental assessment to minimize negative health and environmental impacts and ensure cost-effectiveness
- Not invest in expensive nuclear refurbishments unless there are no other cost-effective alternatives
- Immediately place coal plants on emergency stand-by which will reduce negative health impacts and costs
- Ramp up investments in conservation which will mean that Ontarians will spend less on imported gas and more on goods and services from Ontario

Expert Response:

- *By not investing in nuclear, this keeps the government off the hook for any potential overruns, though nuclear is kept as an option if needed*
- *HST removal on home heating and gas will have annual budget impacts – i.e. tax base must make up for these subsidies now*
- *Investments in conservation will focus on reducing energy bills rather than energy rates, a good move*
- *Considering health impacts will reduce associated costs*

» The Long-Term Energy Plan details the necessary infrastructure investments to build or rebuild. The economic benefits of the policies — including the 50,000 jobs generated through clean energy initiatives — will help bring Ontario out of deficit by 2017/18

Expert Response:

» *10% electricity subsidy has budget impact and is counter-productive to conservation and adds directly to the provincial debt*

» *This is the only answer that acknowledges that the cost of electricity needs to go up*

» Take steps to make government buildings more energy efficient, reducing climate impacts and associated energy costs

Expert Response:

» *Making government buildings more energy efficient will have a positive impact on taxes in the long-term*

» *Removing the debt retirement charge from hydro bills means adding it to the provincial debt and future tax bills*

Q: *What can residential and organizational consumers/ratepayers expect in terms of cost increases or decreases as a result of the energy policies of your party, and how will this impact the need for future cost increases?*

» Look for long-term savings from efficiency and conservation due to reduced consumption, and reduced provincial spending on new generating capacity which is currently a big part of energy bills

Expert Response:

» *Focus on conservation and energy efficiency will reduce energy bills*

» *No new nuclear will reduce price increase, but commitment to phase out coal and nuclear limits choices for new generation and could increase costs*

ONTARIO NDP

» Amalgamation of hydro agencies will lead to significant savings for ratepayers
» Investment in home energy retrofits will lead to savings of up to $700 a year on a $2,000 heating bill
» Reducing reliance on nuclear will protect ratepayers from future cost overruns and rate increases

Expert Response:

» *No evidence an amalgamation would lead to significant savings*
» *Retrofit investments is excellent to reduce energy bills*
» *No new nuclear will reduce price increase, but commitment to phase out coal and nuclear limits choices for new generation and could increase expenses*

Liberal ONTARIO

» The Long-Term Energy Plan forecasts increases of about 3.5 per cent annually over the next two decades. In comparison, the price of electricity rose 3.6 per cent annually over the past 20 years
» Majority of transition to a cleaner, more reliable electricity system takes place over the next five years, the Ontario Clean Energy Benefit will help by providing a direct benefit equal to 10 per cent of the total cost of electricity on each bill for residential, farm, small business, and other small users for each of those five years

Expert Response:

» *Good that reality of inevitable price increases is recognized for future investments*
» *Clean Energy Benefit is a tax subsidy and picked up by the tax base and decreases conservation*
» *Rate increases necessary for re-investment in grid.*

ONTARIO PC

» Treat energy policy as economic policy and give the typical Ontario household $275 in annual relief from rising energy bills
» Remove provincial portion of HST from home hydro and heating bills
» Remove debt retirement charge from hydro bills
» End mandatory time-of-use pricing
» Reduce costs by closing the Ontario Power Authority

Expert Response:

» *$275 estimate is all shifted to tax base*
» *No evidence ending time-of-use pricing will have significant impacts*
» *It is unclear if closing the OPA will save money as their functions will need to be picked up somewhere else*

Q: Will taxpayers be expected to take on additional spending responsibilities that will be shifted away from energy ratepayers?

green PARTY OF ONTARIO

» Consumers pay for their consumption and those who use energy more efficiently are rewarded

Expert Response:

» *This is another way of saying they'll stick with time-of-use billing. This puts pressures on the right points*

» *Introduction of carbon tax actually does the opposite – relieves other tax burden*

ONTARIO NDP

» No

Expert Response:

» *Yes – the HST removal on home heating and gas is a subsidy that is transferred to tax base*

Liberal ONTARIO

» No, our plan in no way compromises our ability to achieve budget balance by 2017-18 as projected

Expert Response:

» *Yes – through the Clean Energy Benefit*

ONTARIO PC

» Remove HST and debt retirement charge from hydro bills

Expert Response:

» *Yes – The HST and nuclear debt retirement charge are shifts from energy rate base to tax base*

Conclusion

The 2011 Ontario election provides an exciting opportunity for Ontarians to chart the course of the province's energy policy in a way that strengthens our economy, mitigates the impacts of climate change, and further integrates sustainability into our decision making.

It is our hope that this report will spark informed discussion on our political leaders' competing visions for Ontario's energy future. We encourage you to continue the conversation in one of several ways:

- Share physical and electronic copies of this report, and view full unedited party responses at www.sustainablewaterlooregion.ca/OntarioEnergy/
- Discuss Ontario's energy future with friends & family
- Follow and participate in the discussion on Twitter with #ONpoli and #ONEnergyFuture
- Contact your local candidates. Full candidate lists and voting information online at: http://wemakevotingeasy.ca/

Most of all, we encourage all readers to actively participate in the democratic process and vote on October 6th for a future where a strong economy and a vibrant environment exist interdependently.

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Wastewater: 0.9 cubic metres	***Wastewater:*** 1 cubic metres
Solid Waste: 12 kg	***Solid Waste:*** 8 kg

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