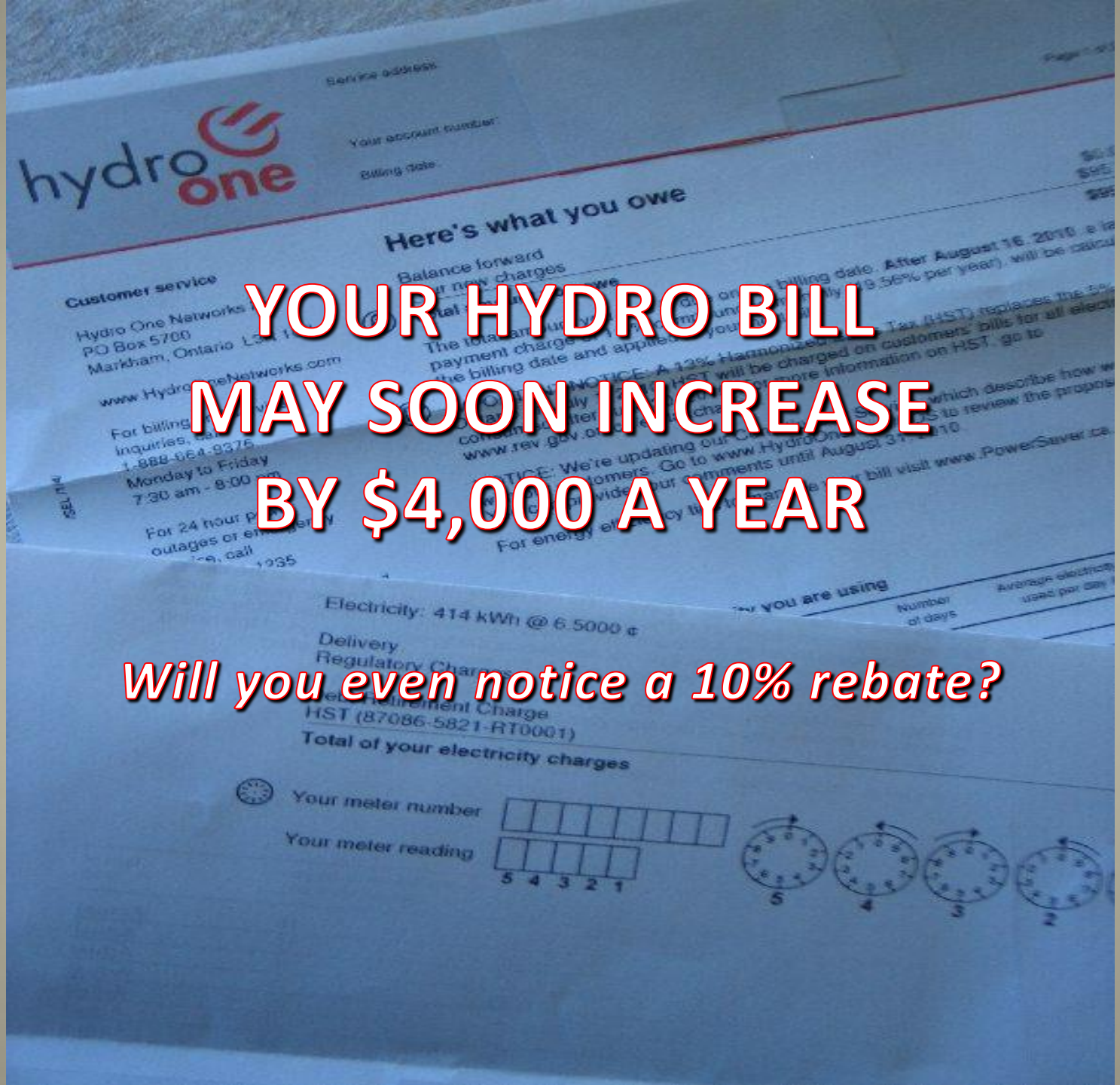
hydro one
Here's what you owe
Customer service
Hydro One Networks
PO Box 5700
Markham, Ontario
Electricity: 414 kWh @ 6.5000 ¢
Delivery
HST (87086-5821-RT0001)
Total of your electricity charges
Your meter number
Your meter reading
YOUR HYDRO BILL
MAY SOON INCREASE
BY $4,000 A YEAR
Will you even notice a 10% rebate?

A new study by professional engineer William Palmer, indicates that Ontario householders may soon be faced with “an increase in consumer cost for electricity of about $4000 per residential consumer per year”. **(For calculations please see the end of this document).*

“The cost to the Ontario economy will be at least $14 billion per year and will have a significant adverse impact on the Ontario economy and cause widespread hardship”.

William K. Palmer is a graduate electrical engineer, registered for over 37 years as a Professional Engineer in Ontario with experience in industry and the electrical utility sectors.

Another “study prepared for Canadian Manufacturers and Exporters estimates that power prices for a typical household will rise 38 to 47 per cent between now and 2015”.

“Part of that increase is due to renewable power coming on stream, at prices significantly higher than the current market price”.

“The rebates will cost the province about $1 billion in 2011. But as rates float upward through 2015, the cost of the rebate will grow as well”. The government will have to borrow to pay for the rebate.--Toronto Star, November 18, 19, 2010.

“Dalton McGuinty is basically taking money out of one pocket through the HST to give us 10 per cent back on hydro bills that have already gone up 75 per cent”. --Conservative leader Tim Hudak

Energy poverty

Many Ontarians who already live near the poverty line as a result of debts and low incomes will now suffer an additional burden from rising electricity costs.

What will families have to sacrifice to pay electricity bills?

- 4-6 months of daycare?
- Over a year's car payments?
- Half a year's supply of groceries?

How did Ontario's electricity become so expensive?

Traditionally, Ontario has had a cheap and reliable electricity supply.

Our prosperity was built on the production of electricity by a public utility, owned by all citizens. Sir Adam Beck's Hydro Electric Power Commission of Ontario was mandated to supply "power at cost". Ontario Hydro carried on that mandate. But when the electricity generation sector was broken up, the mandate became "power for profit".

Now the overly generous "feed-in-tariffs" paid to producers of renewable energy, will result in consumer suffering from a government policy based not on need but ideology.

Much of the increase will result from policies to add over 10,000 MW of wind energy and over 4,000 MW of solar to the grid.

Wind and solar "will add over $9 billion to the cost of our electricity".

Because the government has contracted to pay "green energy" producers highly inflated prices through fixed "feed-in-tariffs" (FIT), the $9 billion we will pay for renewables would have cost us only $1 billion on the open electricity market.

This means that ordinary householders will subsidize wealthy multinational oil and gas corporations who run the wind turbines.

Why did the government ignore the advice of its own experts?

The OPA advised that it was more cost effective to develop hydro generation north of Sudbury rather than developing additional wind generation in southern or northern Ontario.

"This needed capacity [back up power plants for wind turbines] will likely have to be obtained by installing additional gas-fired generation. Thus, in addition to incurring further capital costs for the gas generation installation, higher gas usage would be expected to make up for the reduced amount of renewable energy from wind compared to that from hydroelectric generation or its alternative. ***Therefore, this alternative would result in higher greenhouse gas emissions.*** *Wind and solar power will never be more than a niche supplier of power in Ontario."* --Ontario Power Authority (OPA) published report: *Integrated Power System Plan,* October, 2007.

CO_2 emissions saved by wind turbines : close to 0

"Wind power. . . can not make a significant contribution to reducing greenhouse gas emissions".
Peter Lang, energy production engineer, 2009

"Wind turbines . . . have produced no environmental benefit in Germany in terms of lowering of CO_2 emissions".
Rhein-Westfalia (Germany) Institute for Economic Research study, 2009

"As the level of wind capacity increases, the CO_2 emissions actually increase as a direct result of having to cope with the variation of wind-power output".
Irish Electricity Supply Board (ESB) National Grid Study, 2004

"Despite huge investments, wind-generated electricity 'has had minimal, if any, impact on carbon dioxide' emissions" in Colorado and Texas.
Robert Bryce , energy researcher, *Wall Street Journal* August 24, 2010

"Thermal power plants in the compensation of fluctuating production of windmills eliminate the major part of the expected positive effect of wind energy. . ."
Tallinn Technical University, Estonia study 2003

How can cost effective electricity be produced without a plan?

In September, 2009, Energy Minister Smitherman seized control of the Ontario Power Authority and used his ministerial prerogative to "direct the OPA to develop a feed-in-tariff program" *requiring* wind and solar to be added to the grid.

Now instead of using the careful planning of experienced electricity generation experts to maintain a stable, secure and economical grid, the electricity system is in the hands of a series of inexperienced ministers, (--there have been five in quick succession, none with electricity generation background). Without a plan, we are left only with a list of projects. Who knows which if not all or even more of these projects will ultimately be implemented. William Palmer's calculations were based on the total of listed projects but the cost would increase even more with the addition of offshore wind. His alarming conclusions illustrate the danger of substituting impulsive decisions made by temporarily elected officials (influenced by political and ideological considerations rather than the interests of electricity consumers) for informed electricity generation planning.

The Green Energy Act

Wishing to convince voters it saw a green future, the McGuinty government decided to shut down coal and make renewable energy a major part of Ontario's electricity mix. The Green Energy Act (GEA) was devised by a number of government favoured NGOs with the deep pocketed wind energy producers, and rushed through the legislature without cost estimates and almost no public discussion. The government simply assumed 6,000 MW of coal could be replaced by wind, solar, and gas.

Multinational oil and gas corporations were lured to Ontario by extravagant feed-in-tariff contracts and tax incentives. The GEA led to a feeding frenzy by wind developers and thousands of wind turbines are now planned for our rural landscape.

"The contracts that are being made with wind energy companies in Ontario are made with our dollars. They are in fact a public subsidy".

--Rick Coates, former IESO employee

Wind production cannot be counted on when needed.

Wind power is inconsistent. It cannot be stored. It is not “dispatchable”. The GEA commits consumers to pay for “renewable” energy whenever it is produced– even at times when it is not needed and when cheaper base load power is already available.

When too much electricity is produced it must be sold to neighbouring jurisdictions. Selling off excess energy at below cost to the United States, for example, would put Ontario in the same position as Denmark: Ontario consumers and taxpayers will be subsidizing American electricity consumption.

Wind turbines have to be backed up with fossil-fuelled generation

Adding more wind turbines to the grid will require standby electricity production that can be ramped up and down very quickly to prevent the grid from crashing from surges or brownouts. In Ontario new gas plants will need to be built to back up renewables.

We will have to pay for gas plants operating inefficiently on standby 24/7 due to the fluctuations and unreliable output of wind.

Who pays for the back up?

We do. The Green Energy Act makes it clear that electricity consumers will have to pay for back up generation.

It's like paying twice for our electricity.

"Gas turbines are not cheap. You are paying for double capacity. This doesn't make any economic sense. A standby coal plant can idle at perhaps 150 MW, with a capability of increasing load to 550 MW, while a gas turbine may have to idle at 350 MW, with a capability of increasing load to 550 MW".

--Rick Coates, former IESO employee

"As electricity prices in the province increase, the province becomes less competitive relative to its neighbours, and you run the risk of actually losing jobs."

-- Benjamin Grunfeld, Senior Consultant, London Economics

“Electricity is the lifeblood of Ontario’s economy. Without ample, clean, affordable energy, our economic output will suffer and our quality of life will be diminished. Keeping the cost of energy down for working families and the business community remains a first priority for this government”.

-- Former Energy & Infrastructure Minister George Smitherman, *National Post, March 21, 2009*

Business is already leaving Ontario due to increased energy costs

Consumers, large and small will be paying up to 9 times as much to FIT suppliers as we could pay on the open energy market.

Jobs will be lost and Ontario driven deeper into recession as money from Ontario consumers is transferred out of the province. We have already seen examples:

- *Stoney Creek Dairy* moving production to Montreal, Quebec due to energy costs.
- *Xstrada* moving copper refining from Timmins to Noranda Quebec due to energy costs.
- *Abitibi-Bowater* has shut down its pulp and paper mill in Thunder Bay citing energy costs.

Was the government economical with the truth or incompetent at accounting?

Residential consumer hydro bills have already risen 16% (8% due to the government's new HST tax). The price for rural customers using 1000 kWh of power a month in October 2010 was 116% of the price it was in October 2003. It has already more than doubled.

But we were told the Green Energy Act would cost us only 1%. "Any additional costs to consumers will be minimal. *Residents can expect their electricity bills to increase about one per cent per year*". –Former Energy Minister, George Smitherman as reported on CTV (April 6, 2009)

"Smitherman dismissed [the] 2009 London Economics report that predicted a huge rise in the cost of energy as flawed and based on 'wild speculations'. *Government officials could not be immediately reached for comment on how Smitherman arrived at that figure".* --Canadian Press: CTV News (March 21, 2009)

"We anticipate that associated with the investments that I'm speaking about today, [the increase will be] approximately one per cent per year." – George Smitherman, CTV (March 21, 2009)

Yet the Premier says gas prices will increase

When Premier McGuinty told the Legislature on February 26, 2009 that “renewable energy will have only a minimal impact on electricity bills”, he also warned against relying on gas:

“With absolute certainly oil and gas are going to go up in terms of their costs; we know that for sure. We also know that when we buy oil and gas from Alberta, we don't create any jobs in Ontario whatsoever”.

--Hansard Transcripts: *Official Records for 26 February, 2009. 1040. Hon. Dalton McGuinty.*

Now Minister Duguid keeps telling us we need wind to shut down dirty coal

However the single-cycle gas plants that are needed to back up the wind turbines cause more health problems than the coal units when outfitted with modern pollution control.

"Possibly more troubling are the emissions of fine particulates from gas-fired power plants. Though particulate emissions are about one-tenth what they are for coal power, the U.S. Environmental Protection Agency estimates that 77% of particulates from a natural gas plant are dangerously small. These fine particulates have the greatest impact on human health because they bypass our bodies' natural respiratory filters and end up deep in the lungs. In fact, many studies have found no safe limit for exposure to these substances". --The Suzuki Foundation web site: http://www.davidsuzuki.org/Climate_Change/Energy/Fossilfuels/naturalgas.asp

Can we afford the government's "green energy" policy?

Ontario's debt has risen to $220 billion this year (37.2% of GDP).–National Post November 18, 2010.

Projected deficit: $ 18.7 billion. –Toronto Star, November 17, 2010

The forecast long-term public borrowing requirement for 2009–10 was $42.6 billion.

"You've got a net debt-to-GDP ratio that was only 25 per cent a few years ago … [that is] going to rise above 40 per cent in the next five years. It's a very significant increase in the debt burden. It will no doubt raise concerns about the potential for a downgrade in the province's credit rating." --Derek Burleton, a senior economist with TD Bank.

What are the hidden costs

What is the cost of running back up for renewables?

What is the actual cost of extra new power lines, transformers and other expensive electrical equipment needed to get wind energy to the cities?

The Ontario Energy Board says "***Substantial investment in transmission and distribution networks will be required to connect" renewable energy projects. "****These levels of investment in generation, transmission and distribution* ***have understandably led to a sharper focus on the total cost to consumers.*** *How best to manage these costs is perhaps the main challenge for the entire sector".*
http://www.oeb.gov.on.ca/OEB/_Documents/Documents/letter_Renewed_Reg_Framework_Electricity_20101027.pdf

What will be the cost of inevitable lawsuits caused by the government making up energy policy as it goes along?

What will be the real cost of the untendered Samsung deal?

What will be the consequences of putting Ontario farmland under the control of foreign multinationals?

What will be the cost to our natural heritage now that the destructive effects of wind turbines on natural habitats are known?

What will be the cost to the health of rural citizens when already many report suffering from wind turbine related adverse health effects?

How much will have to be cut from other budgets such as hospitals and education to pay for this?

Can we afford a hopelessly incompetent government?

What you can do:

Please send this letter to the Minister of Energy and the Minister of Finance. You can cut and paste the letter below or write your own letter.

Talk to your friends and share this information. Get them to send letters too.

Talk to citizens groups, pensioners' groups, church and community groups and service clubs, small business groups and chambers of commerce. We are all being affected by this issue.

Name
Address
Telephone
Email
Date

The Hon. Brad Duguid, Minister of Energy and
The Hon. Dwight Duncan, Minister of Finance
Email: dduncan.mpp@liberal.ola.org; bduguid.mpp@liberal.ola.org
Legislative Building, Queen's Park
Toronto, Ontario M7A 1A4

URGENT AND CONFIDENTIAL

Sirs:
COST OF RENEWABLE ENERGY ON OUR HYDRO BILLS:

We believe the government's energy policy is flawed, unfeasible, and detrimental to our well being and the Ontario economy. We cannot accept the change from power at cost which was the HEPC and Ontario Hydro mandate, to power for profit. We resent being required to subsidize so-called "green energy" through our hydro rates– especially when there is no evidence that industrial wind turbine developments are either environmentally friendly or save CO_2 emissions.

We are unwilling to pay for additional gas electricity production to back up wind and solar. We object to paying twice for the electricity we consume.

We demand that the extravagant feed-in-tariffs, and tax exemptions for renewables producers which we view as corporate welfare, be curtailed at once.

We require that all further commercial renewable energy project approvals be suspended immediately until realistic regulations are in place to protect our natural heritage and credible, unbiased health studies have been completed to safeguard rural Ontario.

Please reply to this letter at once, advising of your proposed remedy.

Yours truly,

……

How the Palmer report arrived at these calculations

When William Palmer first began to investigate the effect of wind turbines on electricity rates, he was astonished to discover that the government had no plan. All that is available is a list of projects.

He decided to use the numbers provided by the government and extend them to their logical conclusion.

Some of these projects may not be carried out. Others (such as off shore wind) may be added. Since there is no plan, no-one can say. However, given the information the government has made public, these calculations show the result for electricity consumers.

What is most worrying is that the Ministry of Energy has been run on the whimsical direction of a changing series of short term, rookie ministers without professional understanding of the grid. Meanwhile, the advice of the experts we are paying to provide long term cost estimates, feasibility studies and economic evaluations is being ignored. Instead, unthought-out political and ideological schemes are being substituted for prudent economic decision making.

One may criticize these calculations as wildly exaggerated. But it has to be emphasized that using the numbers the government has given and following them to their logical conclusion, these are the costs that will be the result for electricity consumers if the government continues down this path. At the moment, there seems to be no reason to believe the direction will be altered without pressure from the public.

The calculations

OPA feed-in-tariff (FIT) plan at various stages of approval:	(10,609 MW (wind) x 0.30 (capacity factor) x $135 per MWh* x 8760 hours per year = $3.764 billion per year.	4,257 MW (FIT) plus 189 MW (Micro-Fit) MW of solar power = 4,446 MW (solar) x 0.20 (capacity factor) x $665 per MW (averaging ground mount prices from $443 to $642 for ground mount, and $539 to $802 for roof mount - again ignoring adders) x 8760 hours per year = $5.180 billion per year.	These two components would together cost $8.944 billion per year (say $9 billion in round numbers) - just for energy, excluding additional upgrades required for transmission system to bring these remote wind and solar to load centres. (Estimated at $5 billion by the government)

Additional cost for natural gas

This approach would require the shutdown of Ontario's nuclear fleet, as the IESO would be contractually obliged to reserve space during night time base load hours for wind to carry the load on the occasions it is available.

The nuclear reactors, which have provided a stable energy price in Ontario for the last 40 years, would be replaced by a blend of wind, solar, and natural gas (with a little hydro on the side).

As a result, not only will the 27% of the energy supplied by wind and solar cost up to 9 times more, the 60% supplied by conventional base load generation that held the average rate to $31 per MWh, will be replaced by natural gas priced at contract prices roughly triple the 2009 average price.

In addition to soaring costs, we will be forced to inhale the extra pollution day after day caused by all the gas used to balance off the intermittent generation of solar and wind.

This 60% of the electricity cost would increase from $31 x 0.6 x 15,000 MW x 8760 hours ($2.444 Billion) to $93 x 0.6 x 15,000 x 8760 hours ($7.332 Billion) or a further ~ $ 5 Billion increase to bring the total economic input to over $14 Billion.

	Independent Electricity Supply Operator (IESO) 2010 calendar	
Ontario's average hourly price for electricity in 2009 was $31 per MWh.	The Ontario consumption in 2009 was roughly 15,000 MW x 8760 hours or 131 TWh.	The cost of all electricity consumed in Ontario would have been ~$4 Billion for the year.
	We will pay nine times as much	**The renewables** on the OPA list (ignoring a large additional offshore wind component) **will cost ~ $9 billion to supply energy that would have cost only $1 billion** (0.27 x $4 billion).

For an average electricity bill of 1000 kilowatt hours:	
9 times increase for 27% of power, plus 3 times increase for 60% of the power The consumer price increase: about $3000 per year.	Energy portion of the electricity bill would increase from about $911 to $3969 per year (this is a home using electricity only for non-heating purposes).
“Time-of-Use” increase: a further 10%.	This would bring the increase to ~$3300 per consumer per year.
Transmission cost portion of the consumer bill would also increase due to the construction of 7 new transmission lines to collect energy from remote wind turbines, plus additional costs for voltage stabilization.	The consumer price increase from transmission changes might well be $500 per year per consumer, to bring the total to $3800 / year PLUS.
On top of this, contracts negotiated with the Association of Major Power Consumers of Ontario will transfer some of their anticipated increase to the smaller consumers, and the “Northern Resident” power subsidy will also transfer more increase to the southern residents.	Many consumers use more than the 1000 kWh average, (i.e. for heating) and would pay proportionally more.

Further information is available from:

Web site: windconcernsontario.org

E-mail: windconcerns@gmail.com