

# Why is Ontario spending billions on nuclear energy when cheap renewables are available?

**An analysis of the factors driving Ontario's high electricity costs**

[Cassandra Jeffery](#) / June 4, 2020

CANADIAN POLITICS ENVIRONMENT ECONOMIC CRISIS



Former United States Nuclear Regulatory Commission (NRC) Chairman Stephen Burns (right) stands with Brian Duncan, former Senior Vice President at the Darlington nuclear power plant in Ontario, examining the turbine building during a tour of the plant. Photo from [Flickr](#).

Slashing utility bills for ratepayers in Ontario was one of Doug Ford's key [campaign promises](#) during the 2018 provincial election. He vowed to honour the commitment by [cancelling](#) 758 "wasteful energy projects" and halting the [cap-and-trade program](#). Following his political victory, Ford actualized his campaign pledge, peddling the government's bold move as a cost saving measure. Ontario families will save about \$260 annually on their utility bills, according to a 2018 [press release](#).

"For 15 years, Ontario families and businesses have been forced to pay inflated hydro prices, so the government could spend on unnecessary and expensive energy schemes. Those days are over," proclaimed a [news release](#) from the Ministry of Energy, Northern Development and Mines.

The programs Ford was railing about date back to 2016, when the former Liberal government introduced the [Climate Change Action Plan](#), a strategy to implement the cap-

and-trade program and the 758 renewable projects. The renewable projects were designed to curb greenhouse gas (GHG) emissions, transition Ontario's electricity sector toward a low carbon economy, and cut Ontario's electricity rates. Following the implementation of these two programs, both on-peak and off-peak electricity rates [started to fall](#).

On-peak and off-peak pricing refers to what time of day Ontario ratepayers are consuming electricity. Also known as [time-of-use rates](#), consumers are charged higher prices during on-peak times (for example, between noon and 5:00 p.m. during weekdays from May to October) and lower prices during off-peak times (such as between 7:00 p.m. and 7:00 a.m. during weekdays from May to October).

In May 2016, [on-peak electricity rates](#) were 18 cents per-kilowatt-hour (kWh). The following year in May 2017, on-peak rates dropped to 15.7 cents per kWh. On-peak pricing dropped again in July 2017 to 13.2 cents per kWh, holding that rate constant until May 2018. In May 2019, on-peak electricity prices increased slightly to 13.4 cents per kWh.

Doug Ford was elected to provincial parliament in June 2018, and by November 2019, on-peak pricing was 20.8 cents per kWh. Between May and November 2019, both on-peak and off-peak pricing for per kWh hour [jumped](#) 7.4 cents and 3.6 cents respectively.

The current provincial government will not be able to keep their promise of affordable electricity rates without relying on expensive and inefficient utility subsidies. This reality that has been made abundantly clear during the current global health crisis. As of March 2020, all utility rates dropped to [10.1 cents per kWh](#), a plunge resulting from a subsidy Ford implemented to help families during COVID-19. If the renewable programs were not cut, nor the cap-and-trade cancelled, perhaps the provincial government would not have to resort to freezing electricity prices, a move that will cost the province in the long run.

Cancelling the 758 renewable energy projects and the cap-and-trade program has already cost the Province of Ontario about [\\$231 million](#). The cap-and-trade program funded renewable projects by taxing heavy polluters who surpassed an emissions cap, while also allowing the trade of emissions within the market. The system created a price on carbon pollution, but allowed the market, not the government, to set the carbon price. Cutting this program has diverted [\\$1.9 billion](#) in revenue away from the provincial government, according to the Financial Accountability Office of Ontario (FAO). Essentially, the province's total debt has increased, while heavy polluters are left unrestrained to emit GHGs into the environment. It is not difficult to imagine that financially powerful, heavy-polluting organizations had a vested interest in supporting the government's decision to kill the cap-and-trade program, given that tax dollars were financing a sector proving their own irrelevancy.

The [jump in utility prices](#) in November 2019 also stems from two multibillion-dollar nuclear refurbishment projects at the Bruce Nuclear Generating Station and the Darlington Nuclear Generating Station. In fact, a large portion of the province's current debt [stems](#) from the high costs incurred while building nuclear generating stations in the 1970s and 1980s. Ford's government also aims to [ramp up](#) electricity generation from Ontario's gas fired power plants.

Approximately [\\$130 million](#) in ratepayer funded financial support has been made available for new natural gas projects between 2021 and 2023. Considering the urgency of the climate crisis, the drastic drop in wind and solar costs over the last five years, and the availability of cheap hydroelectricity, Ontario's abrupt pivot toward expanding natural gas and unwavering intent to develop an expensive and dangerous nuclear sector is startling.

Why is the Government of Ontario trying to stall renewable energy development when renewables provide the cheapest and cleanest source of electricity? Specifically, why spend millions of dollars to cut clean energy projects, only to turn around and spend billions more to develop an economically floundering nuclear sector and prop up an environmentally disastrous oil industry? The answer to these questions lies in the historic bias of Ontario's energy institutions—these organizations lean toward heavy-polluting or expensive means of electricity production because generations of conventional problem-solving dictate one-track solutions.



Frenchman's Bay along the north shore of Lake Ontario, with the Pickering Nuclear Generation Station in the background. Photo by Jason Paris/[Flickr](#).

## A brief history of Ontario's electricity sector

Up until the late 1990s, electricity in Ontario was generated and distributed through the former crown corporation, Ontario Hydro. In an attempt to stimulate market competition, Ontario Hydro was restructured into five separate entities in 1999: Ontario Power Generation (OPG), Ontario Hydro Services Company (later to become Hydro One), Independent Market Operator (later to become Independent Electricity System Operator), Electrical Safety Authority, and Ontario Electricity Financial Corporation (OEFC). Prior to restructuring, Ontario Hydro constructed a large nuclear fleet between 1971-1989. The fleet included the Pickering Nuclear Generating Station, the Bruce Nuclear Generating Station, and the Darlington Nuclear Generating Station. High construction costs and cost and time overruns pushed the [infrastructure debt](#) for these projects to well over \$38.1 billion.

According to a [Consultation Paper](#) published by the Government of Ontario, the province's debt tripled following the construction of the nuclear fleet, which in part influenced the

restructuring of Ontario Hydro. “Through the 1990s, more than 35 percent of every electricity bill in Ontario paid for debt interest—one of the highest percentages in the industrialized world,” according to the government document. Ontario Hydro’s vulnerable financial situation was “closely associated with the mismanagement of its nuclear power plants.” Debt jumped from \$12 billion to more than \$38 billion in only a few years, while the newly built power plants were operating well below expected capacity in the late 1990s. Moreover, the mounting debt from the nuclear reactors [diverted](#) necessary funding away from other key areas in the electricity sector, such as the maintenance of transmission and distribution systems. The transmission system refers to the towers and wires that transfer power over long distances, and the distribution system refers to the delivery of electricity to local homes and businesses. “Out of control costs meant that required investments were not made,” noted the Consultation Paper.

Expensive and inadequate nuclear projects played a heavy hand in Ontario Hydro’s restructuring, acting as a measure to move provincial debt to a regulatory body. The province’s electricity financial bookkeeper, the OEFC, inherited the \$38.1 billion in total debt and other liabilities from the former Ontario Hydro. To help pay down this debt, Ontario electricity ratepayers were on the hook for a “[debt retirement charge](#),” which was implemented following the Ontario Hydro restructuring and remained in effect until March 2018. Although the debt retirement charge has been cancelled, Ontario remains in debt from these reactors. In 2018, the [total legacy debt](#) was \$19.1 billion.

OPG is one of the five entities created from the Ontario Hydro restructuring in 1999. The crown corporation is wholly owned by the Government of Ontario, and serves as the largest electricity generating operation in the province. The company generates electricity using hydroelectric dams, nuclear reactors, gas power plants, biomass plants, and solar photovoltaic plants, producing [about half](#) of the electricity consumed in Ontario. OPG owns two of the three nuclear plants in the province, the Pickering and Darlington nuclear generating stations.

The Ontario Energy Board (OEB) was created to fulfill the responsibilities of an independent regulatory body by ensuring legislative compliance with Ontario’s energy policies. The Board aims to “improve the rules and procedures that govern Ontario’s wholesale electricity market.” A board chair and two vice-chairs are responsible for overseeing OEB management and to ensure operations comply with four specific principles: ethical behaviour, prudent, efficient and lawful use of public resources, fairness, and high-quality service to the public. The Public Appointments Secretariat oversees all Ontario government appointments to provincial agencies, including the OEB. Although the OEB should, theoretically, direct electricity policy development in an unbiased fashion, the OEB is itself a product of the province’s historic and

institutionalized electricity sector bias. The provincial government has a long history of funnelling resources into particular sectors, namely nuclear, coal, and gas. Breaking up one organization into five entities and adding a regulatory body does not change this history, which has solidified a particular way of thinking about electricity policy over generations.

On January 31, 2020, the Ontario Minister of Energy announced the appointment of Richard Dicerri to the OEB. His role as Special Advisor was designed to support the Board's "transition to a new governance structure, focusing on recruitment and organizational structure." Dicerri has served on the Board of Atomic Energy of Canada Limited, and was the former President of OPG from 2003 to 2005. At least two additional executive OEB members worked with Hydro One before joining the Board. Again, Hydro One is one of the five entities created following the 1999 restructuring of Ontario Hydro.

Such a detailing of Ontario's electricity structure is not to suggest that the OEB is deliberately pushing any sort of agenda, but it should make it clear that historic structures have entrenched a particular culture across the electricity sector, even within its regulatory bodies. Some regulators advocating for the public's interest through the OEB have long ties to private sector electricity companies. This revolving door between public and private interests weakens the ability for directive bodies to be truly independent, making them susceptible to regulatory capture.

## Breaking down electricity costs

As it stands today, about 60 percent of [Ontario's electricity](#) is generated from nuclear power, followed by hydro power at around 25 percent, wind at seven percent, and natural gas at three percent. Total [electricity demand](#) in 2019 was 135.1 TWh, down slightly from 2018 numbers (137.4 TWh). The bulk of Ontario's demand was [supplied](#) by nuclear electricity, followed by hydro and wind. Evidently, nuclear electricity plays a significant role in today's energy portfolio, but is it the best option to secure an affordable, safe, and green future for Ontario's electricity sector?

Comparing and contrasting the cost of nuclear with the cost of renewables illustrates the hypocrisy of Doug Ford's electricity vision. The global cost of renewable power generation has [decreased consistently](#) over the past decade. According to the International Renewable Energy Agency, the global average cost of utility-scale solar electricity [fell by 77 percent](#) between 2010 and 2018. At the same time, [falling turbine prices and improved technology](#) have bolstered electricity efficiency in the wind sector, helping to curb consumer costs. These reductions in renewable costs have been realized in Ontario, too. According to the Independent Electricity System Operator (IESO), a 2016 [Large Renewable Procurement](#)



An Ontario Power Generation wind turbine located beside the Pickering Nuclear Generating Station. Photo from [NeedPix.com](https://www.needpix.com).

[facilities](#) were announced by the Government of Alberta. Under the new solar contract, the facilities are expected to provide an estimated total of 146,431 MWh in annual energy production, at a cost of 4.8 cents per kWh.

In Ontario, 10 nuclear reactors at the Darlington and Bruce generating stations are to undergo refurbishments. These refurbishments are required to extend the life of Ontario's aging nuclear plants, a process which includes component maintenance and replacement and the modifications of technologies. CANDU reactors, the Canadian-designed nuclear reactors used in Ontario, [require](#) replacement of major components, such as pressure tubes and feeder tubes, throughout their lifespans. These key components are [exposed](#) to harsh conditions from standard reactor operations, making them susceptible to corrosion and general wear and tear. Overall system degradation caused by corrosion, cracking, erosion, and fatigue [increases](#) the probability of malfunctions and serious accidents. These safety updates are necessary, but nuclear refurbishment projects are expensive.

The current project timeline for Bruce and Darlington runs from 2016 to 2033. [Contractors](#) working on the Bruce generating station include big names such as Cameco Fuel Manufacturing, Black & McDonald, AECOM, and SNC-Lavalin. Total refurbishment costs for this project, as of early 2020, are [\\$13 billion](#). Engineering firm SNC-Lavalin is also leading the [\\$12.8 billion](#) refurbishment project at the Darlington site. These projects will add to the province's legacy debt from the initial reactor builds prior to the restructuring of Ontario Hydro, and will increase electricity rates for consumers.

An OPG [document submitted](#) to the OEB in October 2016 outlined a 15 percent annual increase in rates between 2017 and 2021 to cover the cost of the Darlington refurbishment

project increased installed wind, solar, and hydroelectric capacity. Five wind contracts added nearly 300 MW of capacity, at a cost of 8.6 cents per kWh; seven solar contracts added just under 140 MW of additional capacity, at a cost of 15.6 cents per kWh. Even lower rates are possible, though, as illustrated by Alberta's success in developing renewable energy in recent years. Under the former provincial government in Alberta, an initial round of renewable-based procurement bids in 2017 secured an average weighted price of [3.9 cents per kWh](#) for electricity generated by wind. In February 2019, [three new solar](#)



project. The impact on ratepayers' bills would be "over 1.2 percent annually or approximately \$1.85 on a typical monthly residential bill each year." OPG has told the OEB that prices of nuclear power will need to climb as high as [16.5 cents per kWh](#) in 2025 to pay for the re-building of Darlington, which will cost ratepayers double the amount compared to wind-generated electricity. These projections only take into account the Darlington refurbishment project. The Bruce Power refurbishment may also contribute to a further hike in Ontario's electricity rates.

The 16.5 cents per kWh price tag also assumes Darlington will come in on time and on budget. A history of cost overruns and delays, both in Ontario and around the world, suggests this feat is easier said than done. In Ontario alone, all three nuclear facilities [exceeded](#) initial budgets and construction timeframes. Construction of the Pickering B unit was projected to cost \$1.6 billion, but the actual cost ended up being \$3.8 billion. Darlington, built between 1977 and 1993, ran a bill more than three times its projected cost, landing the actual number at \$14.3 billion from \$4 billion.

Refurbishment projects are not immune to cost and time overruns, either. In fact, a [previous refurbishment project](#) at Darlington exceeded its budget by at least \$381 million and was years behind schedule. Even the province's financial bookkeeper, the FAO, voiced its concern in a [2017 report](#), stating that ratepayers will inevitably bear the risk of cost increases for refurbishment contracts. A 30 percent increase in refurbishment costs on all reactors at the Bruce and Darlington locations will increase the average nuclear price by 5.4 percent, while a 50 percent increase in refurbishment costs will increase the average nuclear price by 8.9 percent. In August 2019, OPG [announced](#) a delay in the refurbishment of unit 2 at the Darlington nuclear site. No additional costs were reported, but "slower than expected installation of lower feeders," delayed reactor operations by at least four months. In April 2020, OPG [announced](#) another delay at Darlington. Due to COVID-19, the refurbishment of unit 3 has been postponed until autumn.

The math clearly doesn't add up. At this point, what must be determined is the most efficient, cost-effective, safe, and environmentally appropriate route to meet energy needs. If this route appears to be a renewable one, why would Premier Doug Ford spend millions of dollars to cut renewable projects?

## Renewables provide a reliable source of electricity

Renewables generate cheaper electricity than nuclear, but sources such as wind and solar are often criticized for being unreliable. When the sun isn't shining or the wind isn't blowing, how will Ontario keep the lights on? Two major points challenge the validity of this objection: rapidly advancing battery technology and the availability of cheap and

reliable hydroelectricity. Two researchers from the University of British Columbia conducted [detailed modelling](#) using IESO data and found that Ontario's electricity demand can be met by an entirely renewable grid. Their recent publication titled "[Ontario Can Phase Out Nuclear and Avoid Increased Carbon Emissions](#)" proves that Ontario has an adequate supply of electricity to meet demand each hour of the year, and that this electricity can be generated without contributing further to climate change. In other words, nuclear power is not needed to address climate change, despite claims to the contrary.

While Ontario's current hydroelectricity capacity can go a long way to help balance solar and wind power intermittency, batteries can address any remaining hours that may be unaccounted for. With the [cost of battery technology](#) required to store renewable electricity, such as lithium-ion and flow technologies, dropping substantially, this scenario would be more economical than proceeding with the two refurbishment projects currently underway.

Dependence on batteries can be reduced even further if Ontario turns to neighbouring Québec, as the province can provide more cheap hydroelectricity. According to Jack Gibbons, Chair of the Ontario Clean Air Alliance, Québec's hydropower reservoirs provide a [low-cost storage option](#) for Ontario. Québec has enough surplus power available for export during at least 99 percent of the hours of the year. And [unlike a nuclear reactor](#), the amount of electricity generated by hydropower can be easily and economically increased or decreased, depending on demand—meaning, theoretically, this “battery” will only need to be tapped when Ontario's supply mix is insufficient.

In 2017, Québec offered to supply Ontario with cheap hydroelectricity. One [source](#) cited up to eight TWh, at a rate of [five cents per kWh](#), much lower than the 16.5 cents per kWh projected from rebuilt reactors at Darlington. Such a deal would also add to an existing [seasonal capacity sharing agreement](#) between the two provinces. Ontario and Québec signed the agreement in 2015, allowing both provinces to share up to 500 MW of power. The partnership, which is contractually valid until 2025, stipulates that Québec has access to Ontario's power during the winter months, and that Ontario has access to Québec's grid during the summer months. Meanwhile, the Ontario city of Cornwall gets 100 percent of its electricity from Québec, and Cornwall also enjoys the [lowest electricity rates in Ontario](#). For an average monthly utility bill of 700 kWh, Cornwall residents pay about \$73. Torontonians, on the other hand, pay about \$121 every month for the same amount of electricity. You don't need to be a nuclear physicist to figure out the inefficiencies in this equation.

**Smaller reactors are not the solution to large-scale inefficiencies**

In addition to provincial support given to the traditional nuclear sector, Premier Doug Ford is also bolstering the idea of investing in unproven small modular reactor (SMR) technologies. In December 2019, Premier Ford signed a [memorandum of understanding](#) (MOU) with the premiers of New Brunswick and Saskatchewan, committing the provincial leaders to continued collaboration on developing and deploying SMRs. During a press conference, Doug Ford [suggested](#) that the “scalable” technology can generate “low-cost energy, connect remote and rural areas, and stimulate the mining sector.” However, the idea that SMRs will be cheap has been [criticized](#) for two key reasons: they lose out on economies of scale and the amount of electricity they generate fails to justify operating and capital costs.

Talking about SMRs is premature. Their construction would require an established factory ecosystem to support mass production, which assumes there is indeed a viable market for the technology in the first place. To make up for the loss of economies of scale, small reactors would need to be [manufactured by the thousands](#) in order to be competitive with large nuclear reactors. And since large nuclear reactors themselves are not competitive on the electricity market, there is no chance that SMRs will work out.

SMR designs also [involve trade-offs](#) between high costs, potential accidents, radioactive waste production, and linkages to nuclear weapon proliferation, and it is impossible to simultaneously address all factors adequately. Should cost reduction be the top priority, factors such as waste generation and reactor safety will likely be overlooked.



United States Nuclear Regulatory Commission (NRC) Chairman Kristine Svinicki, right, and President Rumina Velshi, of the Canadian Nuclear Safety Commission, sign a formal Memorandum of Cooperation to enhance bilateral initiatives related to reviewing advanced reactor and Small Modular Reactor technologies, August 15, 2019. Photo from [Flickr](#).

## Gas is not the solution to large-scale inefficiencies

Ford is aiming to [expand](#) the natural gas sector in Ontario to compensate for a drop in nuclear-powered electricity during the Bruce and Darlington refurbishments, a move that will drastically stall the province's green electricity sector transition. Natural gas is also not required to meet Ontario's electricity needs in the absence of nuclear-powered generation, making Ford's decision all the more confusing and frustrating.

Between 2003 and 2014, the Province of Ontario [reduced its reliance on coal](#) from roughly a quarter of its electricity mix to zero, becoming the first North American jurisdiction to completely eliminate coal-fired electricity. Continuing down this greener path, former provincial governments implemented policies to stimulate the renewables sector and move away from reliance on natural gas. Ontario is home to a large natural gas fleet, but electricity generation from natural gas comprised a [href=https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/on-eng.html](https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/on-eng.html) only three percent of the province's

mix in 2018. The IESO [concluded](#) that GHGs from the electricity sector have declined by more than 90 percent since 2005. Emissions, however, are expected to increase over the next ten years, should natural gas projects move ahead as planned. A staggering 11 megatonnes of additional CO<sub>2e</sub> emissions are expected by 2030, according to the IESO [Annual Planning Outlook](#). The Ontario Clean Air Alliance worked on some calculations using this data and found that these [projections translate](#) to a 300 percent increase in GHG pollution by 2025, and a more than 400 percent increase by 2040 (the percentages are relative to a 2017 baseline).

Offshoots from the Ford Government's gas plans are already beginning to sprout, and they look a lot like new pipeline projects. Enbridge Gas Inc. has [applied](#) to the OEB for approval to build a 10 kilometre natural gas pipeline through the City of Hamilton. If approved, the 48-inch diameter pipeline will transport natural gas through sensitive ecological wetlands. The *Hamilton Spectator* [reported](#) that the pipeline will jeopardize one of the largest natural swamps in southwestern Ontario, which spans roughly 5,600 acres.

Hamilton City Council and the Hamilton Conservation Authority have jointly requested that environmental and climate impacts from the pipeline be adequately considered, [demanding a full ecological study](#) funded by Enbridge. The OEB, the body responsible for approving the Enbridge pipeline, [typically approves projects](#) prior to the completion of an independent environmental assessment, tacking on such a pivotal step only after construction has begun. During a vote in February 2020, Hamilton City Council [unanimously agreed](#) for the studies to precede any OEB decision. Several environmental advocacy and political groups, such as the [Green Party of Ontario](#) and [Environmental Defence Canada](#), support the Conservation Authority and the City of Hamilton in their efforts to ensure due democratic and ecological process.

In a January 2020 [Ontario Energy Procedural Order](#), the OEB recognized the “significant interest” around the potential ecological implications and the spike in GHG emissions from this project. However, the Board also concluded that addressing these concerns falls beyond the scope of their authority, and therefore they will not consider such concerns in their decision regarding a preceding ecological study.

The Hamilton pipeline, which is pegged at [over \\$203 million](#) in capital costs and more than [\\$10 million](#) in annual costs, will allow fracked gas from Pennsylvania to flow through Canada to U.S. utilities in Maine and New Hampshire. During an [application of evidence](#) review with the OEB, Enbridge disclosed that its forecasted revenues are \$120 million less than its projected costs. The City of Hamilton [aims](#) to reach net zero carbon emissions by 2050, a target it will fail to meet should this pipeline move forward.

## Is there a future for renewables in Ontario?

Generating electricity from any source will undoubtedly have some sort of ecological or social impact, whether that involves clearing land to [build a wind farm](#) or [producing parts for solar panels](#). Plenty of advocacy groups in Ontario have also [voiced their own concerns](#) over the potential impact these types of projects may have on their communities.

Adequately addressing such concerns is beyond the scope of this article, but one approach worth considering would be to incorporate all stakeholders in the decision-making process from the very beginning of project exploration. All possible scenarios—inclusive of costs and environmental impacts—regarding the future of Ontario's electricity sector must be adequately publicized to all stakeholders long before funding is disbursed to pursue project development. Affected communities and relevant stakeholders must have a say in the direction of electricity development. Finding compromise may be tough, but this option is more sustainable and can avoid costly, politically influenced revisions to projects after they begin. To put it another way, a perfect energy solution does not exist, but there are more cost effective and environmentally appropriate solutions. By providing all stakeholders with a voice, by considering their specific needs, and by clearly outlining all the pros and cons of each solution, a more concrete vision of Ontario's electricity sector will begin to take shape.

At the same time, it is important to remember that a more definitive and democratic electricity future can only be realized through questioning the economic, environmental, and social sustainability of Ontario's current electricity sector. One past renewable project proves more equitable options can indeed strengthen cross-sector development and facilitate more well-rounded solutions. In 2008, farmers and agri-food businesses across the province [received \\$11.2 million](#) to develop and build wind, solar, and bioenergy generating systems. This was a large amount of money for a sector that has long [struggled economically](#) from mismanaged policy.

This specific project helped to reduce electricity costs for farmers, while generating large quantities of electricity for grid transmission by allowing farmers to lease portions of their land to wind farm operators. On the other hand, nuclear electricity wealth is concentrated in a handful of engineering firms and generators like OPG. It is revealing that SNC-Lavalin, a firm with [multiple billion-dollar contracts](#) around the world, is the project lead for the \$13 billion Darlington refurbishment contract, and that OPG will benefit financially from hiked electricity rates. Both companies will continue to reap the rewards of the provincial government's steadfast support of nuclear electricity, while electricity rates soar for consumers and investment in other sectors remains stagnant. We must ask ourselves and our governing bodies if it is possible to redistribute wealth to pertinent sectors that drive societal growth while keeping the lights on in Ontario. Evidently, it seems the chances of success in this department are high, should resources be allocated appropriately.

## The electricity sector and COVID-19

Now more than ever, our society must prioritize essential over non-essential sectors. From farms to grocery stores, various components of the food production supply chain are essential to feed our families, and yet grocery store clerks are considered low-wage employees. Doctors, nurses, and scientists are working around the clock to support our society through these trying times, and yet a long list of [provincial funding cuts](#) suggests the healthcare sector is not a valuable investment for Ontario's future. Again, we have to ask why the Ford government will support two \$13 billion nuclear refurbishment projects, and consider massive financial bailouts for oil and gas corporations, but will contribute only a meager \$20 million to medical research during a global pandemic.

Teachers and educational professionals across the country were struggling to accommodate large class sizes and consecutive budget cuts long before the COVID-19 outbreak. In March 2019, the Ford government [planned to divert millions of dollars](#) away from public education by removing special education funding and requiring all high school students to take at least four online courses. Many of these proposed budget cuts are [scheduled to be implemented](#) for September 2020. COVID-19 has taught us that there is room for e-learning, but even quality online learning requires adequate funding. Cutting millions of dollars from public education—while expensive gas pipelines and nuclear refurbishment contracts are widely supported by governing and regulatory bodies—cannot be the answer.

Electricity is an essential sector in Ontario, too, but energy development should not come at the expense of other sectors that also drive societal growth. We must start to question the allocation of funding and political support granted to specific electricity sectors, despite their glaring economic, environmental, and social flaws. Citing one timely example, renewables have [proved resilient](#) in the face of a global health pandemic and economic recession, while generating nuclear electricity during COVID-19 has raised [serious safety concerns](#).

Running a nuclear power plant during normal times requires many experienced, well-paid staff members to ensure generation conforms to safety standards. Compliance with safety measures remains essential during a pandemic, however, spatial distancing protocols make it more difficult to adequately observe such measures. A recent report by the International Nuclear Risk Assessment Group [states](#) that Ontario Power Generation has “scaled back the number of staff at the local generating stations but has not planned to shut down any of its reactors; indeed, its CEO has argued for continued operations of nuclear plants.”

Ontario can meet its electricity demand from renewables, so why would our governing bodies allow nuclear generating stations to jeopardize the safety of the public?

COVID-19 has grave, overwhelming implications for our economy, but the pandemic also presents an opportunity to change the way our society functions and to reprioritize what we collectively value. Now more than ever, we must open our eyes to the absolute necessity of public sector investments, specifically in those sectors that help to develop the potential of people who live in this country, rather than spending to pad the pockets of conglomerates.

We are pulling back the curtain on an unjust, unsustainable and decaying framework of institutions from a bygone era. These institutions can and will crumble with the right amount of social pressure. Social systems, no matter how deeply entrenched, are not natural, they are human creations fueled, generation after generation, by a small minority disproportionality benefiting from the perpetuation of the system. Understanding these push-and-pull factors for what they really are awakens a possibility that we do not have to return to the status quo. Considering the reality of the climate crisis, we simply cannot return to business as usual.

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