

Powering Canada Forward Fund:

How Canada can double the size of its grids while keep electricity rates affordable

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Economies around the world are experiencing a surge of growth in demand for electricity, on a scale not seen in many countries since the 1970s.

This is very good news, since deepening the use of electricity in our economy holds the key to resolving the well-known energy trilemma—providing energy that is affordable, clean, and resilient—and doing so with sufficient abundance to drive economic growth and improve living standards.

Canada's draft [National Electricity Strategy](#) explicitly recognizes this opportunity, as do [provincial efforts to scale up electricity systems](#). Around the world too, countries are placing new [emphasis on electrification](#), which is expected to be a [major theme at the COP31 Climate Summit in Antalya, Türkiye and in the G20's agenda for 2027](#).

Yet one challenge could derail what would otherwise be an entirely positive development, and that is the question of electricity rates. Deep electrification of the economy requires substantial anticipatory investment; if the cost of this investment is immediately levied against existing power users, it could drive up bills to levels that deter the very electrification that is required.

That outcome isn't inevitable. Dramatically growing electricity systems while keeping rates affordable is not a contradiction, but it won't happen by itself. Smart public policy can align incentives and smooth out cost impacts over time, while managing scarce fiscal resources for governments.

In this policy brief, we outline a specific policy proposal for a *Powering Canada Forward Fund* to help keep electricity prices affordable, even as it doubles the size of its electrical system. (See [here for a broader list of policies to make electricity cheap again](#)).

Growing electricity demand, falling costs

Let's start with the changing context. Two big shifts in the economic landscape—both in Canada and elsewhere in the world—are changing the game.

First, the **costs of batteries and renewable energy are continuing to fall**. Between 2010 and 2024, global solar electricity costs fell by 87 per cent, onshore wind by 55 per cent, and battery energy storage systems by 93 per cent. Battery costs declined 27 per cent in the last year alone. That is profoundly impacting the direction of investment: in Ontario, the most recent competitive auctions resulted in a clean sweep where **batteries** and **renewables** won all contracts.

Second, **demand for electricity—which has essentially been flat for many years—is poised to increase dramatically. Electrification is driving demand growth** across all sectors of the economy whilst new industrial investments (from data centres to manufacturing) are adding further pressure on electricity systems.

Together, those changes present a unique opportunity for affordable power. **Economies of scale** mean that a bigger electricity system doesn't necessarily drive up unit costs: spreading fixed costs across more users can offset the costs for individual ratepayers of building a bigger system. Cheaper technologies can create downward pressure on rates over time. More **flexibility**—from batteries, smart demand response, and more transmission, especially between provinces and their different power systems—can further reduce costs. And the **sheer efficiency gains** from electricity systems relative to fossil fuel systems means that **energy bills overall will decline**, given lower overall energy required to deliver on services like heating and transportation.

Challenges of scaling Canada's electricity grids

Still, there's a catch. Scaling the production, distribution, and use of electricity systems is highly capital intensive. Regulators and provincial governments are rightly cautious about managing the risk of over-investment by monopoly providers, given that utilities generate stronger returns the more they build. This is why every province (including Alberta, where generation is largely market-based) regulates how much grid operators can invest in their wires and recover from users.

This caution exists to protect electricity customers. Investments approved by the regulators are added to a utility's regulatory asset base and immediately begin to be recovered via consumer and business utility bills. The problem is that a surge in investment results in a surge in repayments, driving up electricity costs.

This approach worked well in an era of relatively flat demand and static technology. It is far less suited to today's rapid demand growth, in particular because the network increasingly needs to be built ahead of the customers who will eventually use and pay for it. Put another way: electricity regulation is well-designed to guard against the cost of overbuilding, but has no equivalent mechanism for recognizing the cost of underbuilding given an economy-wide shift towards electrification, and no way of recouping the investment of anticipatory build-out until new demand arrives on the system.

The federal government can play a role in breaking this cycle by sharing risk and using its balance sheet strength in the transition. We believe that it can do so in a way that builds on and complements federal policy successes (in particular the Canada Infrastructure Bank) and is consistent with the National Electricity Strategy, while limiting fiscal costs.

Aligning costs and benefits, risks and opportunities

Our proposal: a Powering Canada Forward Fund (PCFF) that allows the grid to be built ahead of demand without driving up today's bills, expanding on an [idea proposed by co-author Michael Liebreich](#). In essence, the PCFF is federally-underwritten funding that is repayable over time, provided to utilities to maintain electricity rates through the transition.

The PCFF would serve two main functions, both of which would support the scaling of Canadian electricity systems.

First, it would **align costs and benefits for ratepayers through time**. The infusion of federal money could allow utilities to charge ratepayers for the growing system *once it has scaled* rather than before they have seen the advantages. Under the current system, the benefits of a scaled system would mostly accrue to future ratepayers, yet the costs must be paid by current ratepayers in order to unlock such investment. By deferring the timing of payment by ratepayers, the PCFF helps unlock the benefits of scale and aligns the incidence of costs and benefits

The PCFF would start by covering the annual gap between costs and receipts. Once the system's higher costs are spread across a larger customer base, receipts overtake costs and investors are largely repaid. Smoothing costs over time is already an accepted regulatory approach for individual long-lived electricity projects; the PCFF applies this at a system scale, this time with federal support.

Second, PCFF would **shift risks from provinces and ratepayers to the federal government and federal taxpayers**. Crucially, it is the federal government that advances the payment in this model rather than the provinces deferring or smoothing costs solely on their own books. In our proposed model, the PCFF (which is ultimately funded by taxpayers) bears the risk that electricity demand ultimately falls short of projections, not ratepayers. Most of the mechanisms for driving aggregate demand growth lie in the hands of government, not individual consumers so there is a compelling rationale for this approach.

A federal role also makes sense because Canada as a whole shares in the benefits of scaling up electricity systems. The federal government is already actively working to integrate regional electricity systems to create a larger, better functioning, more efficient, and more resilient national system. Affordable, abundant electricity enables electrification, a critical element of Canada's strategy in delivering on climate goals and international emissions commitments. A federal test for national benefit would also help ensure wires proceed across provincial borders: stronger interconnection lowers costs in the medium term, and the fund would make these lines financeable without forcing one province to front costs for benefits that partly accrue to its neighbours.

The federal government is also better-positioned to take on risk. Its balance sheet is larger, more diversified, and better able to absorb the years between building the grid and the growth that pays for it than any single province, utility, or ratepayer base. It also has control over some of the factors affecting that risk: electricity demand growth is partly driven by forces the federal government itself sets in motion—immigration, industrial policy, the pace of electrification—so Ottawa has both a direct stake in the demand materializing but also tools to manage that risk.

There is also Canadian precedent: the Maritime Link Financing Trust where a federal loan guarantee helped refinance a \$400 million deferral. It both shifted unrecovered costs from Nova

Scotia Power's balance sheet and cut a looming 19 per cent rate hike to roughly 2.5 per cent. Other countries (the U.S. for example) also use federal support to bear demand risk and support the build out of transmission, albeit using a different approach.

Further adaptations to the Canadian context

We propose a few further specific adjustments to ensure the proposal works in the Canadian context.

First, the PCFF should establish a mechanism to define the level of ambition and create guardrails against moral hazard (i.e., provinces overbuilding given federal liability for risk). Projects could qualify for the PCFF by passing a national benefits test, which would act as a standardized assessment of whether an investment delivers material net benefits for Canada as a whole relative to the alternatives. Payments could also be made conditional on reforms and modernization of provincial electricity systems to further encourage build-out efficiency.

Second, the PCFF should take a bespoke approach to different provinces because Canada's electricity systems are structured very differently. To start with, the fund could focus on transmission (and non-wires infrastructure such as battery storage where such infrastructure can replace the need for new wires). Transmission is regulated across Canada and therefore the fund could provide a more consistent approach across the country.

And third, the fund should complement, not replace, the work of the Canada Infrastructure Bank (CIB). The CIB mobilizes private capital into specific projects through blended finance, de-risking at the project level. The PCFF would instead smooth out financial risk at a system level, managing cost-recovery timing and demand risk on the regulated rate base. The CIB can co-finance a line, whereas the PCFF would govern how and when those costs would reach ratepayers.

The Canadian PCFF would therefore operate as follows:

1. New projects—a new transmission line or a portfolio of alternatives like batteries and line upgrades—can be added to a province's approved regulated asset base by clearing a national benefit test. To pass this test the proposal must deliver material net benefits for Canada overall, and perform well relative to alternatives.
2. The provincial regulator calculates the amount to be paid to the utility (the revenue requirement) based on the revised regulated asset base, following existing standard practice.
3. Customer unit prices for electricity delivery are held flat in real terms—rising only with inflation—so new capital spending doesn't drive up bills before additional demand materializes to share the cost.
4. The balance of the difference between receipts from customers and the utilities' calculated revenue requirement in each year is paid by the federally-underwritten PCFF.
5. The PCFF would be capitalized by public money and topped up as needed. It would also be allowed to borrow on the capital markets, though only to a level consistent with eventual paying down, i.e., avoiding any risk of runaway interest liabilities.
6. As demand grows, the proportion of the revenue requirement coming from customers rises, and the top-up from the PCFF falls.

7. When demand has grown sufficiently (and as assets depreciate), the levy from customers will begin to exceed payments based on regulated asset base. At this point—which should be allowed to take up to two decades to reach—the levies from consumers' bills will begin to pay back the PCFF.
8. Full repayment should be allowed to take many decades.

The PCFF does not ultimately have to be limited to grid assets. With suitable regulatory innovation and consideration for provincial differences, it could be extended to support expansion in clean power generation and energy storage. It could also cover other long-lived assets associated with the transition to a deeply electrified economy: electric vehicle charging networks, and, fittingly, electrified public transit systems that link back to the initial analogy. Electrified transit has the added benefit of reduced fuel costs, which further improves the odds of repayment.

The costs and benefits of the Powering Canada Forward Fund

The costs and the benefits of this approach add up to sound public policy.

The benefits of scale are real and important, given the prize of a bigger *and* more efficient electricity system. In economics jargon: there is a *positive spillover* (i.e., gains for society overall beyond individual users) from scale. That justifies policy intervention on an economic efficiency basis, even on a national scale (more on federalism in a minute). The draft [National Electricity Strategy](#) already opens the door to rebalancing electricity costs across taxpayers and ratepayers.

And delivering on those benefits using our proposed approach is cost-effective relative to alternatives. A well-designed fund could minimize fiscal costs. The costs of de-risking investment in the electricity system and the costs of deferring rate investments are cheaper than simply transferring public dollars directly to grid operators. The result is less expensive policy from a fiscal perspective.

Careful fund design could also help provincial utilities manage balance sheet pressure and borrowing costs. If a utility simply defers payments on its own books, hoping demand will eventually catch up, its balance sheet balloons. For an investor-owned utility, that weakens its credit rating directly. For a Crown utility, it erodes the capital structure the province has set for it and can end up weighing on the province's own credit rating instead. Either way, the cost of borrowing rises, and so does the bill. Limiting such pressure could be an additional benefit.

An implementation opportunity for Canada's National Electricity Strategy

The Powering Canada Forward Fund could be exactly the policy instrument that the federal government needs to deliver on the promise of its National Electricity Strategy, while ensuring electricity remains affordable in the long-run.

Extending and interconnecting Canada's grid, and deepening electrification across the economy, is a generational undertaking. A fund built to share that cost fairly—between today's and tomorrow's customers, and between Ottawa and the provinces—is a practical way to meet it.