

## OVERVIEW

- Clean Energy Canada supports the Government of Canada's goals for the second phase of its infrastructure investment as described in Budget 2016—most notably the contribution this funding can make to Canada's transition to a low-carbon economy.
- In support of that transition, we recommend that proponents applying for federal infrastructure dollars be required to demonstrate that their project passes a “three screen” approach designed to ensure that the project is environmentally sound.
- Any effective climate plan for Canada will require electrification: a shift from fossil fuels to clean energy as a source of power for activities throughout the economy. Federal infrastructure dollars should support that transition through the funding allocated to “green” infrastructure.

## SCREENING FOR EFFECTIVE INFRASTRUCTURE INVESTMENTS

As described in Budget 2016, the second phase of federal infrastructure investment is designed to help build “a more modern, cleaner economy” that is better positioned to capitalize on global trade potential. The 2016 Budget also notes that “the second phase will go hand in hand with the transition to a low-carbon economy” by supporting transformative projects from the local scale to the national.

Clean Energy Canada supports that vision and approach to infrastructure funding. In order to help achieve it, we believe that proponents of all infrastructure investments over a given size should be required to provide data on three sustainability “screens” as part of their application. Specifically, proponents should report on:

- **Full economic lifecycle cost assessment:** Proponents should present not just their upfront capital costs, but an estimate of the required operations and maintenance associated with their projects over their anticipated lifespans. Such lifecycle costing should include consideration of the impacts of climate change and more extreme weather.
- **Full carbon cost assessment:** Proponents should estimate the greenhouse gas (GHG) emissions likely to be generated over the lifespan of their projects. That begins with the emissions embodied in construction materials, includes operational emissions, and also factors in emissions associated with decommissioning, recycling, or other disposal approaches at the end of a project's life. Where relevant, proponents can also provide estimates of the carbon sequestration—for example, by restoring a wetland—provided by their project.
- **“Best Available Solutions” assessment:** This screen requires proponents to assess whether the need that the infrastructure project is designed to meet could be better met through another kind of investment. For example, an energy storage system may be a better option to provide backup power than a diesel generation plant.

Along with provincial and municipal partners, the federal government would draw on the results of this screening exercise in selecting which infrastructure proposals to fund. A project that is demonstrably the “best available solution,” and which offers lower lifecycle economic costs and lower carbon costs, would be favorably weighted for federal (and ideally provincial) funding.

The federal government could also consider supporting projects that perform well under the three-screen approach with a higher proportion of federal dollars, or with accelerated project funding.

Tools and expertise to help proponents make these assessments are now widely available, notably from the Massachusetts Institute of Technology and the Athena Sustainable Materials Institute. However, we recommend that the Government of Canada support capacity-building and training programs for municipalities to help them effectively apply these three screens. (The data collection and capacity-building funding set aside in Phase 1 of the infrastructure program would be an excellent source of funding for the necessary training investment.)

We recognize that smaller investments may not require the full three-screen approach as part of their application process, although the Government of Canada may wish to develop a simplified template for use even in those cases.

## RECOMMENDATIONS FOR THE GREEN INFRASTRUCTURE FUND

Expert assessments are clear: to tackle climate change, we need clean electricity to power far more of our daily activities than it does today—even factoring in a dramatic improvement in energy productivity.

Over time, we will need to shift from fuelling our personal vehicles with gasoline to driving electric cars. Electric pumps will draw heat from the air or the ground to keep our homes warm in winter and cool in summer. Innovative industrial processes will produce the goods and materials we need using clean power rather than fossil fuels.

This shift from fossil fuels to clean electricity—often referred to as “electrification”—is needed in Canada, but to an even larger extent around the world. While not a one-size-fits-all solution, electrification will be a big part of the international effort to live up to the climate commitments countries made last year at the UN climate talks in Paris.<sup>1</sup> As a result, the global market for clean electricity is growing quickly. So is demand for the technologies and services that underpin electric transportation, buildings, industrial processes and smart grids.

And that’s excellent news for Canada: our country already has one of the cleanest electricity sectors in the world. Today, over 80 per cent of our power comes from non-emitting sources, and that share is poised to increase with the addition of additional renewable electricity— water, wind and sun— thanks to government commitments to further decarbonize Canada’s power supply. With ambitious and effective policies, Canada’s head-start means our country is positioned to reach near-zero-emission power well ahead of its peers.

In other words, clean electricity is a comparative advantage for Canada, one that positions us to lead in the global clean energy economy. With the right policy signals as a foundation, our country can reap the benefits of a rapid shift to clean electricity as a source of energy across the economy. We’ll see those benefits in new jobs, innovation, business development and export opportunities, while reducing our carbon pollution.

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<sup>1</sup> See IPCC, 2014: Summary for Policymakers. In: Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, 20. [http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc\\_wg3\\_ar5\\_summary-for-policymakers.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_summary-for-policymakers.pdf)

Investments under phase 2 infrastructure funding can play a key role in supporting electrification in Canada.<sup>2</sup> Specifically, we believe that the following categories of eligible investment in the “green” portion of the funding would effectively support electrification:

- **Energy storage:** As we bring more variable sources of power (e.g. wind, solar) onto the grid, investing in technologies to store power so it’s available when needed becomes more and more important. Budget 2016 supported energy storage via an Accelerated Capital Cost Allowance deduction, and increased infrastructure investment would complement that initial (and very welcome) commitment.
- **Electric vehicle charging:** Again building on the government’s Budget 2016 investments, we recommend that Infrastructure Canada funding be eligible to support EV fast-charging infrastructure along highways, at public transit hubs, and in other strategic locations.
- **Community energy efficiency and electrification initiatives:** This category would see federal infrastructure funding support municipal (or province-wide community-scale) energy efficiency and electrification initiatives. Eligible projects could include energy efficiency retrofits in homes and small buildings, home electrification (rooftop solar, home charging for EVs, switching to electric heat pumps), district heating systems, and so on.
- **Electricity system upgrades:** The specific needs vary across the country, but this could include smart meters, grid upgrades, and other components (software, sensors, etc.) to increase system connectivity and optimization.
- **Transmission investment within or between jurisdictions:** The emission-reduction potential of connecting those regions already generating zero-carbon power with those still burning fossil fuels could be very significant. Recommendations for investments of this type may emerge from the assessment of regional electricity cooperation currently being led by Natural Resources Canada. Similarly, support for transmission projects within a single province that enable new zero-emission power to be connected to the grid (i.e. transmission investments that that displace emitting sources of power) should also be eligible investments.
- **Capacity building, data collection and assessment,** particularly for smaller municipalities: We were pleased to see this kind of financing included in Phase 1 of the government’s infrastructure funding, and we would hope to see it continue into the next phase, with a particular emphasis on regional clean energy planning.

In each of these categories, **federal dollars could be used in a variety of ways:** as grants, as loans, in public-private partnerships, or—in the case of community-scale projects—to backstop municipal financing initiatives such as PACE (Property-Assessed Clean Energy) financing through Local Improvement Charges.

## Targeted Support For Clean Energy Deployment

While commercial financial institutions are increasingly willing to provide debt financing to renewable energy developers, **the lack of long-term contracts in some Canadian electricity markets can make project financing difficult for developers.** Thus, we recommend that the federal government consider production incentives or long-term financing options for clean energy deployment where necessary. (For example, while Alberta’s market structure is still being determined, this kind of financing support may ultimately be needed there.) If such support is not an

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<sup>2</sup> For a fuller list of electrification policy recommendations, please see *A Canadian Opportunity: Tackling Climate Change by Switching to Clean Power* at <http://cleanenergycanada.org/work/canadian-opportunity-tackling-climate-change-switching-clean-power/>

eligible use of “traditional” infrastructure dollars, it may be an appropriate role for the proceeds of a green bond issue or other innovative federal financing vehicles.

## LINKS TO OTHER FEDERAL INITIATIVES

While the Government of Canada’s infrastructure funding commitment is substantial, it is also just one of many federal initiatives now underway linked to tackling climate change and seizing the clean energy opportunity. That’s good news, as effective climate action requires a whole-of-government approach.

Thus, as the federal government finalizes its approach to the allocation of Phase 2 infrastructure funding, it will be important to ensure coherence with each of those other efforts. They include:

- The development of a pan-Canadian climate and clean growth plan to meet or beat Canada’s 2030 climate target
- The long-term low-carbon growth strategy Canada committed to publish in 2016 as part of the outcome of the North American Leaders’ Summit in Ottawa in June
- The forthcoming Innovation Agenda
- The regional clean energy cooperation planning funded in Budget 2016 and led by Natural Resources Canada
- The Low-Carbon Economy Fund confirmed in Budget 2016
- The 2016–2019 Federal Sustainable Development Strategy, and
- Efforts to reduce the climate impacts of federal procurement.

## CONCLUSION

Phase 2 of the Government of Canada’s infrastructure investment offers an important opportunity to accelerate Canada’s clean energy transition. While the green and public transit funding should directly contribute to that outcome, we also believe that Canada’s climate commitments should be reflected in all of the federal government’s infrastructure decisions. The “three-screen” approach we propose here would help accomplish this.

Thank you for the opportunity to comment on the Government of Canada’s approach to the second phase of its infrastructure funding. Please don’t hesitate to get in touch if we can be of any assistance as you develop this important policy.

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