

Energy Efficiency: Engine of Economic Growth in Eastern Canada



Talking Points

ENE's report, "Energy Efficiency: Engine of Economic Growth in Eastern Canada," identifies the significant, economy-wide benefits of large-scale investment in energy efficiency. **The results clearly illustrate that investing in efficiency is one of the most effective means of delivering jobs and economic growth widely – across sectors and regions – while savings consumers money and reducing emissions.**

Efficiency programs generate savings for businesses and consumers – including vulnerable populations – by reducing the need to purchase electric supply and fuel. In addition to **lowering energy bills**, efficiency **savings drive new spending and economic activity and significantly increase Gross Domestic Product (GDP), household income, and job creation.**

Energy efficiency programs **generate savings and economic benefits for all customers and segments of the economy.** In other words, while participants benefit directly from efficiency programs, the economic and environmental benefits also extend to non-participants in the broader community.

Energy efficiency is an abundant, low-cost energy resource that benefits all provinces, cities, and towns – **an undeniable pan-Canadian energy resource.** Energy efficiency must be a **central element in strategies** to achieve the low-cost, low carbon, sustainably competitive economy of the future.

Results of the Study

Other assessments of energy efficiency programs show large direct savings to consumers and growth in energy service jobs. By taking the analysis to the next level and looking at the broader, macroeconomic impacts of those savings, **ENE's study shows that the benefits are significantly larger than commonly recognized** even by program administrators and proponents.

The study assessed a total of 60 scenarios and in all cases, increased investment in energy efficiency results in significant net positive increases in GDP and employment. For one representative set of scenarios (all four provinces and three fuel types at a "**mid-range**" efficiency investment level):

- Total program spending over the 15-year period would equal \$14.5 billion, **increasing GDP by approximately \$84.0 billion** over the study period (2012-2040).
- The increase would **create over 625,000 job-years (one full-time job for one year), or on average over 22,300 jobs per year.**
- The **increase in GDP per program dollar invested ranges from \$4 to \$8** depending on the province, representing significant expanded economic activity and benefits.
- **Peak annual avoided GHG emissions** are projected to rise to 9,170 kilotonnes of carbon dioxide equivalent (kt CO₂e) for electricity, 1,990 kt CO₂e for natural gas, and 6,400 kt CO₂e for liquid fossil fuels; equal to 14% of total regional emissions in 2010. Lifetime emissions benefits under the scenario total 212.4 million tonnes of CO₂e.
- **Total lifetime energy savings for 15 years of programs** for Eastern Canada would be 448,300 GWh for electricity, 18,900 million m³ for natural gas, and 1,560 PJ for liquid fossil fuels; or over \$60 billion in avoided energy costs.
- The results of the tax revenue impact assessment indicate that **the significant increase in economic activity generates additional tax revenue that would more than compensate** for the direct loss of provincial and federal sales tax collections from reduced fuel sales.

The results underscore the **critical importance of looking at energy efficiency as a resource and having adequately funded and sustained efficiency initiatives at the provincial, regional, and national levels.** Programs and incentives are essential to overcome market barriers so that the full potential of energy efficiency can be achieved as an alternative to more expensive and more polluting supply-side options.

About the Study

The goal of the analysis is to understand the overall macroeconomic benefits – economic output including GDP and jobs – of expanded efficiency programs. The study also provides a high-level assessment of the impact on government revenues from investing in efficiency.

The study models increased investment in energy efficiency to approximately capture all cost-effective energy efficiency (efficiency that is lower cost than supplying additional energy) in **four Eastern Canadian provinces** (Quebec, New Brunswick, Nova Scotia, and PEI) for **3 energy types** (electricity, natural gas, and liquid fossil fuels – oil, propane, and kerosene) with investments sustained over a **15-year period.**

Efficiency programs like the ones modeled in ENE’s report help customers make efficiency upgrades such as installation of high efficiency appliances and lighting, improved building insulation, testing and sealing air ducts, and high-performance boilers and water heaters.

Three efficiency investment levels for each expanded efficiency scenario were modeled – “Business As Usual +”, “Mid”, and “High.” **The result is a range of economic benefits and indicators that can be applied to generate more targeted estimates of the economic benefits for a chosen provincial plan.** All the investment scenarios modeled are cost-effectiveness based on three common industry tests (Total Resource Cost Test, Program Administrator Cost Test, and Participant Cost Test).

The macroeconomic benefits of efficiency derive from changes in the economy that occur as a result of increased spending on efficiency measures and decreased spending on energy from 2012 to 2040. The majority of these impacts (75-95%) result from the energy savings realized by households and business. **Lower energy costs cause other forms of consumer spending to increase, for example renovations, dining out, and travel. Lower energy bills reduce the costs of doing business in the region, bolstering the global competitiveness of local employers and promoting additional growth.**

ENE collaborated with Dunsky Energy Consulting to develop the modelling assumptions and inputs, and Economic Development Research Group, who ran the economic model used for the study – the Regional Economic Model, Inc. (REMI). The assumptions and results were vetted by a project Steering Committee and an Advisory Board of provincial and federal government representatives, industry professionals, efficiency program administrators, and other experienced in the field and region.

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Contact: Leslie Malone, Canada Program Director
356 MacLaren Street, Ottawa, ON, K2P 0M6 | 613-667-3102 | lmalone@env-ne.org
Rockport, ME / Boston, MA / Providence, RI / Hartford, CT / Ottawa, ON, Canada
www.env-ne.org / Daniel L. Sosland, Executive Director

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