CLEAN ENERGY CANADA

Efficiency Canada

# Less is *More*

## A win for the economy, jobs, consumers, and our climate: energy efficiency is Canada's unsung hero

May 2018

# An Efficient Solution, Indeed

A win for our economy, consumers, and the climate?

It may sound like an elusive unicorn, but energy efficiency checks all of the above. While underreported, measures to help homes, small businesses, and industry save on energy are a win-win for Canada—**good for the climate and Canadian competitiveness.**

The federal government's Pan-Canadian Framework on Clean Growth and Climate Change has introduced a number of such measures as a way to cut carbon pollution and help Canada meet its Paris Agreement targets. These include improved building codes and energy labelling for buildings, so people can better understand the energy performance of their homes and businesses.

But what does a more efficient future mean for Canadians?

Clean Energy Canada and Efficiency Canada hired Dunsky Energy Consulting to model the net economic impacts of energy efficiency measures in the pan-Canadian framework. They also modelled what the impacts would be if we went a step further, implementing the most ambitious efficiency goals found in jurisdictions across North America.

Here's what they found.

**Canada's GDP would get a 1% boost** over the next 14 years thanks to energy efficiency measures in the pan-Canadian framework. This growth comes from spending on upgrades but, mostly, it comes from all the money households and businesses will save on energy over time—money that's then reinvested in the local economy.

**Households can expect to save $114 a year** on average. What's more, our model suggests that an average of **118,000 annual jobs would be created between now and 2030**, due to economic activity associated with energy efficiency.

As for the climate, the current measures will help Canada cut **one-quarter of the carbon pollution required to meet our international commitments.** That's big. Though as a recent report from provincial and federal auditors general revealed, more will need to be done than is currently planned if Canada is to hit its 2030 climate target. One solution? Even stronger energy efficiency measures.

The benefits of energy efficiency are already being realized in provinces across the country. Take Nova Scotia. Through a number of programs introduced a decade ago, the province has reduced its energy consumption by 10%, helping Nova Scotians save $166 million annually while cutting 840,000 tonnes of carbon pollution every year.

Energy efficiency may not draw as much attention as other policy solutions, but make no mistake: it's one of the most important—and certainly most cost-effective—ways to upgrade Canada for the future.

And by and large, **Canadians like energy efficiency.** Recent public opinion research from Environics Research[1] found that 88% of Canadians were interested in buying more efficient appliances, 79% in upgrading their homes to save energy, and 78% in switching to more efficient heating and cooling systems.

No matter how you slice it, the numbers tell the same story: energy efficiency just makes sense. And as the research shows, more of a good thing would equal an even better outcome for Canadians.

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**Less is More: A win for the economy, jobs, consumers, and our climate: energy efficiency is Canada's unsung hero**

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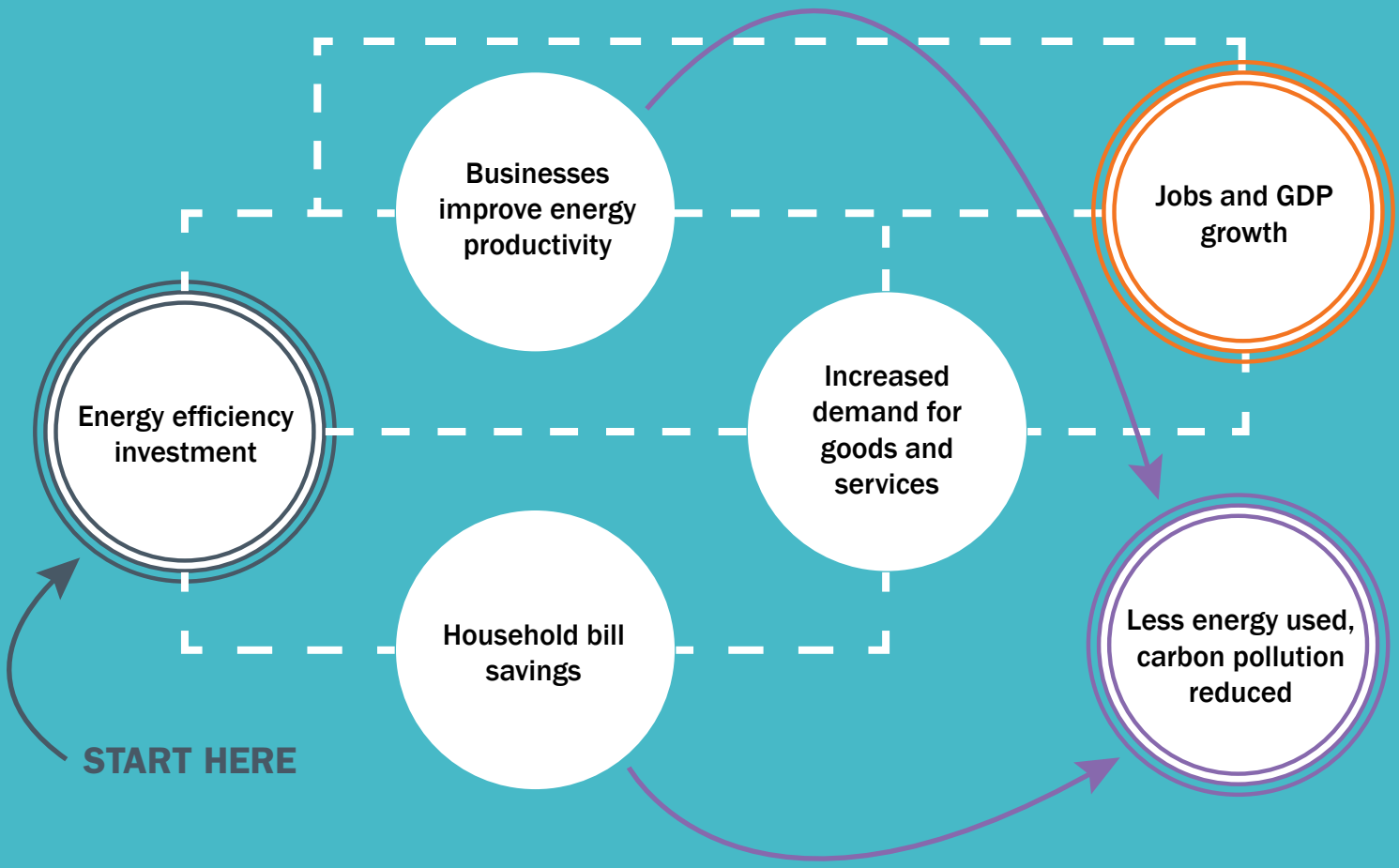


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## TWO SCENARIOS

### Pan-Canadian framework

Unveiled in 2016, the Pan-Canadian Framework on Clean Growth and Climate Change encapsulates a suite of policies aimed to cut carbon pollution and help Canada meet its Paris Agreement targets. Among other initiatives, the pan-Canadian framework includes specific measures to improve energy efficiency in homes, buildings, and industry.

### Plus scenario

We also modelled a second policy scenario that includes not only everything in the pan-Canadian framework but also "best-in-class" efficiency efforts for each fuel type. "Best-in-class" was determined by the highest levels of energy savings seen in North America as a result of energy efficiency actions.

[1] Environics Research and Natural Resources Canada. *Public Opinion Research on Natural Resource Issues 2017*. July 2017.

# Canadians Save

**WE LOOKED OUT** to 2045 in order to fully capture consumer savings, which add up over the lifetime of energy efficiency upgrades. Those savings are based solely on measures implemented between 2017 and 2030—actual savings out to 2045 could be even greater with additional energy efficiency policies introduced after 2030.

## HOW MUCH DO WE SAVE?

(Average yearly savings, 2017-2045)

### HOUSEHOLDS

Pan-Canadian framework: **$114** per household (**$1.4 billion** across Canada)
Plus scenario: **$151** per household (**$1.8 billion** across Canada)

### COMMERCIAL AND INDUSTRIAL

Pan-Canadian framework: **$3.2 billion** across Canada
Plus scenario: **$4.9 billion** across Canada

## SPOTLIGHT
## ASHLEY DUNCAN
## B.C. INSULATORS UNION, LOCAL 118

"I started insulating eight years ago when my dad was working with the company I'm with now. I love my work. I help build the infrastructure that delivers affordable housing to seniors, education to children, and care to those who are ill, all while making buildings more sustainable. There is nothing more rewarding than knowing what you do makes a difference."

# The Economic Impact

**ENERGY EFFICIENCY** is the ultimate win-win, saving energy while growing Canada's economy.

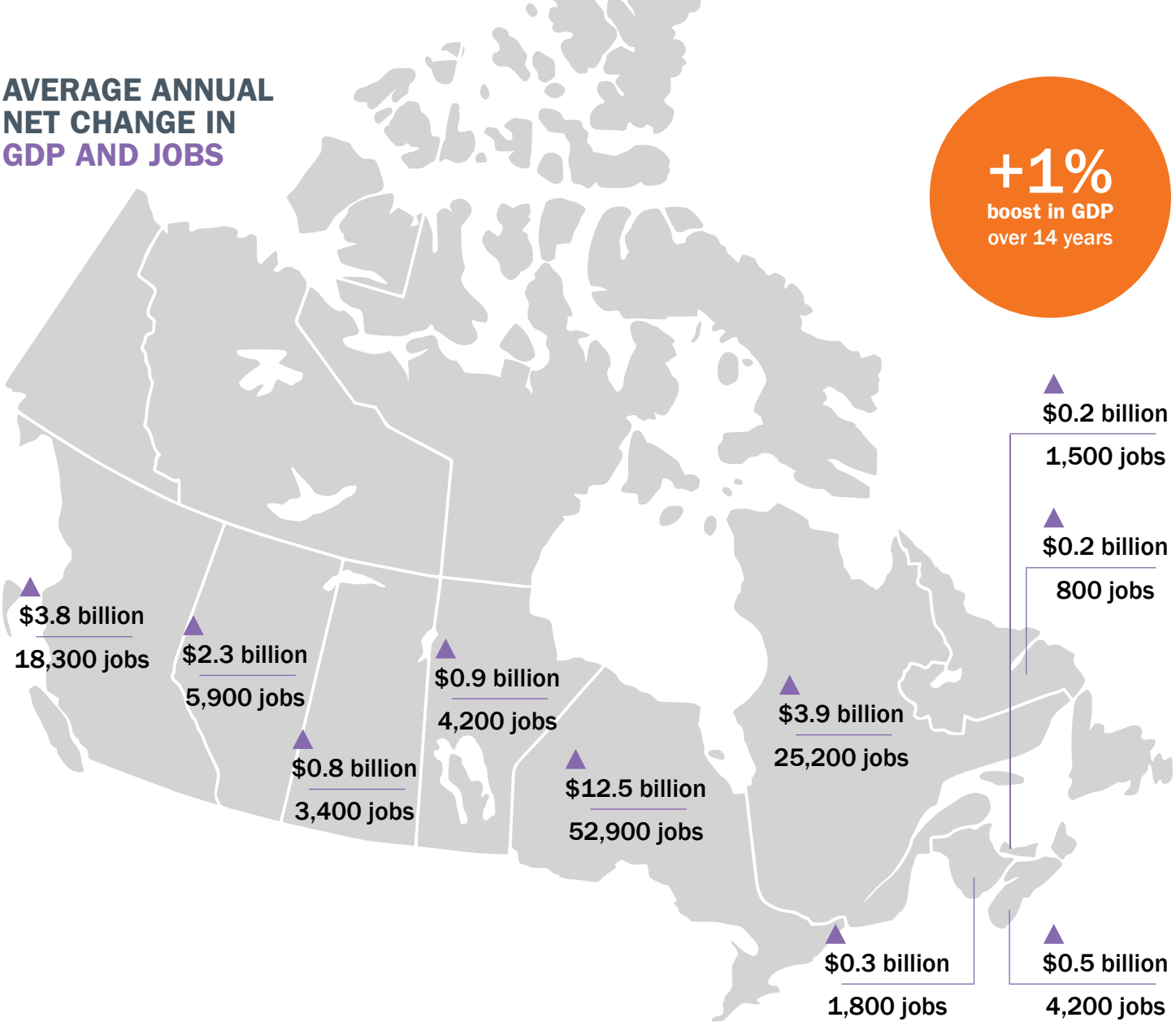
Between 2017 and 2030, Canada's GDP will see a net increase of $356 billion thanks to energy efficiency measures in the pan-Canadian framework. This growth comes from spending on upgrades but, mostly, it comes from all the money businesses and households will save on energy bills over time. This improves business productivity and competitiveness and reduces the cost of living for Canadians. These savings are then spent in the local economy, resulting in an even greater economic impact.

If you think of it like an investment, the returns are impressive. Under the pan-Canadian framework, **every $1 spent on energy efficiency programs generates $7 of GDP.** That ratio is lower under the Plus scenario because of the higher program costs associated with deeper retrofits,

## METHODOLOGY

Dunsky Energy Consulting worked with the Centre for Spatial Economics to produce a technical report on the macroeconomic effects of energy efficiency. The Centre for Spatial Economics' model is holistic, considering the positive and negative effects of a policy's implementation to provide a net impact. It considers how multiple industries are affected and how that, in turn, impacts Canada's GDP and employment levels—both in the immediate and, in this case, until 2030.

## AVERAGE ANNUAL NET CHANGE IN GDP AND JOBS




but make no mistake: additional GDP gains more than justify those costs (see chart to the right). Bigger, in short, is still better. And in both cases, the measures are proven ones, with demonstrated cost-effectiveness in leading provinces and states, such as Massachusetts and Minnesota.

As the economy grows, jobs would follow. Construction workers will gain work improving insulation, builders designing net-zero homes, and businesses selling efficiency equipment. Early on, many of these jobs will be in construction, manufacturing, and retail/wholesale trade. But as savings add up, we see increased demand for local goods and services, which drives economic output and jobs. In short, jobs grow alongside energy savings. Our model suggests that **an average of 118,000 annual jobs would be created** between now and 2030.

## HOW MUCH DO WE GROW?

(Net GDP impacts for Canada from energy efficiency investments in 2017 to 2030)

| | PAN-CANADIAN FRAMEWORK | PLUS SCENARIO |
|---|---|---|
| GDP growth per $1 of program spending | **$7** | **$4** |
| Total program costs | **$48 billion** | **$149 billion** |
| Total net impact in GDP | **$356 billion** | **$595 billion** |

# The Climate Benefit

**ENVIRONMENT AND CLIMATE CHANGE CANADA** has some heavy lifting to do as Canada aims to hit its 2030 climate target. And as a recent report from provincial and federal auditors general revealed, more will need to be done than is currently planned. Based on December 2017 emissions projections, policies in the pan-Canadian framework specifically will need to cut carbon pollution by 205 million tonnes.

Energy efficiency can account for a sizeable chunk of that. Under the pan-Canadian framework, **energy efficiency measures are expected to cut carbon pollution by an impressive 52 million tonnes** by 2030, as they help reduce the consumption of electricity, natural gas, and refined petroleum products like heating oil. **That's one-quarter of Canada's Paris climate commitment.**

But those reductions could be even greater. Under our Plus scenario, energy efficiency could cut an estimated 79 million tonnes of carbon pollution by 2030—or nearly 40% of Canada's Paris climate commitment.

## SPOTLIGHT
## NOVA SCOTIA

Nova Scotia launched a number of energy efficiency programs in 2008 and created Canada's first energy efficiency utility in 2010, Efficiency Nova Scotia. The province has since reduced its energy consumption by 10%, helping Nova Scotians save $166 million annually while cutting 840,000 tonnes of carbon pollution every year.[2]

[2] Provided by Efficiency Nova Scotia

“As Canada works to cut carbon pollution out to 2030 and beyond, it’s clear that energy efficiency can help keep us on track, while enhancing our economy, creating jobs, and leaving money in consumers’ wallets.”

# Energy Efficiency Works

**OVER THE COMING MONTHS**, we will be working with federal, provincial, and territorial stakeholders to implement the pan-Canadian framework’s five key efficiency measures, which require participants to:

- adopt a net-zero energy ready model building code by 2030,
- develop a model code for existing residential and commercial buildings by 2022,
- set new standards for appliances, heating equipment, and other key technologies,
- collaborate with Indigenous communities to incorporate energy efficiency into their building renovation programs,
- and improve industrial energy efficiency through the adoption of energy management systems.

And yet, as the research shows, there’s even more we can do to make Canada an efficient country. We look forward to working with provinces and territories on these additional best practices, as well.

As Canada works to cut carbon pollution out to 2030 and beyond, it’s clear that energy efficiency can help keep us on track, while enhancing our economy, creating jobs, and leaving money in consumers’ wallets. While more will need to be done to hit our targets and minimize the costs of climate change, energy efficiency is an optimal solution. So optimal, in fact, that we should consider expanding our efforts—while reaping the rewards that come with them.

Wants more details? **Read the full technical report here.**

**RESIDENTS OF HAYDEN**, an energy-efficient townhouse development in Vancouver, could see energy bill savings of up to 50%, says developer InHaus.

Efficiency Canada

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