

# Building an Ontario Green Jobs Strategy

**Ensuring the Climate Change Action  
Plan Creates Good Jobs Where  
They Are Needed Most**



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Cover Photo Credit: Green Energy Futures - David Dodge

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The **CLEAN ECONOMY ALLIANCE** (CEA) is a group of over 100 organizations representing a broad cross-section of Ontarians that was formed in 2015 to support Ontario's leadership in addressing the crucial issue of climate change. The CEA includes prominent Ontario businesses, industry associations, labour unions, farmers' groups, health advocates, and environmental organizations. Its members recognize that reducing greenhouse gas emissions will bring many benefits, including cleaner air, improved public health, and more jobs and business opportunities in the clean economy.

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# Executive Summary

Ontario's plan to fight climate change includes making investments and taking action in many areas that will lead to the creation of new green jobs in manufacturing, construction and trades. To maximize this benefit, these new green jobs must also be good jobs that provide decent livelihoods, and the jobs need to go to those who need them most. This report is offered to help start a conversation about how Ontario's Climate Change Action Plan can also be a good green jobs plan, and offers recommendations about how to make this vision a reality.

Ontario's Climate Change Action Plan, released in the summer of 2016, outlines dozens of actions that the province intends to pursue to reduce carbon emissions and transition the province to a clean economy. A significant number of those actions are aimed at reducing emissions from buildings – the third largest source of Greenhouse Gas (GHG) emissions in Ontario, at 33 megatonnes (MT) per year.

To help reduce these polluting emissions, Ontario is making changes to the building code. Newer buildings will have to be much more energy efficient, and buildings built after 2030 will need to be carbon neutral. But, given the long lifetime of buildings, it's crucial to retrofit existing buildings to reduce their emissions, both by dramatically increasing their efficiency and by phasing out the use of fossil fuels for heating.

The job creation potential of building retrofits is well established. Retrofits create jobs by increasing demand for new low- and no-carbon technologies, thus increasing jobs in manufacturing and distribution of goods. And they generate a demand for workers who can perform upgrades to buildings such as caulking windows, adding insulation, or replacing gas furnaces with heat pumps.

In addition, energy efficiency leads to positive economy-wide impacts on employment because it reduces energy waste, and frees up money that was once spent on energy to be spent on other things that people want and need, thus creating jobs across

the economy. For Ontario, where heating fuels like natural gas are imported from other jurisdictions, energy efficiency and fuel switching to electricity have the added benefit of keeping more money in the province.

**Rough calculations show that Ontario's investment of \$1.91 billion to \$2.73 billion in retooling buildings, as outlined in the Climate Change Action Plan, could create between 24,500 to 32,900 green jobs over the five-year funding plan. In addition, a further 16,800 to 24,000 jobs could be created from the reinvestments of energy cost savings into the economy.**

Most of the jobs from building retrofits will be local to where the buildings are. But there are no guarantees that these jobs will be good jobs, or that Ontario's efforts to improve buildings will provide pathways to decent careers for people who face barriers to employment or are otherwise disadvantaged and need decent jobs the most.

Ontario can, and should, develop a plan to ensure that the province's efforts to cut carbon create good green jobs for those who will most benefit from them. Indeed, the Climate Change Action Plan already expresses the need for job training and for a just transition for workers to jobs specific to the low-carbon economy. It has even set aside some money for workforce training and skills development. But it is not a given that the Plan will create good green jobs. To do so, the province will need to make it an explicit goal.

There is increasing demand to ensure that infrastructure projects are executed in a way that ensures they provide employment and career opportunities for impacted communities, individuals who face barriers to employment, or those who may be impacted by the transition to a low-carbon economy.

A good example of this can be seen in Ontario's Big Move transit plan with construction of the Eglinton Crosstown LRT. This project incorporates a Community Benefits Agreement designed to ensure this investment in public transit also brings extensive social and economic benefits, including fair wage jobs, to the immediate neighbourhood and to those who live there.

Another possible approach to ensuring that these types of investments lead to good jobs is known as a High Road Agreement, where contractors are assessed against an established set of sustainable contracting standards and community benefits. High Road Agreements may be well suited for scenarios such as building energy retrofit programs that have no single end-user, developer, or site. The province should investigate these types of agreements, and work to incorporate them or something similar into Ontario's building retrofit programs.

Ontario should also conduct research to identify the workforce implications from the transition to a low-carbon economy, to make sure that today's

workers find a place in tomorrow's workforce. The province should maximize the use of existing assets, including training facilities, and should adopt high standards for energy efficiency and workforce certification programs, and require building retrofits and home energy improvements be done by properly licensed professionals. This will both ensure that building retrofits and fuel switching will deliver the energy and financial savings as intended, and that workers are being paid fair wages for their labour. The province also needs to plan for the long term and ensure that programs created today persist well into the future.

**Ontario's Climate Change Action Plan has the potential to deliver deep cuts to greenhouse gas emissions. It also has the potential to create tens of thousands of good green jobs.**

This report makes the following recommendations to help ensure that both of these possibilities are realized.

## SUMMARY OF RECOMMENDATIONS

### **Conduct a high-carbon jobs census and low-carbon skills survey**

Ontario should take extra steps to identify and inventory positions in carbon-intensive industries that may be vulnerable to the transition to a low-carbon economy, by sector and region. As well, the province should gain a detailed understanding of the skills that will be needed to do the work to transition Ontario's built environment to be much lower emitting and to move toward carbon neutrality. Once equipped with this data, government will be in a better position to engage with workers and allocate retraining and transition resources so that climate-policy-impacted workers have first access to new job opportunities. It will also allow the government to better understand any skills gaps and labour shortages that may arise as a result of the transition.

### **Make use of existing training programs and facilities**

Wherever possible, the province should use existing programs and facilities developed to recruit and train the workers that will be employed in retrofitting Ontario's buildings. Across Ontario, and especially in the Greater Toronto Area, a number of training centres teach apprentices and help journeypersons upgrade their skills. Such programs should be scaled up or reworked as necessary to ensure that the needed skills and workers are on hand when the province ramps up building retrofit programs and other initiatives creating low-carbon jobs that require expertise in low-carbon solutions deployment.

## Push for rigorous standards

Ontario must embrace the most rigorous energy efficiency standards and regulations available, as quickly as possible. Further, while the government should use proven tools and standards, it should also feel emboldened to take calculated risks on emerging technologies.

## Design programs to stand the test of time

It will take decades to fully transition Ontario's economy and retrofit and upgrade millions of buildings to phase out fossil fuel use—work that will encompass numerous terms of government. For this reason, the Ontario government and the forthcoming Ontario Climate Change Solutions Deployment Corporation should take special care to “future-proof” its delivery programs, so that they are less vulnerable to cancellation by future governments, and provide sustained employment.

## Pilot a Canadian Building Performance Institute

The successful retrofit program managed by Efficiency Vermont, which the government cites as a model in the Climate Change Action Plan, requires all contractors delivering home performance improvements under the umbrella of its programs be

certified by the Building Performance Institute. The national non-profit organization oversees rigorous credentialing, quality assurance, and standards setting programs for home performance professionals. Ontario's Climate Change Solutions Deployment Corporation should consider establishing a similar institution and requiring similar certification standards for program delivery. Such a standard would ensure that workers have the requisite training, and that the promised emissions reductions from their work would be achieved.

## Consider an Energy Efficiency Portfolio Standard

Ontario should legislate an energy efficiency standard to put regulatory teeth behind conservation programs already managed by the province's electricity and gas utilities. The province should also compel utilities to reduce their electricity and natural gas demand by a specified quantity and timeline. Such a standard or target was contemplated in the government's discussion paper for the review of the Long-Term Energy Plan. An Energy Efficiency Portfolio Standard would help ensure sustained employment in the building performance sector over the coming decades, as efficiency and renewable energy investments gradually reduce the need for fossil fuels.



Photo Credit: Green Energy Futures - David Dodge

## Investigate support for domestic industries

The Climate Change Action Plan should investigate ways to support domestic industries' participation in the transition to a low-carbon economy. The World Trade Organization challenge of the *Green Energy and Green Economy Act's* local-content requirements highlighted the difficulty of coupling renewable-energy incentives with job creation and direct economic stimulation measures. However, there are other ways to ensure that climate efforts support local industries. One such mechanism is a Sustainable Energy Trade Agreement, or SETA.<sup>1</sup>

## Work to implement carbon border adjustments

Many of Ontario's highest carbon emitters are also trade exposed – meaning they compete with imports from other jurisdictions. If Ontario's Climate Change Action Plan is going to lead to job creation, it is important that Ontario industries not be disadvantaged on the global market as a result of Ontario's carbon price. In order to protect jobs in Ontario and address climate change, the province should create an even playing field by imposing a price on carbon at the border.

Ontario can work to ensure that the transition to a low-carbon economy is a just transition for workers and that the low-carbon economy is an inclusive economy that supports domestic industries and workers in good green jobs. These recommendations and this report are meant to spur a conversation about

the need for that to happen, and to kick-start Ontario's action in that direction. This report is offered as a foundational step towards a broader conversation on a prospective Ontario Green Jobs Strategy.



Photo Credit: Silfab Solar

# BACKGROUND: Ontario Steps Up

This past June, Ontario released its Climate Change Action Plan. The document outlines how the government intends to meet its targets to reduce carbon emissions 15 per cent below 1990 levels by the end of 2020, 37 per cent by the end of 2030, and 80 per cent by 2050.

The plan maps a five-year effort to reduce greenhouse gas pollution and transform Ontario's economy to support clean growth and low-carbon prosperity. It outlines how the government plans to implement an array of carbon-cutting programs, initiatives, and commitments that touch almost every sector. They include reform of fossil fuel subsidies, solar power and electric vehicle incentives, investments in the clean-tech sector, a Centre for Low-Carbon Mobility, a low-carbon fuel standard, substantial support for renewable liquid fuels, and expanded sustainable transportation networks.

Ontario's Climate Change Action Plan allocates funding for the programs it describes — money that government will source from the anticipated revenue of its cap-and-trade carbon pricing system. Many of these funding commitments focus on reducing emissions from buildings, by making the province's existing buildings more energy efficient, with the aim to ultimately phase out the use of natural gas for space heating, to be replaced by clean, low-carbon, renewable electricity.

The plan allocates between \$1.91 billion and \$2.73 billion over five years to upgrade and replace heating, cooling, and ventilation equipment, swap out natural gas furnaces and boilers with clean-energy alternatives, and tighten building envelopes for apartments, homes, hospitals, schools, and more. It also supports worker training, retraining, and upskilling to the tune of \$45 to \$70 million.

Put simply, in the coming years and decades, the province intends to make high-efficiency and low-carbon heating, cooling, and water-heating systems, high-performance windows, rooftop solar

panels, and similar low-carbon technologies the new normal across Ontario's 5.3 million or so homes.<sup>2</sup> It will also invest in worker training and retraining so that qualified, certified technicians and installers specify and install needed equipment and insulation to ensure they perform to their highest potential.

**Ontario's investment in retrofitting buildings will reduce carbon emissions and create thousands of green jobs. In fact, a rough calculation suggests that the investments in buildings in the Climate Change Action Plan would lead to between 25,000 and 57,000 jobs when the economy-wide impacts of increased efficiency are included.**

The point of this report is to draw attention to the need for a strategy to ensure that these green jobs are also good jobs that provide decent livelihoods, and that these jobs go to those who need them most.

The Climate Change Action Plan, and the commitments within, presents an important opportunity to address environmental challenges while creating and maintaining quality jobs and building a stronger, and more inclusive economy. The provincial government has made a significant commitment to addressing the nitty-gritty of on-the-ground climate solutions and the workforce needed to put them in place. Critically, the plan includes specific language addressing the need for a just transition. (See Worker Agreements: Contracts to Secure Good Green Jobs on page 18).

An opportunity now exists to make sure that the Climate Change Action Plan is a good green jobs plan. This report offers recommendations on approaches to ensure that the green jobs that are coming to Ontario go to those who need them most. This report is offered as a preliminary step towards a broader conversation on a prospective Ontario Green Jobs Strategy.

## THE CAULKING GUN ARMY: DEFINING THE CARBON REDUCTION SERVICES SECTOR

The term “green jobs” is broad and inherently difficult to define, yet the work it characterises touches almost every industry sector and job classification — from labourer to electrical engineer, from electric vehicle assembler to wind-turbine mechanic. The Green Bank of New York provides an example of how Ontario can define the types of jobs its Climate Change Action Plan would yield.

In this report, we focus on jobs that deliver an emissions reduction service that involves modifying a building, based on recommendations contained in an energy audit that will increase the energy efficiency of and reduce emissions from a building.<sup>3</sup> This could include:

- Application of weatherstripping, caulking, sealant and other materials around doors, windows, and other areas of a building for the purpose of insulating or sealing openings in the building envelope and within the building to mitigate energy loss;
  - Testing, repairing and replacing heating or cooling systems or components of such systems;
  - Thermostat upgrades;
  - Water heater repair and replacement, or specification and installation of thermal solar heat or hot water systems;
  - Roof, chimney, fireplace and roof vent repair, insofar as such repairs are determined by an energy audit to be necessary to mitigate energy loss or resolve energy-system related health and safety issues;
  - Repair and replacement of storm windows, permanent windows and exterior doors;
  - Repair or replacement of major HVAC systems; including a move to geo-exchange or air-source heat pumps,
- Addition of insulation to exterior walls, ceilings, and/or crawlspaces;
  - Replacement of lighting fixtures and systems;
  - Minor repairs that are necessary to ensure maximum efficiency from the provision of qualified energy efficiency services; and
  - Installation of energy-generation technologies such as rooftop solar arrays eligible for net energy metering.

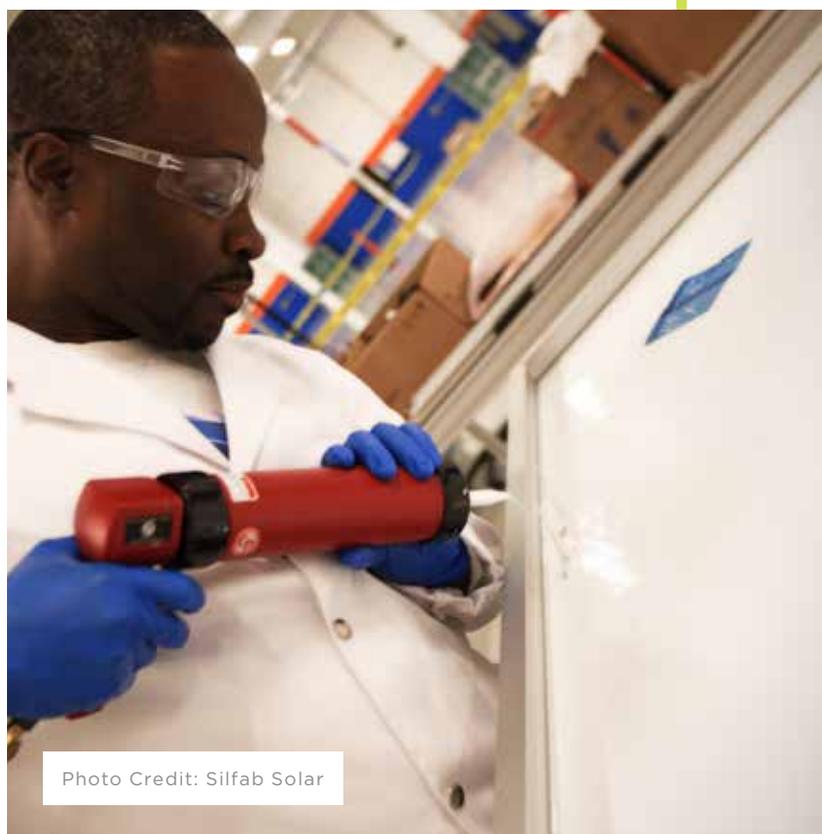


Photo Credit: Silfab Solar

# THE CLIMATE CASE FOR Retrofits, Tightened Codes, and Stronger Standards

While the Climate Change Action Plan's intended climate actions encompass transportation, industry, and energy supply, the province has allocated a sizeable portion (roughly 28 per cent to 31 per cent) of its budget to programs and actions that will reduce fossil fuel use in buildings. While we recognize the extensive green job-creation opportunities in transportation and power generation, we have chosen to largely limit the scope of this report to the jobs that will be created by retrofitting buildings.

**At 33 megatonnes (MT) per year, buildings are the third largest source of Greenhouse Gas (GHG) emissions in Ontario.**

The emissions from buildings are largely the result of using natural gas, oil and propane for space and water heating, coupled with a lack of efficiency in many buildings so that they consume more energy than necessary. The province of Ontario is currently reviewing the Building Code and is expected to make changes to ensure that, in the future, buildings will be more efficient and have dramatically lower emissions profiles. In the Climate Change Action Plan, Ontario committed to updating the Building Code to ensure that small buildings will have net-zero carbon emissions by 2030 at the latest.

However, changes to the Building Code will only impact new buildings or buildings undergoing significant renovations. Given the long lifetimes of buildings, the province must also tackle reducing emissions from existing buildings. This can be accomplished by undertaking a variety of improvements or “retrofits” to stop drafts, add insulation, and install highly efficient and low-carbon or non-emitting appliances

**In addition to the environmental benefits, retrofitting Ontario's existing buildings to make them more energy efficient and to ultimately phase out the use of fossil fuels for home heating will be labour intensive and will have significant positive employment impacts.**

Efficiency retrofits will also save money for the province and for homeowners. The Environmental Commissioner noted that if all of the province's so-called broader public sector facilities — including municipalities, hospitals, universities, colleges and schools — were retrofitted to perform in the top quarter of their building type, taxpayers could save \$450 million and Ontario would slash one MT of carbon emissions off the books every year.<sup>4</sup> The Climate Change Action Plan specifically targets these facilities.

Along with increasing energy efficiency, the province plans to gradually replace natural gas furnaces in buildings to further reduce carbon emissions.<sup>5</sup> Thanks to its coal phase-out, Ontario has come a long way to reduce emissions from the province's electricity grid. Thus, as gas furnaces are replaced with cleaner and highly efficient alternatives such as air-source or ground-source heat pumps (geothermal units), clean electricity will power these alternatives making such buildings close to net-zero carbon emissions.

With the Climate Change Action Plan, the province has followed through on its commitment to make retrofits and fuel switching in buildings a pillar of its efforts to meet its climate targets. Along the way, it is also tapping into a potent green job-creation engine.

## ENSURING THE JOB IS DONE RIGHT, EVERY TIME

In the United States, if you're a building contractor interested in joining the growing home-performance market — the national green workforce of those who evaluate homes, recommend and implement improvements to make them more efficient and livable, then the Building Performance Institute (bpi.org) is your first stop.

Based in Malta, New York, the independent non-profit organization oversees credentialing, quality assurance, and standards setting programs for home performance professionals across the United States. A BPI credential is a prerequisite for contractors who wish to deliver services within more than 110 local, state, and utility retrofit incentive programs around that country.

Though various Canadian regional institutes of technology are introducing High Performance Building Labs in an effort to set standards, no BPI-style organization or certification program

yet exists in Canada. As the province with the largest proportion of the nation's homes (36 per cent), that is now poised to lead the nation in its forthcoming push to retrofit existing homes, an opportunity may exist to create an Ontario pilot of a Canadian Building Performance Institute.

The characteristics of such an institute fall beyond the scope of this paper, but the BPI provides a helpful template for how the model might work on this side of the border. It could provide a level of certainty and oversight, and corresponding homeowner confidence, for what will only become a larger market and opportunity as federal and provincial policies inevitably target reducing carbon emissions across Canada's cities and communities.



Photo Credit: Green Energy Futures - David Dodge

# THE ECONOMIC AND JOB CREATION CASE FOR Energy Efficiency and Fuel Switching

Efficiency investments not only benefit our climate; they also grow the economy while creating jobs. That’s because the actions taken to reduce energy demand — such as manufacturing and installing windows, installing rooftop solar-thermal hot water systems and so on — are inherently labour-intensive. They are also geographically widely dispersed.

A 2014 Dunsky and Associates macroeconomic analysis examined the impact of Canadian efficiency policies on Gross Domestic Product (GDP) and job creation, both nationally and within provinces.<sup>6</sup> The firm examined the macroeconomic impact of a “good” and “best-in-class” suite of energy efficiency policies across a 15-year study period.

The researchers concluded that either scenario would lead to a net increase in national GDP—energy efficiency programs would contribute either \$230 billion or \$580 billion into the economy between 2012

and 2040. Every dollar spent on energy efficiency programs in Canada yields a GDP increase of between \$5 and \$8, the study found.

Efficiency investments also produced a total net increase in national employment of one and half million to four million job years.

**Every \$1 million invested in efficiency programs generates 30 to 52 job-years.<sup>7</sup>**

Nationwide, the peak annual increase in GDP would be \$19 billion to \$48 billion, while the maximum annual job increase would be 121,000 to 304,000 new full time positions, the research found.

The Dunsky study also looked at Ontario-specific examples. We reproduce the results in Table 1, below.

**TABLE 1:  
IMPACT OF ENERGY EFFICIENCY INVESTMENTS ON GDP AND JOB CREATION IN ONTARIO**

	“Strong” policy package	“Best in class” policy package
Program Costs Average, all fuels combined	\$1.834 billion per year	\$3.387 billion per year
<b>GDP</b>		
Total impact (in 2012 dollars)	+\$111.7 billion	+173.6 billion
Maximum annual impact	+9.4 billion per year	+14.4 billion per year
<b>Jobs</b>		
Total lifetime (job-years)	+801,000	+1,257,000
Maximum annual (Full Time Equivalent)	+52,800 jobs	+87,300 jobs

The study included transportation fuels, which fall outside this scope of this report's enquiry. But the overall message remains clear: Energy efficiency investments shift spending patterns within an economy to stimulate a net increase in employment. They do so in two distinct green job-creation "waves."

First, efficiency upgrades or infrastructure investments create jobs as the projects are implemented — literally the positions in construction, repair, equipment-replacement, and so on. Secondly, these investments quickly reduce energy costs, which circulate more money previously spent on fuel into the broader economy. This creates even more jobs.

The Dunsky Report findings align with those of *More Jobs, Less Pollution*, a 2013 Blue Green Canada report. That report modeled the impact of cutting electricity and natural gas use by 25 per cent by 2025.

The researchers found that such a move would:

- Create more than 25,000 net new jobs in the province
- Reduce Ontario's global warming emissions in 2025 by nine per cent
- Boost Ontario's GDP by \$3.7 billion
- Cut the federal deficit by \$1 billion and cut Ontario's by \$982 million

Along with renewable energy solutions such as geothermal, geo-exchange, and rooftop solar, energy efficiency retrofits are, quite literally, a win-win.

## HOW MANY GREEN JOBS?

The Climate Change Action Plan's intended investment of between \$1.91 billion and \$2.73 billion in the Buildings and Homes action area creates a significant opportunity to create good green jobs for Ontario's workers.

To provide an illustration of the level of job creation possible from this investment, we have calculated the job creation potential using the job multipliers from *Analysis of Job Creation and Energy Costs Savings*<sup>8</sup> a report by the Institute for Market Transformation and the Political Research Institute. The job calculations are derived from an input-output model that observes relationships between different industries in the production of goods and services. These data were not derived from Ontario specific information and are meant to provide an illustration of the level of green job creation that is possible from investments committed to in the Climate Change Action Plan.

Using job multipliers appropriate to each funding area, including capital upgrades, commercial building capital upgrades, and operational improvements, our calculations show Ontario could create between 24,500 to 32,900 green jobs over the five-year funding plan. In addition, a further 16,800 to 24,000 jobs could be created from the reinvestments of energy cost savings into the economy.

**Ontario could create between  
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**TABLE 2:  
5-YEAR CLIMATE CHANGE ACTION PLAN  
FUNDING COMMITMENTS IN BUILDINGS  
AND HOMES ACTION AREA**

Funding Area	Funding Ranges		Jobs Multiplier (per \$1 million) <sup>9</sup>	Projected Jobs	
	Low	High		Lower Funding	Higher Funding
Social Housing / Apartment Building Retrofits	\$380M	\$500M	13.41 (Capital Upgrades)	5,096	6,705
Incentives for Apartment Building Retrofits	\$300M	\$400M		4,023	5,364
<b>Subtotal</b>	<b>\$680M</b>	<b>\$900M</b>		<b>9,119</b>	<b>12,069</b>
Retrofits for Schools and Hospitals	\$400M	\$800M	12.94 (Commercial Capital Upgrades)	5,176	10,352
Retrofits & Efficiency for Provincial Gov't & Heritage Buildings	\$130M	\$180M		1,682	1,941
<b>Subtotal</b>	<b>\$530M</b>	<b>\$980M</b>		<b>6,718</b>	<b>8,892</b>
Homeowner Incen- tives for Low-Carbon Technology	\$500M	\$600M	13.41 (Capital Upgrades)	6,705	8,046
Free Energy Audits for Pre-Sale Homes	\$200M	\$250M	15.74 (Operational Improvements)	1,976	3,935
<b>Subtotal</b>	<b>\$700M</b>	<b>\$850M</b>		<b>8,681</b>	<b>11,981</b>
<b>Total GGRA Funding</b>	<b>\$1.91B</b>	<b>\$2.73B</b>		<b>24,518</b>	<b>32,942</b>
<b>Additional Jobs Created through Energy Savings Reinvested in the Economy</b>	Capital upgrades		9.88	6,718	8,892
	Commercial Capital upgrades		9.70	5,141	9,506
	Operational Improvement		9.88	4,940	5,928
			<b>Total</b>	<b>16,799</b>	<b>24,326</b>
<b>CCAP Commits to funding Training, Workforce, and Technical Capacity</b>	\$45M	\$70M	Calculated using Analysis of Job Creation and Energy Cost Savings by the Institute for Market Transformation, <a href="http://www.peri.umass.edu/publication/item/462-analysis-of-job-creation-and-energy-cost-savingsfrom-building-energy-rating-and-disclosure-policy">http://www.peri.umass.edu/publication/item/462-analysis-of-job-creation-and-energy-cost-savingsfrom-building-energy-rating-and-disclosure-policy</a>		

Table 2 shows funding commitments in the Climate Change Action Plan's Action Area for Building and Homes<sup>10</sup> and uses three relevant jobs multipliers to calculate the projected job creation resulting from each funding in each area. For example, for the identified funding for social housing and apartment building retrofits and incentives for apartment building retrofits — grouped together as capital upgrades — the job multiplier is 13.41 jobs created per \$1 million invested. The funding for these capital upgrades outlined in the Climate Change Action Plan has the potential to create between 9,100 and 12,000 jobs. For commercial capital upgrades, which include retrofits for schools, hospitals, and provincial government and heritage buildings, the job multiplier is 12.94 jobs per \$1 million. The funding for these upgrades has the potential to create 6,700 to 8,900 jobs. Using a job multiplier of 13.41 jobs created per \$1 million invested in homeowner incentives for low-carbon technology, and a job multiplier of 15.74 jobs created per \$1 million invested in operational improvements, such as free energy audits for pre-sale homes in the province, could create a combined 8,700 to 12,000 jobs based on the investments outlined in the Climate Change Action Plan.

In addition to these green job projections, it is reasonable to predict additional economic activity and jobs created from the reinvestment of energy cost savings from fuel switching, retrofits and efficiency upgrades. The Institute for Market Transformation and the Political Research Institute report used jobs multipliers to capture the jobs impacts of these energy cost savings, which when applied to the province's funding commitments suggests that these energy savings could yield between 16,800 and 24,300 additional green jobs.

For comparison sake, Blue Green Canada's 2012 report *More Bang for Our Buck* calculated that for every \$1 million invested in Energy Efficiency, there was a the potential to create 14.10 jobs. Applying this multiplier to the funding committed for buildings and homes would yield between 26,931 and 38,493 projected green jobs.

## SELECTED SKILLS THAT WILL DRIVE THE LOW-CARBON TRANSITION

New York State Energy Research and Development Authority outlines the skills that a Canadian Performance Building Institute, or similar program, might offer contractors, remodelers, and those new to the workforce<sup>11</sup> or returning to the workforce. Here, we have adapted and expanded the list for the Ontario context:

- Receive classroom and hands-on training and learn energy efficiency techniques
- Gain an understanding of interrelated building issues and be able to provide clients with a more comfortable, safe, durable, and energy-efficient home
- Learn skills necessary to install and size mechanical systems, including heating, cooling, ventilation, and air conditioning
- Learn established practices for specifying, installing, and maintaining furnaces, boilers, on-demand water heaters, geo-exchange systems, solar thermal systems, heat pumps, and more
- Acquire the necessary knowledge, understanding, and ability to specify and install advanced high efficiency lighting technologies
- Help design and deliver information and educational programs on behaviors and practices to help homeowners and businesses save energy

This type of training can be delivered at existing facilities, perhaps in tandem with the Canadian Building Performance Institute proposed above.



# WORKER AGREEMENTS: Contracts to Secure Good Green Jobs

The government of Ontario is creating a corporation called the Ontario Climate Change Solutions Deployment Corporation to manage the retrofit of Ontario's buildings. It is widely expected that this low-carbon deployment entity will direct billions of dollars into major projects. It may also finance smaller enterprises scattered across the province, such as

retrofits of schools, hospitals, and apartment towers. This effort will create a significant number of green jobs as illustrated in this report, but beyond that it's important to ensure that it creates good jobs that provide decent livelihoods, and that the jobs go to those who need them most.



Photo Credit: Canadian Solar Industries Association (CanSIA)

## SOLIDIFYING A COMMITMENT TO SAFEGUARD THE MOST VULNERABLE

Ontario's Climate Change Action Plan includes specific language intended to ensure that vulnerable populations, including Indigenous Ontarians, receive appropriate support throughout the low-carbon energy transition. The plan's "Creating a Just Transition" passage states, in part:

**As Ontario transitions to a low-carbon economy, it will build on its existing workforce in areas from clean-tech to design, to engineering, transportation, manufacturing, construction and more. The economy will require skilled workers like tradespeople, architects and inspectors who are able to design, install and operate low-carbon-building technologies. To prepare the workforce to meet these needs, Ontario will invest in training and skills development specific to the low-carbon economy, including through training programs for Indigenous workers.**

We recommend government strengthen its language to explicitly define "just transition" and identify sectors that are most vulnerable to carbon policy.

The principles forming the basis for Ontario's climate change plans need to include just transition principles. The Climate Change Action Plan should include:

- A pledge to ensure that any costs of the transition to a low-carbon economy are not unfairly borne by working people
- Support of reviews of labour force market impacts at provincial and community levels to assess impacted work forces and which transition strategies may be needed

- Recognition that industry, governments, workers, and unions all need to be involved in crafting transparent, workable, and just transition plans. Plans need to be flexible and designed for specific workplace and community realities
- An acknowledgment of the need for industry-supported transition funds for impacted workers and communities
- An acknowledgment of the need for policies in support of impacted workers including support for retraining for new job opportunities, employment insurance flexibility for worker transitions, enhanced severance and salary continuance, pension bridging and early retirement options

Ontario's climate policy and carbon pricing plan have been designed to address impacts to industry, with particular attention paid to Energy Intensive and Trade Exposed (EITE) sectors like steel production, cement, and chemical manufacture. With no policy to protect against competitiveness impacts on these industries, Ontario faces the potential of "leakage," where industries relocate to evade carbon policy. Leakage is best avoided, both due to lost economic activity and jobs, and due to a lost ability to constrain carbon.

Despite the measures to guard against leakage, however, the transition to a low-carbon economy will be a structural change to the economy, and will have impacts on the workforce – both by creating new jobs in low- and no-carbon goods production and services, and through impacts on high-carbon sectors.

Ontario's Just Transition plan needs to recognize and support workers who will be impacted by this transition and to ensure that today's workers have a place in tomorrow's low-carbon economy.

Fortunately, development projects are increasingly executed in a way that explicitly seeks to ensure that these projects provide opportunities for employment and career training for impacted communities, and for individuals who face barriers to employment, or those who may be impacted by the transition to a low-carbon economy.

We briefly outline two such approaches here. We urge the provincial government to work to ensure that the tendering and contracting process embraces such instruments and agreements.

# Community Benefit Agreements

A community benefits agreement (CBA) is a legally binding contract designed to ensure that major development and infrastructure projects bring extensive social and economic benefits, including fair wage jobs, to the immediate neighbourhood and those who live there. In Ontario, CBAs are not yet legally binding, but are referenced in the *Infrastructure for Jobs and Prosperity Act (2015)*.

Such agreements formalize the specific community benefits that a project must deliver, including opportunities that promote economic inclusion for all Ontario residents — including women and youth, historically disadvantaged communities and other equity-seeking groups. In the case of the Climate Change Action Plan, the incentives and programs supported by the province’s climate solutions provider could, by policy, require a community benefits agreement be in place when tenders are signed for larger projects.

In such agreements, diverse groups of residents and organizations such as labour and environmental groups, sit down from square one and hammer out benefits in negotiations with a developer or consortium awarded the project contract. Based on recent experience of the Eglinton Crosstown LRT, we recommend future agreements in Ontario include explicit hiring targets. The resulting agreement is a foundation, built atop extensive community outreach and engagement work, ensuring local interests are considered from ground-breaking ceremony to ribbon cutting.



A Community Benefit Agreement (CBA) increased diversity among workers and apprentices on the Eglinton Crosstown LRT  
Photo credit: Toronto & York Region Labour Council

## COMMUNITY BENEFITS AGREEMENT CASE STUDY: EGLINTON CROSTOWN LRT

**Community benefits agreements (CBAs) are important because they ensure that local interests are protected and underserved communities are represented in new infrastructure development.**

When complete, the \$5.3 billion, 19 km Crosstown light-rail transit line will run along and under Toronto's Eglinton Avenue, serving multiple high-needs neighbourhoods along the way. In 2014, Metrolinx, the region's transit agency, forged a Community Benefits Framework with the Toronto Community Benefits Network. A variety of community and labour groups together founded the network explicitly to bring the CBA model to Ontario.<sup>12</sup>

The Framework unites labour and community organizations, workforce development agencies, construction companies, and the provincial government to ensure that infrastructure investments yield maximum social value. A series of built-in robust accountability measures assure compliance, while provisions and criteria ensure social enterprises have priority access to contract opportunities. As a ground-breaking new agreement, the Eglinton Community Benefits agreement has already offered useful lessons: a year after winning the contract, the consortium building the project had yet to release any clear targets for diversity hires.<sup>13</sup> Any future CBAs should include specific targets with binding timelines.

Nonetheless, the Community Benefits Framework now governs the hiring requirements for jobs in the building trades, as well as professional, technical, and administrative positions on all future Metrolinx expansion work in the city.

The Toronto Community Benefits Network envisions an inclusive, thriving city in which all residents have equal opportunities to contribute to healthy communities and a prospering economy. The Eglinton Crosstown project has moved the city significantly closer to those goals.<sup>14</sup>

Metrolinx, Infrastructure Ontario, Crosslinx Transit Solutions, the Toronto Community Benefits Network, the Ministry of Advanced Education and Skills Development and the United Way of Toronto and York Region have been working together to achieve a goal of employing apprentices or journeypersons from historically disadvantaged communities and equity seeking groups to perform 10 per cent of all trade or craft working hours, on a trade by trade basis, required to construct the Eglinton Crosstown project. All parties believe that this goal is a worthwhile outcome to work towards and that achieving this goal depends on the cooperation, collaboration and active involvement of government, business, labour and community partners. Most importantly, the parties recognize that achieving the goal is dependent on trade unions, pre-apprenticeship programs and other organizations that prepare apprentices, ensuring that there is a readily available supply of qualified apprentices and journeypersons from historically disadvantaged communities and equity seeking groups.

In addition to employing apprentices and journeypersons the agreement will also place workers into technical and administrative roles on the transit project.

The Eglinton Crosstown agreement serves as a test of the community benefits model — and as a template for future projects like the \$1 billion Finch LRT, which will run through several historically disadvantaged areas in north west Toronto.

## HIGH ROAD AGREEMENT CASE STUDY: CLEAN ENERGY WORKS PORTLAND

In 2009, the city council in Portland, Oregon, approved a high road agreement that created thousands of jobs auditing and retrofitting 500 homes in the city. Under the agreement, historically underrepresented contractors and workers received training and jobs in the clean-energy economy.

To forge the agreement, the City of Portland created an entity called Clean Energy Works Portland. It in turn assembled a broad range of stakeholders — including public, private, non-profit, community, and labour institutions, to establish a set of sustainable contracting standards and community benefits.

The State of Oregon later evaluated the Portland pilot program. It found that nearly half of the program hours were worked by people of colour, and nearly three-quarters of employees had been provided health insurance. More than 20 per cent of the pilot construction dollars went to historically underrepresented firms.

Portland's High Road Agreement ensured that all contractors in the retrofit program abided by rigorous standards and ensured the creation of high-quality, family-supporting jobs. It was broad enough to encompass each community's particular social and economic equity concerns, but clear enough to be measurable and meaningful.



Photo Credit: Green Energy Futures - David Dodge

# Conclusion

**Ontario's plan to direct carbon pricing revenue into a range of proven on-the-ground solutions will help Ontario residents reduce their emissions and lower their energy bills while improving their homes.**

The province's decision to focus investment on building retrofits and small-scale renewables — such as rooftop solar — will also spur the creation of many thousands of new green jobs. As an early climate leader and Canada's most populous province — and the one with the highest number of dwellings — Ontario has an opportunity to unlock economies of scale and create continent-leading retrofit and upgrade programs targeting the existing housing stock.

Opportunities like this come along once in a generation. Provincial leaders must now engage deeply with labour, environmental, and civil society leaders to ensure that this coming wave of investment activity not only yields jobs that provide decent livelihoods and that go to those who need them the most, but also ensures direct and meaningful benefits accrue to local communities and economies.

Ontario is well on its way; policy makers have made bold moves and have kick-started the shift to a low-carbon future. Now we just need to ensure that everyone comes along for the ride. With this in mind, we offer the following recommendations for building a strategy to create good green jobs and part of the province's Climate Change Action Plan:

## RECOMMENDATIONS

### **Conduct a high-carbon jobs census and low-carbon skills survey**

Ontario should take extra steps to identify and inventory positions in carbon-intensive industries that may be vulnerable to the transition to a low-carbon economy, by sector and region. As well, the province should gain a detailed understanding of the skills that will be needed to do the work to transition Ontario's built environment to be much lower emitting and to move toward carbon neutrality. Once equipped with this data, government will be in a better position to engage with workers and allocate retraining and transition resources so that climate-policy-impacted workers have first access to new job opportunities. It will also allow the government to better understand any skills gaps and labour shortages that may arise as a result of the transition.

### **Make use of existing training programs and facilities**

Wherever possible, the province should use existing programs and facilities developed to recruit and train the workers that will be employed in retrofitting Ontario's buildings. Across Ontario, and especially in the Greater Toronto Area, a number of training centres teach apprentices and help journeypersons upgrade their skills. Such programs should be scaled up or reworked as necessary to ensure that the needed skills and workers are on hand when the province ramps up building retrofit programs and other initiatives creating low-carbon jobs that require expertise in low-carbon solutions deployment.

### **Push for rigorous standards**

Ontario must embrace the most rigorous energy efficiency standards and regulations available, as quickly as possible. Further, while the government should use proven tools and standards, it should also feel emboldened to take calculated risks on emerging technologies.

## Design programs to stand the test of time

It will take decades to fully transition Ontario's economy and retrofit and upgrade millions of buildings to phase out fossil fuel use — work that will encompass numerous terms of government. For this reason, the Ontario government and the forthcoming Ontario Climate Change Solutions Deployment Corporation should take special care to “future-proof” its delivery programs, so that they are less vulnerable to cancellation by future governments, and provide sustained employment.

## Pilot a Canadian Building Performance Institute

The successful retrofit program managed by Efficiency Vermont, which the government cites as a model in the Climate Change Action Plan, requires all contractors delivering home performance improvements under the umbrella of its programs be certified by the Building Performance Institute. The national non-profit organization oversees rigorous credentialing, quality assurance, and standards setting programs for home performance professionals. Ontario's Climate Change Solutions Deployment Corporation should consider establishing a similar institution and requiring similar certification standards for program delivery. Such a standard would ensure that workers have the requisite training, and that the promised emissions reductions from their work would be achieved.



Photo Credit: Toronto & York Region Labour Council

## Consider an Energy Efficiency Portfolio Standard

Ontario should legislate an energy efficiency standard to put regulatory teeth behind conservation programs already managed by the province's electricity and gas utilities. The province should also compel utilities to reduce their electricity and natural gas demand by a specified quantity and timeline. Such a standard or target was contemplated in the government's discussion paper for the review of the Long-Term Energy Plan. An Energy Efficiency Portfolio Standard would help ensure sustained employment in the building performance sector over the coming decades, as efficiency and renewable energy investments gradually reduce the need for fossil fuels.

## Investigate support for domestic industries

The Climate Change Action Plan should investigate ways to support domestic industries' participation in the transition to a low-carbon economy. The World Trade Organization challenge of the *Green Energy and Green Economy Act's* local-content requirements highlighted the difficulty of coupling renewable-energy incentives with job creation and direct economic stimulation measures. However, there are other ways to ensure that climate efforts support local industries. One such mechanism is a Sustainable Energy Trade Agreement, or SETA.<sup>15</sup>

## Work to implement carbon border adjustments

Many of Ontario's highest carbon emitters are also trade exposed – meaning they compete with imports from other jurisdictions. If Ontario's Climate Change Action Plan is going to lead to job creation, it is important that Ontario industries not be disadvantaged on the global market as a result of Ontario's carbon price. In order to protect jobs in Ontario and address climate change, the province should create an even playing field by imposing a price on carbon at the border.



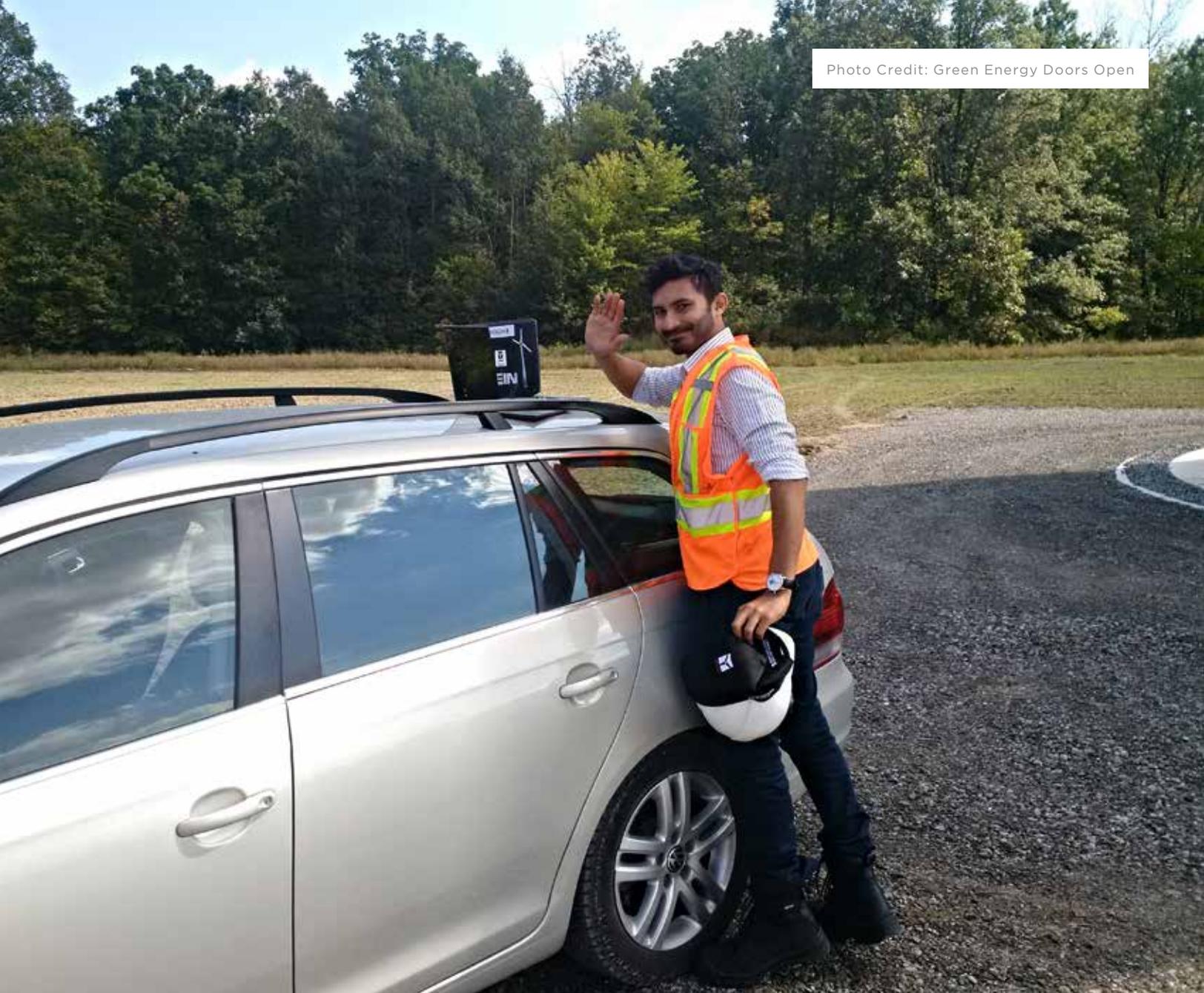
Photo Credit: Green Energy Futures - David Dodge

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- <sup>2</sup> Population and Dwelling Counts - Province of Ontario, Statistics Canada, 2011 Census. Retrieved from <https://www12.statcan.gc.ca/census-recensement/2011/dp-pd/prof/details/Page.cfm>
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- <sup>4</sup> “Conservation: Let’s Get Serious Annual Energy Conservation Progress Report – 2015/2016,” Environmental Commissioner of Ontario, May 2016.
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- <sup>6</sup> “Energy Efficiency: Engine of Economic Growth in Canada,” Dunsky Energy Consulting and Economic Development Research Group, prepared for Natural Resources Canada and the Acadia Center, November 2014.
- <sup>7</sup> One job-year is equivalent to one job for a period of one year.
- <sup>8</sup> Calculated using Analysis of Job Creation and Energy Cost Savings by the Institute for Market Transformation, A. Burr, C. Majersik, and S. Stellberg and Political Economy Research Institute, H.
- <sup>9</sup> Calculated using Analysis of Job Creation and Energy Cost Savings by the Institute for Market Transformation, A. Burr, C. Majersik, and S. Stellberg and Political Economy Research Institute, H. Garret-Peltier, March 2012. <http://www.peri.umass.edu/publication/item/462-analysis-of-job-creation-and-energy-cost-savings-from-building-energy-rating-and-disclosure-policy>
- <sup>10</sup> The funding identified in Table 2 is from commitments in the Climate Change Action Plan Action Area for Buildings and Homes. We have also included the commitment of \$90,000 to \$100,000 contained in the Action Area for Government to reduce emissions and energy costs across government buildings.
- <sup>11</sup> Adapted from a list developed by the New York State Energy Research and Development Authority (NYSERDA).
- <sup>12</sup> See [communitybenefits.ca](http://communitybenefits.ca).
- <sup>13</sup> “Will Crosstown LRT builders keep their local jobs pledge?” Ben Spurr, The Toronto Star, September 26, 2016. Retrieved from <https://www.thestar.com/news/gta/2016/09/26/will-crosstown-lrt-builders-keep-their-local-jobs-pledge.html>
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