



Ontario
Home Builders'
Association

Climate Change Submission
EBR: 012-3452

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- Renfrew
- Sarnia-Lambton
- Saugeen County
- Simcoe County
- St. Thomas-Elgin
- Stratford & Area
- Sudbury & District
- Thunder Bay
- Waterloo Region
- Windsor Essex



Submitted to: Honourable Glen Murray
Minister of the Environment and Climate Change
March 29, 2015

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About OHBA

The Ontario Home Builders' Association (OHBA) is the voice of the land development, new housing and professional renovation industries in Ontario. OHBA represents over 4,000 member companies, organized through a network of 31 local associations across the province. Our membership is made up of all disciplines involved in land development and residential construction including: builders, professional renovators, trade contractors, manufacturers, consultants and suppliers. The residential construction industry employed over 313,000 people and contributed over \$44 billion to the province's economy in 2013.

OHBA is committed to improving new housing affordability and choice for Ontario's new home purchasers and renovation consumers by positively impacting provincial legislation, regulation and policy that affect the industry. Our comprehensive examination of issues and recommendations are guided by the recognition that choice and affordability must be balanced with broader social, economic and environmental issues.

Background

Ontario has committed to address climate change and to reduce carbon pollution in the years ahead. Ontario's 2007 Climate Change Action Plan set carbon reduction targets of 6 per cent below 1990 levels in 2014 (166 MT), 15 per cent below 1990 levels by 2020 (150 MT) and 80 per cent below 1990 levels by 2050 (35 MT). The phase out of coal-fired electricity is the primary reason the province met its 2014 target. It is estimated that a further reduction of approximately 20 MT will be required to meet the 2020 target.

The Ministry of Environment and Climate Change released a discussion paper in February 2015 for public and stakeholder feedback. OHBA's comments will be focused on buildings in the residential sector, accounting for 10.9 per cent of Ontario carbon emissions¹. OHBA further notes that ongoing shifts towards intensification and transit-oriented development creates more compact, walkable, higher density communities that are more energy-efficient and reduce automobile use, thus reducing greenhouse gas emissions from the transportation sector as well. OHBA is supportive of sustainable development and the ongoing long-term shift already underway to achieve a low carbon economy.

Introduction

The land development, new housing and professional renovation industry has a critical role to play to mitigate and adapt to climate change. Over the past decade, both the land-use planning system and the Ontario Building Code have significantly evolved, and in response the land development and residential construction industry has evolved with it. Since 2001, the province has implemented significant reforms to the land-use planning system to strengthen the local decision-making process, while also empowering municipalities with a range of planning tools. Along with these significant legislative changes, the province has also implemented several pieces of landmark legislation, plans and policies. The province has also significantly enhanced the energy performance of our built environment through the ongoing evolution of the Ontario Building Code. The cumulative impacts of these changes are noteworthy and the result is that the new buildings and new communities being approved and built in Ontario today are vastly different from those built a decade ago.

¹ Natural Resources Canada (2012). *Comprehensive Energy Use Database, 1990 to 2012*.
Environment Canada (2014) *National Inventory Report 1990–2012: Greenhouse Gas Sources and Sinks in Canada*.

OHBA continues to be a leader in promoting innovation and energy efficiency. OHBA, in partnership with the Canadian Energy Efficiency Alliance (CEEA), founded EnerQuality Corporation, whose mission is to transform Ontario's housing into the most energy-efficient and sustainable in the world. Since 2005, EnerQuality estimates almost 60,000 new homes were labelled under the ENERGY STAR® for New Homes program, a voluntary initiative that enables new homes to be, on average, 20 per cent more energy-efficient than homes built to the Ontario Building Code. According to Natural Resources Canada, an ENERGY STAR qualified new home reduces GHG emissions by approximately three tonnes per year. In 2014, ENERGY STAR qualified homes represented 32 per cent of all low-rise homes built in Ontario.

OHBA Key Recommendations

- Promote culture of conservation by enacting Section 3 of the *Green Energy and Green Economy Act, 2009* to enable mandatory home energy audits prior to the sale of an existing home (re-sale);
- Ensure municipal planning implementation policies (including Official Plans and Zoning by-Laws) are modernized and in conformity with the Planning Policy Statement (PPS) and Provincial Plans;
- Better link transit and transportation investments with land-use planning including pre-zoning along transit corridors to support transit-oriented development;
- The Minister of Transportation commence consultations with stakeholders to implement Section 31.1 of the *Metrolinx Act, 2006* for the Minister to issue a Transportation Planning Policy Statement (TPPS) that would apply to higher-order transit corridors across Ontario;
- Support *Planning Act* amendments proposed in the *Smart Growth for Our Communities Act, Bill 73* as a good first step to modernize parkland dedication policies from the current value of 1 hectare per 300 dwelling units to 1 hectare per 500 dwelling units. The proposed legislative amendments are supportive of intensification and transit oriented development;
- OHBA passed a resolution at its 2012 Annual Meeting of Members supporting a national transit strategy that dedicates funding to support municipal transit expansion. The province should continue to coordinate with stakeholders and advocate for a National Transit Strategy;
- Amend the *Planning Act* to allow for as-of-right secondary suites across Ontario;
- Consider a provincial program modeled on the now expired federal ecoENERGY Retrofit – Homes Program to provide grants to help homeowners undertake targeted renovations to upgrade and make their homes more energy-efficient;
- Consider establishing a Home Renovation Tax Credit, modelled on the Healthy Homes Renovation Tax Credit (HHRTC), which includes targeting energy-efficient upgrades to Ontario's existing housing stock. An additional public policy benefit would be that such a tax credit would assist to combat the underground economy by encouraging consumers to use legitimate contractors and create a paper trail;
- Eliminate municipal minimum parking requirements. This change in public policy would enhance housing affordability for mid-rise and high-rise residents, while also being a clear provincial 'transit first' directive rather than continuing to require an over-supply of automobile parking;
- The province must lead the conversation and educate municipalities and the public with respect to how provincial planning policies and objectives will impact their existing communities and neighbourhoods so that residents are engaged and informed as why their communities are evolving.

MOECC Consultation Discussion Paper Questions

Please note that the MOECC Discussion Paper contains questions that cover five broad themes:

- Traditional Knowledge
- Actions in Key Sectors
- Communities & Built Form
- Price on Carbon
- Science and Technology

For the purposes of responding to the consultation, OHBA’s comments and recommendations on behalf of the land development, new housing and professional renovation sector are almost exclusively focused on the third theme “Communities & Built Form”.

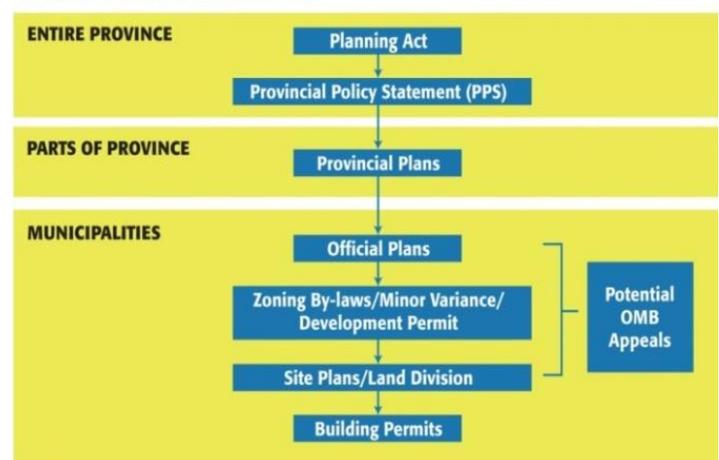
Ontario’s Planning Framework

Ontario’s land-use planning framework is critical in supporting provincial goals for healthy, sustainable communities. The responsibility for land-use planning in Ontario is split between the province and municipalities: the province sets the rules and direction for land-use planning; the municipalities are the primary implementers of the policy framework. Climate change mitigation can be supported through a strong land-use planning framework that supports intensification, maximizes limited resources and promotes transit-oriented development. Climate change related objectives can be achieved through a combination of strong provincial leadership, municipal alignment with provincial policy and strategic infrastructure investments to support land-use planning policy objectives. Therefore, it is critical to have a strong land-use planning framework with a strong public policy alignment between the province and municipalities.

The *Planning Act* provides the legislative framework for land-use planning in Ontario working together with the *Provincial Policy Statement (PPS)*, provincial plans and other legislation. To help mitigate climate change, the PPS, Greenbelt and Growth Plans encourage compact built form and complete communities, which can reduce greenhouse gas emissions through improved energy efficiency and a reduced need to drive. They also protect agricultural lands, water resources and natural areas that support provincial efforts to address and adapt to climate change. The Ministry of Municipal Affairs and Housing is currently undertaking a co-ordinated review of four land-use plans (Growth Plan for the Greater Golden Horseshoe, Greenbelt Plan, Oak Ridges Moraine Conservation Plan, Niagara Escarpment Plan)(EBR: 012-3256).

Implementation of the PPS is set out through the *Planning Act*, which requires that decisions on land-use planning matters made by municipalities, the province, the Ontario Municipal Board (OMB) and other decision-makers “shall be consistent with” the PPS. Municipalities are tasked with implementing the PPS through policies in their Official Plans (OP) and through decisions on other planning matters. It is therefore critical that municipalities maintain up-to-date OP’s and Zoning By-Laws to effectively and efficiently implement provincial policy. Ensuring a strong land-use planning framework that properly aligns municipal planning implementation documents to provincial policy will be critical in the province’s efforts to promote intensification and climate change mitigation.

ONTARIO’S LAND USE PLANNING SYSTEM



Source: Ministry of Municipal Affairs and Housing

Recent Reforms to Ontario's Planning Framework

Since 2001, Ontario's land-use planning framework has evolved significantly and, consequentially, the land development and new housing industry has undergone a fundamental paradigm shift. The legislation, Provincial Plans and policy introduced since 2001 with direct impact on the land development, new housing and the professional renovation industry are as follows:

- *Made in Ontario Smart Growth (2001)*
- *Oak Ridges Moraine Protection Act (2001)*
- *The Brownfields Statute Law Amendment Act (2001)*
- *Strong Communities (Planning Amendment) Act, Bill 26 (2004)*
- *Greenbelt Act & Greenbelt Plan (2005)*
- *Provincial Policy Statement (2005)*
- *Planning and Conservation Land Statute Law Amendment Act, Bill 51 (2006)*
- *Places to Grow Act & The Growth Plan for the Greater Golden Horseshoe (2006)*
- *Endangered Species Act (2007)*
- *Metrolinx Act (2006) & The Big Move Regional Transportation Plan (2008)*
- *Lake Simcoe Protection Plan (2009)*
- *Growth Plan for Northern Ontario (2011)*
- *Strong Communities Through Affordable Housing Act (Schedule 2) (2011)*
- *Transit Supportive Guidelines (2012)*
- *Growth Plan Amendment 1 (2012) & Growth Plan Amendment 2 (2013)*
- *Greenbelt Amendment 1 (2013)*
- *New Provincial Policy Statement (2014)*

In the immediate future a number of other land-use planning related reforms and reviews are anticipated:

- *Coordinated Review: Growth Plan / Greenbelt / Oak Ridges Moraine / Niagara Escarpment Plan (2015)*
- *Proposed Smart Growth for Ontario Communities Act, Bill 73 (2015)*
- *Big Move, Regional Transportation Plan Review (2017)*

OHBA notes that the Ministry of Municipal Affairs and Housing recently completed a review that amended the PPS, which now contains policies specific to both climate change mitigation and adaptation. The PPS specifically notes "strong, livable and healthy communities promote and enhance human health and social well-being, are economically and environmentally sound, and are resilient to climate change." A number of policies in the PPS are also specific to climate change including:

- 1.1.3.2.a.3: Land-use patterns within settlement areas shall be based on: densities and a mix of lands which: minimize negative impacts to air quality and climate change, and promote energy efficiency.
- 1.6.1: Infrastructure, electricity generation facilities and transmission and distribution systems, and public service facilities shall be provided in a coordinated, efficient and cost-effective manner that considers impacts from climate change while accommodating project needs.
- 1.8.1: Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land-use and development patterns which:
 - a) promote compact form and a structure of nodes and corridors;
 - b) promote the use of *active transportation* and transit in and between residential, employment (including commercial and industrial) and institutional uses and other areas;

- c) focus major employment, commercial and other travel-intensive land-uses on sites which are well served by transit where this exists or is to be developed, or designing these to facilitate the establishment of transit in the future;
 - d) focus freight-intensive land-uses to areas well served by major highways, *airports*, *rail facilities* and *marine facilities*;
 - e) improve the mix of employment and housing uses to shorten commute journeys and decrease transportation congestion;
 - f) promote design and orientation which:
 1. maximizes energy efficiency and conservation, and considers the mitigating effects of vegetation; and
 2. maximizes opportunities for the use of *renewable energy systems* and *alternative energy systems*; and
 - g) maximize vegetation within *settlement areas*, where feasible.
- 3.1.3: Planning authorities shall consider the potential impacts of climate change that may increase the risk associated with natural hazards.

OHBA is supportive of the provincial leadership role within the planning framework, but remains concerned that many municipalities continue to have outdated Official Plans and Zoning By-Laws in effect that do not conform to Provincial Plans or the new PPS. The province’s lack of oversight in ensuring the planning system is functioning properly and up to modern standards requires immediate attention.

3. COMMUNITIES & BUILT FORM: CHANGES TO PLANNING PROCESSES

Improving Ontario’s Planning Framework

OHBA is supportive of provincial policy objectives to support a diversity of housing and to support higher levels of intensification. Long-term shifts in development patterns to reduce land consumption and maximize limited resources will also facilitate modal shifts towards greater use of public transit and therefore reduce GHG emissions from the transportation sector.

OHBA contends that a land-use planning policy disconnect has emerged between the province and many municipalities. This disconnect between provincial policy and municipal planning implementation tools threatens the successful implementation of the *Growth Plan* and therefore some of the objectives of the MOECC to mitigate climate change. The disconnect manifests itself in increasing costs for new residents and businesses, longer and uncertain approvals processes, local decisions that do not align with provincial policy and challenges in housing affordability. Closing the gap and ensuring a better alignment between provincial land-use planning policy and municipal planning implementation tools was a major theme within OHBA’s Land-use Planning and Appeals System submission to the Ministry of Municipal Affairs and Housing in 2014 and will again be a key recommendation to this Ministry of the Environment and Climate Change consultation and the Ministry of Municipal Affairs and Housing coordinated Greenbelt Plan and Growth Plan review (EBR: 012-3256).

Successful implementation of the *Greenbelt* and *Growth Plans* can contribute to achieving the province’s climate change goals of reducing greenhouse gas emissions and adapting the way we plan and grow in response to climate change. In terms of evaluating the impact that the *Growth Plan* has had on either Climate Change mitigation or adaptation, OHBA strongly cautions that, despite the *Growth Plan* nearing its ten-year anniversary, we truly remain in the “early days” of *Growth Plan* implementation and that it may be premature to adequately measure the successes or failures of *Growth Plan* policies. While the plan itself is nearly ten years old, upper-tier and lower-tier municipal *Growth Plan* conformity with their Official Plans has only occurred in the last few years. Furthermore, OHBA notes that, despite the *Planning Act* requiring municipalities to have local Zoning By-Laws

brought into conformity with their Official Plans within three years of an Official Plan review, few municipalities have actually undertaken this task.

A further disconnect between many municipalities' local planning implementation policies and provincial infrastructure financing plans has emerged over the past decade as the province has made significant reforms to provincial policy. OHBA has consistently advocated for better alignment of public policy through resolutions passed at our AMM and at a number of significant provincial consultations over the past few years, including: review of aspects or amendments to the *Growth Plan for the Greater Golden Horseshoe*, the implementation of the Metrolinx *Big Move*, the review of the *Provincial Policy Statement* and the recent consultations on the Land-Use Planning and Appeals System as well as the Development Charges review.

We recognize that the provincial government has made a number of important steps towards streamlining and facilitating intensification (which supports MOECC efforts for both climate change mitigation & adaptation); however, the province must provide stronger leadership to better align provincial and local municipal public policy and improve planning certainty to support investment and economic growth. As a component to OHBA's submission to mitigate climate change, we wish to reiterate a number of specific public policy recommendations that will ensure better public policy alignment to support the development of more sustainable, transit-oriented, complete communities:

- Better linking transit and transportation investments with efficient land-use planning can help maximize the value of these investments and minimize environmental impacts. Transportation infrastructure investments by the province need to be packaged with municipal implementation tools including *pre-zoning* to create certainty and investment-ready communities. The private sector will invest in transit-oriented development along transit corridors, but we require planning certainty to bring these communities on board in a more efficient and affordable manner. This requires an approach to take the *politics out of planning* through pre-designation and pre-zoning. While half measures are being introduced on some transit corridors, through initiatives such as *Eglinton Connects* in the City of Toronto, the province must take a far more assertive role to require pre-zoning and pre-designation of transit corridors *prior* to funds flowing to finance the construction of higher-order transit lines.
- OHBA participated in public consultations in 2013 and early 2014 and submitted a comprehensive set of recommendations to the government with respect to the Development Charges system as well as other municipal planning-related charges and fees. OHBA strongly supports greater transparency and accountability in municipal Development Charges, Parkland Dedication and Section 37 Density Bonusing Fees. The proposed *Smart Growth for Our Communities Act, Bill 73* proposes a number of legislative amendments to the *Planning Act* and the *Development Charges Act*, some of which OHBA is supportive of and others for which OHBA has concerns:
 - Proposed amendments to the *Development Charges Act* regarding transit will increase taxation on transit-oriented development and will make development less affordable. These legislative amendments are not supported by OHBA;
 - Municipal reporting requirements to make the development charges system, as well as the funds collected for Section 37 and Parkland Dedication, more predictable, transparent and accountable are generally supported by OHBA;
 - Creating additional certainty through the Community Planning Permit System (also known as development permit system) is generally supported by OHBA *if* the base densities accurately reflect higher levels of intensification and transit-oriented development;

- Amendments to the *Planning Act* regarding parkland dedication policies are a good first step and are supported by OHBA as they will support fairness for new residents of mid-rise and high-rise development while facilitating higher levels of intensification and transit-oriented development.
- OHBA strongly recommends a more aggressive provincial approach to implement tools that support intensification and the implementation of the Growth Plan at the municipal level. A stronger public policy framework to facilitate higher levels of intensification will support MOECC priorities to mitigate climate change and support a modal shift towards greater transit use. OHBA specifically recommends:
 - A new modernized cash-in-lieu of parkland dedication policy in the *Planning Act* (proposed by the *Smart Growth for Our Communities Act, Bill 73* to shift to 1 ha per 500 dwelling units);
 - A review of minimum municipal parking standards/requirements;
 - Require pre-zoning (as-of-right zoning) for higher densities in urban growth centres and transit corridors;
 - Strictly enforce existing *Planning Act* requirements for municipalities to update their Official Plans every five years (proposed by the *Smart Growth for Our Communities Act, Bill 73* to shift to a 10-year cycle) and their Zoning By-Laws within three years of an Official Plan review;
 - Amend the *Planning Act* to allow for as-of-right secondary suites across Ontario;
 - Separate employment from density targets as certain employment facilities are not job intensive.

OHBA recommends the province take a more pro-active and assertive role to ensure municipal OP's by-laws are consistent with, and conform to, provincial planning policy as required by the *Planning Act* and/or Provincial Plans where applicable.

Infrastructure

The province and municipalities must enhance links between land-use planning and planning for infrastructure so that transit, roads, water, waste-water and energy are better co-ordinated to serve Ontario's growing communities. OHBA is encouraged by the significant \$29 billion in dedicated transportation-related infrastructure that the provincial government has committed to over the next decade. The cost of these infrastructure investments, as outlined in the 2014 provincial budget, was equitably allocated from the general tax-base and through a targeted repurposing of the existing gas tax, as was recommended by OHBA (An OHBA resolution in 2007 recommended allocating an additional portion of the existing gas tax specifically for transportation infrastructure). It will be critical in the coming years to ensure that the Federal Government plays a stronger role in sharing funding of transportation infrastructure in communities across Ontario. OHBA passed a resolution at its 2012 Annual Meeting of Members supporting a *National Transit Strategy* that dedicates funding to support municipal transit expansion.

OHBA also encourages the provincial government to invest in active transportation, which contributes to healthier communities as people can walk and cycle to meet their daily needs. This will reduce the need to drive and decrease greenhouse gas emissions.

OHBA supports a land-use planning framework that is integrated with transportation infrastructure to create complete, investment-ready communities with transit supportive densities. It is critical that the province better align transportation planning and land-use planning to maximize limited resources. The provincial government is currently constructing the multi-billion-dollar "first wave" of Metrolinx "Big Move" projects, yet most municipalities have not updated and modernized **both** their Official Plans and Zoning By-Laws to support as-of-right transit-oriented development along new/planned transit corridors, in new/planned Mobility Hubs and

surrounding new/planned transit stations. OHBA believes that the “next wave” of Metrolinx “Big Move” projects, as well as higher-order transit projects in Waterloo Region and the City of Ottawa, provide an opportunity to better align transit planning and land-use planning through **both** updated and modernized Official Plans and Zoning By-Laws to encourage as-of-right transit-oriented development.

OHBA notes that under Sec 31.1 of the *Metrolinx Act, 2006*, “The Minister may issue policy statements that have been approved by the Lieutenant Governor in Council on matters relating to transportation planning in the regional transportation area.” And that the Minister’s Transportation Planning Policy Statement (TPPS) must [Sec 31.1 (2) (c)], “ensure that the transportation planning policy statement is in alignment with the growth plans prepared and approved under the *Places to Grow Act, 2005* applicable in the regional transportation area.” And furthermore, [Sec 31.1 (4)], “A decision under the *Planning Act* or the *Condominium Act, 1998* made by a municipal council, local board, minister of the Crown or ministry, board, commission or agency of the Government of Ontario, including the Ontario Municipal Board, that applies in the regional transportation area shall be consistent with the designated policies set out in a transportation planning policy statement.” OHBA passed a resolution at our 2014 Annual Meeting of Members resolving that the Minister of Transportation commence consultations with stakeholders to implement a Transportation Planning Policy Statement (TPPS) that would apply to higher-order transit corridors across Ontario. The TPPS should be structured to require municipal Official Plans and Zoning By-Laws to be in conformity with the TPPS and allow appropriate as-of-right transit-oriented development on transit corridors and surrounding new/planned transit stations. The Zoning By-Laws that are brought into conformity with a TPPS should ensure that each transit project is positioned to have strong ridership growth supported by transit-oriented development.

2. ACTIONS IN KEY SECTORS: VOLUNTARY EMISSIONS REDUCTIONS

Energy Efficiency Leadership in the Residential Sector

The residential sector’s impressive GHG emissions performance since 1990 is tied to ongoing and broad-based energy efficiency improvements in Canadian homes – both existing homes and those newly built each year. These improvements reflect changes in both the efficiency of the building envelope itself, and in the various energy-consuming appliances used by Canadians every day.

Ontario’s residential sector has established itself as a leader in both energy efficiency and constraint of GHG emissions, notably through the building industry’s *voluntary* commitment to residential energy efficiency programs.

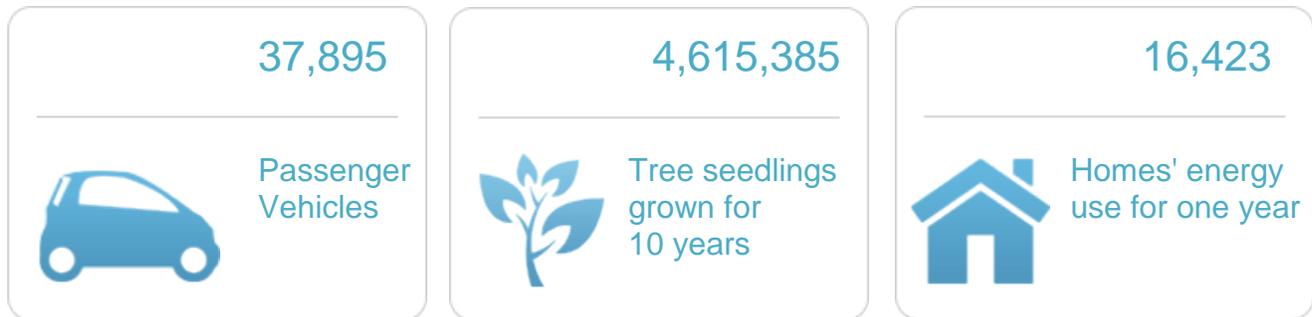
R-2000 Standard

Developed in partnership with Canada’s residential construction industry, R-2000 is one of the initiatives offered by Natural Resources Canada’s (NRCan) Office of Energy Efficiency. This initiative’s aim is to promote the use of cost-effective energy-efficient building practices and technologies. In 1982, the Government of Canada officially launched the R-2000 Standard. From its outset the program was based on technical guidelines that exceeded building code requirements, a computer-based energy analysis tool, a network of builders and service providers trained in energy-efficient building practices and close collaboration with the home building industry. Ongoing research projects such as the Advanced Houses initiative, feedback from active program participants and the housing industry have helped refine the R-2000 Standard encouraging innovation in energy-efficient housing over time.

The Standard is reviewed and updated on a regular basis by NRCan and industry experts to ensure R-2000 maintains its place as a best-in-class standard on the leading edge of energy-efficient building science in new home construction. In 2009, NRCan co-ordinated a consultative process to update the R-2000 Standard in conjunction with the Canadian Home Builders' Association (CHBA) and other key stakeholders.

ENERGY STAR® for New Homes

In 2005, NRCan launched the voluntary ENERGY STAR® for New Homes (ESNH) initiative that enables new homes to be on average 20 per cent more energy-efficient than homes built to the Ontario Building Code. According to NRCan, each ENERGY STAR qualified new home is said to reduce GHG emissions by approximately three tonnes per year². Accounting for the estimated 60,000 new homes labelled under the ENERGY STAR for New Homes program from 2005 to 2014, this would amount to a GHG emissions reduction of approximately 180,000 tonnes of CO₂e per year, which is equivalent to annual greenhouse gas emissions from:

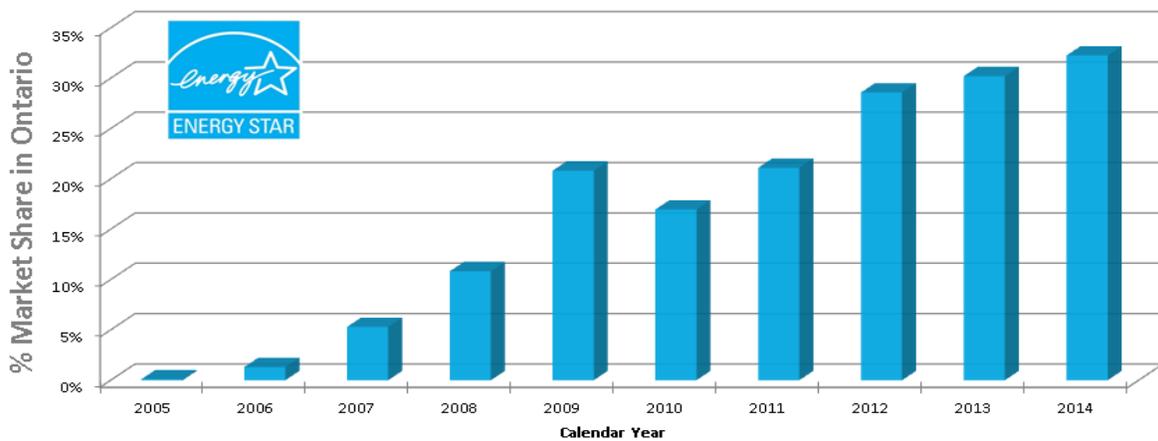


Source: U.S. Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator

In 2014, ENERGY STAR qualified homes represented 32 per cent of all low-rise homes built in Ontario. Figure 1 shows the number of ENERGY STAR labelled houses from 2005 – 2014.

Figure 1: ENERGY STAR® for New Home Market Share of Ontario Housing Starts

SOURCES : CMHC ; EnerQuality



² Natural Resources Canada's Office of Energy Efficiency, ENERGY STAR for New Homes

Leadership in Energy and Environmental Design (LEED)

LEED is a third-party certification program and an internationally accepted benchmark for the design, construction and operation of high performance green buildings. LEED rating systems encourage and accelerate the global adoption of sustainable green building and development practices through the creation and implementation of universally understood and accepted tools and performance criteria.

Canada's total number of LEED certified buildings hit a milestone in late 2014 with the certification of its 2,000th project. Cumulative totals for LEED certified and registered projects in Canada now sit at 2,041 and 5,187, respectively. Since certifying its first project in 2005, the Canada Green Building Council (CaGBC) has evaluated the impact that LEED Canada has made on Canadian energy and water consumption, greenhouse gas emissions and waste diversion:

- Energy savings of 2,630,652 eMWh which is enough to power 89,271 homes in Canada for a full year;
- A 512,672 CO₂e tonne reduction in GHG emissions which equates to taking 96,913 cars off the road for a year;
- Water savings totaling over 5.6 billion litres, the equivalent of 2,252 Olympic-sized swimming pools;
- Recycling over 2.7 million tonnes of construction/demolition waste which represents 841,126 garbage trucks;
- Installing 121,309 square metres of green roofs, or an area the size of 80 NHL hockey rinks, to reduce the urban heat island effect and mitigate storm water flows in urban areas.

2. ACTIONS IN KEY SECTORS: BARRIERS TO UPTAKE AND

3. COMMUNITIES & BUILT FORM: NET ZERO COMMUNITIES AND BUILDINGS

Net Zero Energy Housing

On December 9, 2014, the Canadian Home Builders' Association (CHBA) Board of Directors approved the 2015 members of the Association's first Net Zero Energy Housing Council (NZC). The NZC supports innovation in the residential construction industry with the goal of creating a market advantage for builder and renovator members pursuing net zero energy performance. The Council's work provides a voluntary action plan to move net zero energy in Canada forward, helps to meet the housing aspirations of Canadians, and renews Canadian leadership in high-performance housing.

CHBA's NZC has identified critical barriers involved in adopting net zero building practices in Canada:

- Shortage of skilled and knowledgeable trades and contractors;
- Severely limited infrastructure capacity within Ontario. The current electrical grid is unable to facilitate net metering in many areas, thus limiting the homeowner's ability to pursue net zero;
- No national consensus exists to define "net zero" or "net zero ready" housing. CHBA's NZC is pursuing this definition;
- Severe lack of energy literacy by consumers and new home purchasers (e.g. What is a Gigajoule?) Inability to translate value of net zero buildings to buyers;

- Severe lack of financing and valuing returns on energy efficiency investments by lending institutions or real estate professionals (e.g. energy efficiency is not recognized in MLS listings, or in appraisal process);
- Current utility profit structure is not ready for net zero communities or buildings (e.g. the cost to service the site with natural gas or electricity will need to be amortized over a much longer period for utilities to recognize “profit” from gas or electrical within net zero communities). Utility companies need to mature/transition away from a fee-for-fuel model and towards a distribution agent business model;
- Current Building Code requirements are not yet prepared for the implications of constructing net zero type housing (increased insulation levels, significant increase of air tightness, new/hyper-efficient HVAC equipment.) Prior to tackling net zero communities and buildings, building codes need to address fundamental building science issues related to high performance building. Without consideration of these issues first, there is significant risk of escalating unintended consequences such as poor indoor air quality, premature structural decay and rot, which may jeopardize the health and safety objectives of the Building Code and ultimately impact the sustainability of new homes.

2. ACTIONS IN KEY SECTORS: RATES OF INNOVATION

Technology Adoption Lifecycle

The technology adoption lifecycle model, published by Everett Rogers’s *Diffusion of Innovations* (see Figure 2), describes the adoption or acceptance of a new product or innovation, according to the demographic and psychological characteristics of defined adopter groups. The process of adoption over time is typically illustrated as a classical normal distribution or bell curve. The model indicates that the first group of people to use a new product is called “innovators,” followed by “early adopters”, then the early and late majority, and the last group to eventually adopt a product are called “laggards”.

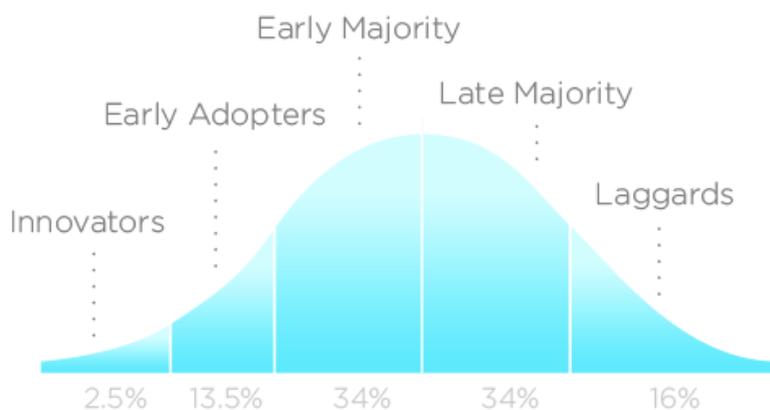


Figure 2: Technology Adoption Lifecycle

In order to encourage industry to further increase rates of innovation, the government should consider the importance of fiscal incentives, voluntary programs and information activities, which increase the number of people and organizations – the “innovators” and “early adopters”— that take advantage of existing

opportunities to use energy more efficiently and to help achieve Ontario's emission targets. In the residential buildings sector, the government should continue to support the development of voluntary programs such as EnerGuide for existing housing, R-2000 and ENERGY STAR for New Homes, which support the "innovators" and "early adopters" of the residential innovation adoption lifecycle.

Furthermore, under the MOECC Climate Change Discussion Paper, Section 3. Communities & Built Form, Question 2, the paper overlooks other legislation vehicles, such as the *Ontario Energy Board Act*, to address policy challenges surrounding the uptake of geothermal, solar, wind, natural light, combined heat and power, etc., which fall outside of the scope of the building code and planning processes.

3. COMMUNITIES & BUILT FORM: CHANGES TO BUILDING CODES

Ontario Building Code

Ontario regularly reviews and amends the Ontario Building Code (OBC) to reflect changes in technology, address emerging public safety issues and to achieve government priorities. The 2006 OBC strengthened Ontario's leadership in requiring energy-efficient buildings with the introduction of higher standards for houses and larger buildings. Ontario was the first jurisdiction in Canada to mandate EnerGuide 80 levels. That means that homes built to code after 2011 will have a 35 per cent increase in energy efficiency compared to homes built before 2006. The current 2012 OBC amends the previous edition in numerous ways, including its environmental focus, by putting in place measures that reduce greenhouse gases, protect air, water and soil quality, and conserve energy.

The 2012 OBC expands the list of Building Code sub-objectives and related functional statements to reference:

- Limiting the extent to which construction strains infrastructure capacity (e.g., electrical grid capacity)
- Protecting atmospheric quality
 - Limiting greenhouse gas emissions
 - Limiting the release of pollutants
- Protecting water and soil quality

The 2012 OBC promotes energy conservation through building design and construction: as of January 1, 2017, requiring that large buildings meet an energy efficiency level that is 13 per cent higher than that required in 2012 and requiring that houses meet an energy efficiency level that is 15 per cent higher than that required in 2012.

OHBA supports the current development process by which the Ministry of Municipal Affairs and Housing (MMAH) updates building regulation through stakeholder engagement with the building sector. The Building Code Conservation Advisory Council (BCCAC), established under the *Green Energy and Green Economy Act, 2009* provides strategic advice on how the OBC may be enhanced to further increase energy efficiency and reduce greenhouse gas production. Recommendations submitted by BCCAC are considered by the Minister of Municipal Affairs and Housing in developing potential Code changes for review by Cabinet. Advisory councils such as BCCAC are critical in helping the building sector achieve Ontario's targets.

Greenhouse Gas Emissions in the Residential Section

Improvements in codes and standards have contributed to the decoupling between increased floor space and GHG emissions in the residential sector. Another important factor is the type of residential unit being built. For example, in 2011 and 2012, 57 per cent of the total 118,900 dwelling units that were completed were apartments and condominiums (while the rest were single-family detached dwellings). Their smaller individual footprint and shared walls translate into a smaller energy and carbon footprint (while stricter building envelope requirements for large buildings would increase the energy advantages of multi-residential buildings even further).

Given the demonstrated effectiveness of stronger codes and standards to date, the Environmental Commissioner of Ontario (ECO) is encouraged by amendments to the 2012 Ontario Building Code (OBC) that came into effect in January 2014, which include a stated objective to limit GHG emissions from buildings and to limit peak electricity demands. As peak electricity demand will continue to be met by gas-fired peaker plants for the foreseeable future, this is an important change in the OBC. The new energy efficiency requirements in the 2012 Code will see further improvements in overall efficiency of 15 per cent and 13 per cent for low-rise residential and larger buildings, respectively, compared to the 2006 Code, with these changes coming into force in January 2017. These developments in the Code should continue to enhance the floor space/GHG decoupling noted earlier.

Achieving similar improvements in the existing building stock in Ontario remains the greater challenge

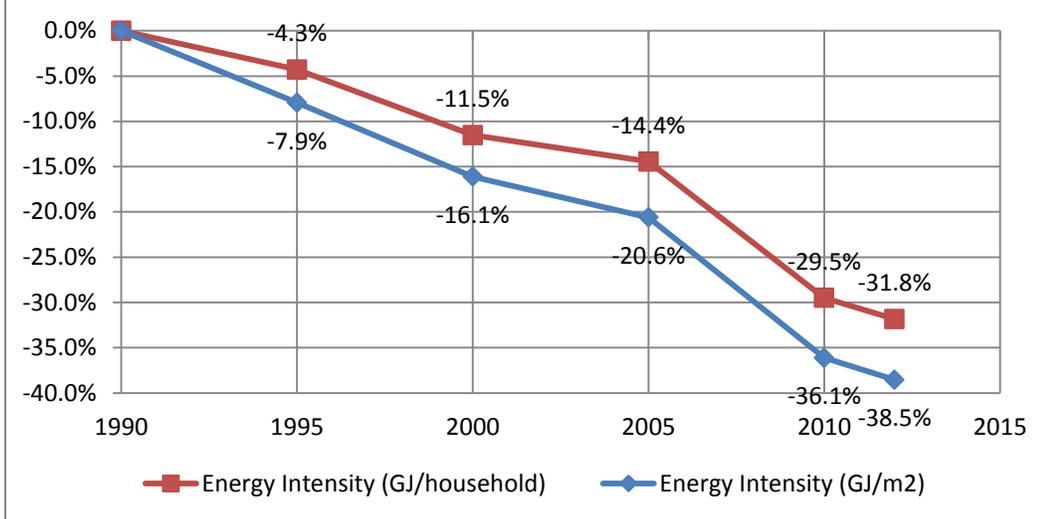
3. COMMUNITIES & BUILT FORM: EXISTING HOUSING STOCK

Overall Residential Sector Energy Efficiency Performance

It is important to bear in mind that the energy use in the residential sector represents the performance of *all* homes, existing and new, added to the housing stock each year. Unlike most other energy consuming products, the energy efficiency of a home is not fixed at the time of construction – subsequent improvements to the building envelope, systems and equipment within the home can alter its energy efficiency characteristics significantly.

Section 3 of the MOECC discussion paper notes that emissions from buildings have increased due to population and economic growth. However, the overall residential sector energy efficiency performance has decreased in energy intensity (per unit and per area) over the period from 1990 to 2012, by almost 32 per cent on a per-unit basis (see Figure 3).

**Figure 3: Ontario Residential Sector Energy Intensity
By Percentage Change: 1990 - 2012**



Source: Natural Resources Canada (2012). *Comprehensive Energy Use Database, 1990 to 2012*.

As a result, the improvement in the energy performance of the average home has come about due to a number of factors:

- Many older home envelopes have been upgraded through the addition of insulation, and the replacement of older windows with newer, more efficient ones;
- New homes are constructed to be far more energy-efficient than in the past, resulting in smaller increments of energy demand per unit of new housing;
- Space heating systems have become far more efficient, particularly the natural gas-fired systems that are used in the majority of Canadian homes. As older heating systems are replaced, space heating efficiency increases. Space cooling systems have also seen significant energy efficiency improvements;
- Most white goods (refrigerators, washers, dryers and other appliances) has seen very significant improvements in their energy efficiency over the last decade or more. As these major appliances reach the end of their useful lives, and are replaced, home energy performance improves.

Home Energy Audit on Re-Sale

OHBA has consistently stated our position in favour of *the Green Energy and Green Economy Act, 2009* legislative intent to have mandatory energy labelling of existing homes at the time-of-sale (Sec 3. Mandatory Home Energy Disclosure). While mandatory energy labelling was included in the legislation, labelling needs to be implemented through cabinet regulations. OHBA notes that there would be many benefits to mandatory energy labelling upon the re-sale of an existing home, including:

- Consumer disclosure;
- Professional advice regarding potential energy-efficient upgrades;
- Market transformation as buyers make different choices based on energy performance of housing, while sellers would invest in energy-efficient upgrades prior to listing the home on the market;
- Home values would better reflect energy performance;
- Transparency and accountability;

- Reducing energy bills;
- Improves energy efficiency of existing housing stock;
- Demonstrated superior efficiency of new housing by differentiating high-performance new housing built to code or higher (ENERGY STAR, R-2000, LEED) versus older less efficient housing.

Specific to the new home industry, OHBA notes that under the 2012 Ontario Building Code (OBC), low-rise residential buildings are designed to meet the performance level that is equal to an EnerGuide rating of 80 or more. Based on this OBC requirement and the process MMAH has created to confirm that new homes are inspected a minimum of ten times before occupancy (OBC 1.3.5.1.) by municipal building officials, the idea of mandatory labelling of new homes is **redundant** for the new home consumer. In addition, new home consumers who purchase an ENERGY STAR qualified home or other labelled homes will receive a label as part of their agreement of purchase and sale. In this sense, the new home does not need a label as much as a clear disclosure to the new home consumer that the OBC requires the EnerGuide 80, and by virtue of the Municipal Occupancy Permit, the homes' design and construction has been reviewed and inspected to this EnerGuide 80 requirement.

Examples of jurisdictions that label homes include Denmark, where owners of existing homes must obtain an energy label certificate at the time of sale (since 1997), and the Australian Capital Territory, which requires mandatory energy disclosure for all existing homes at the time of sale (since 1999).

Past OHBA President Frank Giannone stated in a 2009 media release, "This is a positive step forward to ensure that home buyers are more fully informed about the energy use of the home they are considering for purchase. New homes are already bound by requirements in the Ontario Building Code for minimum insulation levels and resource conservation, so new home buyers can be assured they are purchasing a high-performance home. But, there are over 4.8 million homes in the province's existing housing stock that would ultimately benefit from an energy audit and encourage energy-efficient home improvements. Traditionally government has relied on the new home construction industry to implement energy and resource conservation policy. It is time to look to all sectors to improve their carbon footprint."

OHBA has been consistent in our support for energy labelling of resale homes since the introduction of the Green Energy Act, as we see it as an extension of important and necessary consumer disclosure when determining housing options.

Expired Federal ecoENERGY Retrofit – Homes Program

At the national level, the Canadian Home Builders' Association (CHBA) was a strong supporter of the now-expired ecoENERGY Retrofit – Homes program. Initiated on April 1, 2007, the \$745-million ecoENERGY Retrofit – Homes program provided federal grants to home owners for improving the energy efficiency of their homes and reducing their home's impact on the environment. Originally a four-year program, an additional one-year investment of \$400 million was allocated in 2011–2012.

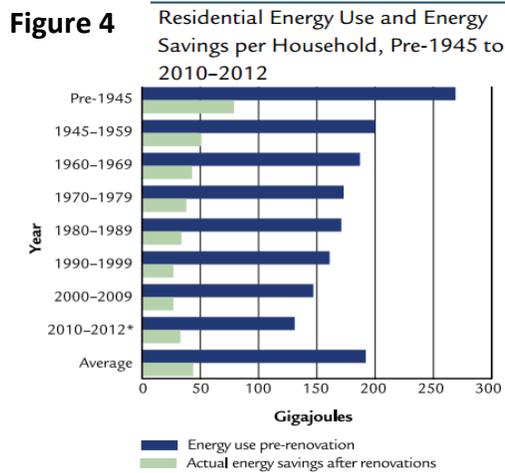
The ecoENERGY Retrofit – Homes program used NRCan's EnerGuide Rating System to help homeowners make smart energy retrofit decisions for their home. With this system, an energy advisor performs a professional evaluation of the energy efficiency characteristics of the house, including the EnerGuide pre-retrofit energy rating of the house with a detailed checklist of the recommended upgrades. The home owner then chooses which upgrades to have done and the advisor performs a post-retrofit energy evaluation, which includes providing an energy-rating label for the house.

Along with ecoENERGY Retrofit – Homes, 12 of 13 provinces and territories offered complementary incentive programs.

Key ecoENERGY Retrofit-Homes Program Achievements

- From 2007 to 2012, the ecoENERGY Retrofit–Homes program provided incentives to more than 640 000 homeowners. As a result of this program, these **homeowners are now saving over \$400 million on their annual energy bills** and are lowering their energy consumption by an average of 20 per cent.
- This program developed the infrastructure for home energy assessments and labelling, and more than 2,000 energy advisors have been trained by service organizations since the programs’ inception.
- It is estimated that the ecoENERGY Retrofit–Homes program has triggered **more than \$8 billion in economic activity** and has created and protected thousands of jobs.

Figure 4 illustrates the energy use and savings gained per household before and after renovations.



Source: Natural Resources Canada (2013). *Improving Energy Performance in Canada: Report to Parliament Under the Energy Efficiency Act For the Fiscal Year 2011–2012*.

By requiring written receipts for expenses eligible for a grant, the ecoENERGY Retrofit – Homes program had the added benefit of encouraging people to work with professional renovators. This also has the effect of bolstering the government’s efforts to combat the underground cash economy in home renovation services. The expired ecoENERGY Retrofit program could be customized to Ontario’s needs and renewed at the provincial level to enhance the quality of our province’s existing older housing stock, particularly in terms of its environmental performance. The residential sector is already a leader in reducing greenhouse gas emissions, and such a program in Ontario would help homeowners achieve even more. Improved energy efficiency saves homeowners money, and it helps Ontario meet its environmental goals.

Energy Efficiency Home Renovation Tax Credit (Combating the Underground Economy)

An effective tax administration system requires consumers and businesses to pay their fair share of taxes. Pressure from the underground economy continues to plague the renovation sector where a high percentage of work is done for “cash”. The underground economy exposes homeowners to significant risk they often don’t understand and that can threaten their financial security. When consumers and businesses do not pay their fair share of taxes, they disadvantage other consumers and businesses that do follow the rules and often perform

work not consistent with health and safety laws. The \$24 billion renovation sector that employs over 182,000 Ontarians is particularly vulnerable to the ‘cash deal’.

OHBA recommends a permanent targeted Home Renovation Tax Credit be established for contractor renovations specifically undertaking work to improve the energy efficiency of existing homes. Such a measure would have the added benefit of strongly encouraging consumers to use legitimate contractors and create a paper trail to deter underground activity while stimulating the economy. The tax credit could be targeted and tailored to achieve a number of specific public policy objectives related to climate change mitigation and adaptation. OHBA notes that the federal Home Renovation Tax Credit (HRTC) was a tremendous success and that a Canada Revenue Agency (CRA) press release on January 25, 2011 stated, “analysts have estimated it [HRTC] pumped an additional \$4.3 billion in renovation investment into the economy at a time when the recession would have reduced investment in the sector.”

OHBA is supportive of the existing Seniors Healthy Homes Renovation Tax Credit (HHRTC) as a step in the right direction to curb underground activity (while supporting other public policy objectives). The Seniors Healthy Homes Renovation Tax allows seniors greater flexibility to age-in-place and supports legitimate businesses through the collection of receipts. OHBA recommends that the provincial government adapt the successful HHRTC and introduce a new Home Renovation Tax Credit specifically targeting energy-efficient upgrades to improve Ontario’s existing housing stock.

3. COMMUNITIES & BUILT FORM: ONTARIO SKILLS BASE

Industry and Workforce Capacity

Industry capacity and workforce capacity are connected but separate concepts that impact communities and built form. Industry capacity may be considered as having the technological understanding, field testing, research support, available systems that are at, or near, mainstream capabilities and enough industry uptake through voluntary programs to have demonstrated the ability to produce the product. Workforce capacity may be considered the skilled labour to meet industry capacity. Even if there is the capability to produce innovative product, the workforce must be trained and capable of producing the product.

There are two key areas of concern: replacing the existing workforce and the need for trained and qualified professionals.

Replacing the existing workforce:

- We are approaching baby boom retirement and already the residential sector is seeing labour shortages and increases in labour costs as a result, which will only worsen if not addressed;
- There is not only the need to train new workers, but a critical need to create a whole new workforce;
- Apprenticeships, journeymen and trade careers must be promoted as career options and supported in the education system;
- Ontario needs to attract more skilled labour.

Existing housing and the need for trained and qualified renovators:

- The existing housing stock is much larger, older and less energy-efficient than new homes;
- Trained and qualified renovators are required in order to retrofit existing homes safely, who are educated on the unintended consequences;
 - E.g. reducing air leakage in older homes may become dangerous, if at the same time the knowledge is not there to deal with older, direct-draft (naturally-aspirating) home appliances (such as furnaces, water heaters, wood-burning appliances, etc.);
 - Adding more insulation without understanding building science principles may lead to mould, rot, wall failures and health issues.

4. PRICE ON CARBON

Carbon Pricing Mechanism

OHBA has not yet established an official position on carbon pricing or various possible mechanisms or systems that could be established to put a price on carbon emissions. OHBA is looking forward to continued dialogue with the MOECC and other stakeholders to determine full implications, challenges and opportunities for the land development, new housing and professional renovation industries.

Conclusion

OHBA appreciates the opportunity to submit our recommendations with respect to Ontario's Climate Change Strategy for consideration by the Ministry of Environment and Climate Change. OHBA expects this consultation will result in the province and municipalities demonstrating stronger leadership to ensure effective implementation of provincial policy. Furthermore, with the 45-day consultation period coming to an end, the OHBA submission and other stakeholder submissions should serve as an opportunity for the Ministry of Environment and Climate Change to directly engage with stakeholders with respect to recommendations to improve Ontario's performance to mitigate climate change.

OHBA members from across Ontario from Windsor to Cornwall and from Niagara to Thunder Bay will continue to be engaged with both the government and their provincial association through additional opportunities for consultation. Going forward, OHBA expects that there will be additional consultation prior to any new legislation being implemented that would impact either the land-use planning system or the Ontario Building Code. OHBA continues to support balanced public policy initiatives that do not compromise the ability of Ontarians to be able to afford to purchase or rent housing in Ontario.