

PUT A LABEL ON IT

THE BC ENERGY STEP CODE & HOME ENERGY LABELLING DISCLOSURE

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**SUBMITTED TO:
THE DISTRICT OF SAANICH AND BC HYDRO**

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ENERGY
STEPCODE
BUILDING BEYOND THE STANDARD

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Executive Summary

The American Council for an Energy Efficient Economy have clearly stated: “The value of energy efficiency in properly implemented construction standards is universally recognized as the easiest and most cost-effective way to help consumers save energy and money, make housing more affordable, and reduce air pollution. All of these benefits are difficult or impossible to capture if not taken into consideration at the time of construction.”¹

To date, for British Columbia to capture the benefits of properly implemented construction standards for Part 9 new construction, the core challenges have been twofold:

- **Regulatory Challenges:** There have not been effective and consistent regulatory compliance mechanisms and processes to validate that the minimum energy efficiency requirements of the building code are being met.
- **Market Valuation and Market Demand Challenges:** There has been a lack of information on the energy performance of new homes for sale, and mechanisms to provide access to that information. In turn, home buying consumers and home sellers (builders, developers, REALTORS®) are unable to properly value energy efficiency in residential markets. Clear, consistent, and standardized information on the comparative energy performance of a home provides the foundation to place a market value on new home energy efficiency.

The intent of this report is to provide guidance on how local governments adopting the BC Energy Step Code for Part 9 buildings can, at no additional cost to the builder, enable home energy labelling disclosure. A well-integrated combination of the BC Energy Step Code (to address regulatory challenges) and the introduction of home energy labelling disclosure (to address market valuation and market demand challenges) has the potential to become a strong market transformation strategy to improve the efficiency of new home construction. The disclosure of energy labels can offer the benefits of: a) providing industry with a marketing opportunity to differentiate themselves as developers and builders of high efficiency homes, b) providing transparency of home energy performance information in property transactions to allow consumers to make informed decisions, and c) building industry and consumer awareness, understanding, and demand for more energy efficient homes.

The first steps for local governments to enable home energy labelling disclosure for new Part 9 construction includes:

1. Establishing a BC Energy Step Code by-law
2. Introducing administrative requirements to complement the BC Energy Step Code by-law and enable the disclosure of home energy labels
3. Expanding the market transformation potential of home energy labelling disclosure by: a) collaboratively working towards a common vision for enabling consumer access to home energy labels and b) developing an effective online mechanism to make energy labels publically accessible to all stakeholders.

To provide context and to better inform the development of home energy labelling disclosure programs in BC, this report also outlines the key challenges, barriers, and benefits of home energy labelling disclosure and provides an overview of the lessons learned from other market transformation initiatives and energy labelling disclosure initiatives in North America. A home energy labelling disclosure program in BC will have the best chances of success if these key lessons are taken into consideration.

¹ <https://aceee.org/topics/building-codes>

Definitions

Terms	Definitions
Market Transformation	Market transformation for energy efficiency is removing barriers, exploiting opportunities, and promoting efficient technologies, processes, and services so that cost-effective energy efficiency practices become the preferred and sustainable standard practice within the marketplace.
EnerGuide Rating System	<p>EnerGuide is the official mark of the Government of Canada for its energy performance rating and labeling program for houses, light-duty vehicles, and certain energy-using products. The EnerGuide Rating System (ERS) for houses provides a reliable national infrastructure that includes a home energy rating, detailed reports for homeowners, and a professional network of delivery agents operating in all regions of the country, including throughout BC. Policy and program users of the ERS can leverage the recognizable EnerGuide brand to achieve higher visibility for home energy performance and to provide improved information about energy efficiency for consumers and industry when considering home energy improvements or building/purchasing a home. The updated ERS is designed to achieve the following:</p> <ul style="list-style-type: none"> • Help Canadian homeowners, industry, and stakeholders become ‘energy literate’ regarding homes and decisions related to them; • Provide specific, readily accessible energy performance information to be widely used to support decision making in designing, constructing, purchasing, renovating, or operating a home; and • Facilitate energy performance advancements in new and existing low-rise housing sectors by encouraging home builders and homeowners to improve the houses that they live in, build, or renovate. This should lower operating costs, increase comfort, and reduce the environmental impact of housing energy use in Canada. <p>The new EnerGuide Rating System Version 15 (ERS v15) has adopted a revised scale that uses actual units of energy to provide the rating of the house in gigajoules (GJ) per year. A house with better energy performance rates lower on the scale; a house that produces as much energy as it uses on an annual basis rates zero. The ERS label also includes rated greenhouse gas (GHG) emissions (tonnes/year) and rated energy intensity (GJ/m²/year) to expand consumer and industry awareness about energy and GHG consumption.</p>
Home Energy Label	A home energy label is an information tool, produced by a trusted and recognized third-party, and designed to provide consumers with recognisable and comparable information about the modelled energy consumption of a home.
Energy Label Disclosure	Public disclosure of a new home’s energy label, making it accessible to consumers, industry, government, institutions, and other organizations.
Energy Data Transparency/ Disclosure	Disclosure of some or all building attributes and home energy labelling data so that it is visible to local governments, utilities, academic institutions, organizations, and the public.

BC Energy Step Code	<p>The BC Energy Step Code is a voluntary provincial standard enacted in April 2017 that provides an incremental and consistent approach to achieving more energy-efficient buildings that go beyond the requirements of the base BC Building Code. It does so by establishing a series of measurable, performance-based energy efficiency requirements (steps) for new construction that builders can choose to build to and, as of 15 December 2017, communities may voluntarily choose to adopt in bylaws and policies. Each of the steps list requirements for:</p> <ul style="list-style-type: none"> • Energy Modelling (required/not required) • Airtightness in Air Changes per hour (ACH) • Equipment and Systems measured by Mechanical Energy Use Intensity (MEUI) or Percentage Lower than EnerGuide Rating System Reference House (%LTRH) • Building Envelope measured in Thermal Energy Demand Intensity (TEDI) or Peak Thermal Load (PTL)
BC Energy Compliance Report	<p>The BC Energy Compliance Report - Performance Paths for Part 9 Buildings provides a standardized report template for Part 9 buildings complying with Subsection 9.36.5. or 9.36.6. of the 2012 BC Building Code. The Compliance Report is produced by a third party service provider and provided to the builder, who in turn submits it to the local government authority requesting verification that a BC Energy Step Code requirement be met.</p>

Research Methods

The findings in the report are based on a review of academic and other literature, interviews with industry stakeholders, and the input and feedback of the Put a Label on It Working Group. The findings are also rooted in the experience of the report authors from City Green Solutions who have written and thought extensively about the potential of the EnerGuide Rating System and home energy labelling disclosure. See Appendix 4 for a list of consultations and resources.

Introduction

Context

Home energy labelling has been identified as an important precursor for market transformation on energy efficient buildings. Without widely available and easily understood energy labels, energy efficiency has no mechanism to make it into decision-making processes when it comes to home construction, renovation, and real estate transactions. While transparency through labelling has become standard practice in other facets of our lives - from food nutrition to fuel economy to the energy consumption of home appliances - prospective homeowners are left in the dark as to the operating costs of what is likely the largest investment of their lives.

To achieve the ambitious GHG reduction targets held by many BC communities, local governments need better building data and a strong policy foundation in order to develop effective building efficiency strategies; they simultaneously need to leverage mechanisms, programs, and policies to increase the home energy and GHG literacy of the public. Home energy labelling and disclosure is an important piece of the puzzle on both these fronts: it can be embedded to better inform efficiency programs and to build industry and consumer awareness, understanding, and ultimately demand for more energy efficient homes over time.

Local governments that opt into using the BC Energy Step Code will require new Part 9 homes to undertake energy modelling and air tightness testing. Many of the builders and developers working within the BC Energy Step Code will be working with EnerGuide Rating System (ERS) energy advisors and service organizations who will generate both a BC Energy Step Code Compliance Report and an ERS energy rating and label. Because the ERS label is already being produced for most Part 9 homes participating in the BC Energy Step Code, and there is no additional incremental cost for producing the ERS label, the introduction of the BC Energy Step Code presents an opportunity to help set the stage for expanded home energy labelling disclosure requirements for Part 9 new residential construction.

The intent of this report is to provide local governments with clear guidance on how they can:

- a. Ensure that homes built under a Step Code regulation are generating performance labels that are accessible to the local government and homeowner in a readily usable format, and
- b. Position their community for a mandatory home energy labelling and disclosure program for new homes through the adoption of a BC Energy Step Code for Part 9 buildings.

The BC Energy Step Code Opportunity

The introduction of the BC Energy Step Code offers a unique opportunity to advance and unleash the market transformation impacts of home energy labelling disclosure. In turn, home energy labelling disclosure offers opportunities to enhance the regulatory and compliance impacts of the BC Energy Step Code.

The BC Energy Step Code can be seen as an enabling regulation for home energy rating disclosure. When adopted by a local government, the BC Energy Step Code will enable home energy labelling disclosure in the following ways:

- **No Incremental Cost:** The performance-based requirements of the BC Energy Step Code require energy modelling and the production of the information that populates a home energy label. The financial barrier of the incremental cost to the builder of having a label produced for disclosure purposes is thus removed.

- **Creation of a New Status Quo:** The BC Energy Step Code requirement of energy modelling and the production of an energy label will create a new home construction industry standard for energy modelling and energy labelling of homes. Once this new standard for home energy labelling of new construction is in place, it is a much smaller step to introduce home energy labelling disclosure.
- **Home Energy Rating Information Already (Partially) Disclosed:** As part of the process of the BC Energy Step Code the home energy label (information) is already disclosed. The rated energy consumption (equivalent to the ERS energy rating) is provided:
 - To the builder by the energy advisor for voluntary disclosure to the homeowner;
 - To the local government, by the builder, in the BC Energy Compliance Report; and
 - To the province, utilities, and local governments (when data transfer agreements are in place), by Natural Resources Canada.
- **The BC Energy Step Code Process and Infrastructure can be Adapted to Advance Labelling Disclosure:** By introducing administrative requirements that complement a BC Energy Step Code bylaw, there is potential to integrate the home energy label disclosure process nearly seamlessly.

Energy labelling disclosure provides the opportunity to enhance the outcomes of the BC Energy Step Code in the following ways:

- **Public Disclosure:** While the BC Energy Step Code will facilitate government access to home energy performance and energy rating information, currently there is no mechanism or process for the potential future homeowner to receive this information. Energy labelling disclosure increases the public transparency and visibility of the energy performance (and GHG footprint) of the home through consumer access to the information on the home energy label.
- **Market Value of Homes:** Consumer access to information about the comparative energy performance of a home provides the foundation to place a market value on new home energy efficiency. Information barriers prevent industry from effectively marketing energy efficient homes and limit the consumer's ability to identify efficient homes; this represents a gap in the market value chain for new construction. Without reliable and accessible information on the energy efficiency of one home as compared to another, it is difficult to bring energy efficiency into the market value chain.
- **Market Differentiator for Industry:** Home energy labelling disclosure represents a marketing opportunity for industry to differentiate themselves as builders of high efficiency homes. The home energy label validates the builder's investments in energy efficient construction and provides the consumer with the information to make an informed choice. Standardized energy ratings and labels will increase consumer awareness and energy literacy and, in turn, motivate builders to find more cost effective ways to build energy efficient homes and create a demand for higher efficiency new home construction.

Emerging Policy Directions

As the concept of home energy labelling disclosure has been discussed for many years, there are a number of existing and emerging policies and regulations that are providing fertile ground for expanded stakeholder collaboration and for new programs and initiatives to be launched.

Policy Direction	Description
Federal Policy Direction	<ul style="list-style-type: none"> Canada's Buildings Strategy, released in August 2017, has the following goal: "Federal, provincial, and territorial government will work together with the aim of requiring labelling of building energy use by as early as 2019."²
Provincial Policy Direction	<ul style="list-style-type: none"> The Ministry of Energy, Mines and Petroleum Resources has been given the mandate to make substantial progress on creating a roadmap for the future of BC energy that will drive innovation, expand energy efficiency and conservation programs, generate new energy responsibly and sustainably, reduce GHG emissions, and create good, lasting jobs across the province. The BC Climate Leadership Plan commits to reduce GHG emissions to 80% below 2007 levels. This involves local governments with respect to buildings. In September 2017, the BC government's throne speech promised "decisive action" on climate change, including creating jobs through energy retrofits.
Local Government Policy Direction	<ul style="list-style-type: none"> In September 2017, the Union of BC Municipalities endorsed a resolution calling for "Provincial Action on Building Energy Benchmarking," which demonstrates widespread local government support for energy-efficient buildings that improve the quality and health of living and work spaces, and supports innovation in the local supply chain. In addition to supporting benchmarking, the 2017 UBCM resolution identifies significant local government support for energy labelling.
Provincial Regulation	<ul style="list-style-type: none"> The BC Energy Step Code is a voluntary provincial standard enacted in April 2017 that provides an incremental and consistent approach to achieving more energy-efficient buildings that go beyond the requirements of the base BC Building Code.
Local Government Regulation	<ul style="list-style-type: none"> The Vancouver Building Bylaw has a requirement for energy modelling and labelling for all new home Part 9 residential construction and for some existing home Part 9 renovations over \$5,000 in value.
Residential Home Performance Industry	<ul style="list-style-type: none"> The Home Performance Stakeholder Council Industry Roadmap articulates that: "A well-known and well-understood home labelling system for energy efficiency is supported by government, utilities, mortgage lenders, the real estate industry, and purchasers" (February 2018, HPSC Working Roadmap).

² Build Smart, Canada's Building Strategy: https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/emmc/pdf/Building_Smart_en.pdf

Market Transformation Towards Energy Efficient New Buildings

Evaluating Market Transformation Potential

Market transformation in the field of home energy efficiency has been defined as removing barriers, exploiting opportunities, and promoting efficient technologies, processes, and services so that cost-effective energy efficiency practices become the sustainable standard practice within the marketplace. Experts in the field of market transformation have acknowledged that not all technologies, services, and products are suitable for market transformation. Keating (2011) has identified that the products and technologies that are most suitable for market transformation generally meet five specific guidelines. Improving the energy efficiency of new home construction fits these guidelines.

Guidelines: Best Suited Services for Market Transformation (Keating 2011)	How Home Energy Labelling Disclosure Linked to the BC Energy Step Code Meets these Guidelines
1. A clearly defined and manageable market	New Part 9 residential homes that are subject to BC Energy Step Code bylaws and policies adopted by local governments.
2. A large enough opportunity for savings to justify the resources and time commitment to achieve the desired change	New homes built at energy efficiency levels higher than the BC Building Code minimum requirements offer significant opportunities for energy savings and GHG emission reductions.
3. A story that logically and defensibly links the present state of the market to the desired future state of the market	Currently newly constructed homes may not meet the minimum energy efficiency requirements of the BC Building Code. The Canada Building Strategy and the BC Climate Action Plan call for all new homes constructed to be net zero ready by 2030 and 2032, respectively. The BC Energy Step Code provides a regulatory pathway to achieve this target. Home energy labelling provides the consumer market transformation pathway.
4. Strong non-energy benefits to help its acceptance and sustainability in the market	Energy efficient new homes have proven non-energy benefits, including being more comfortable, healthier, quieter, more affordable to heat and cool, and better for the environment.
5. An efficient version of a product that is likely to be sold with or without efficiency consideration (e.g., new home, replacement heating system)	It cannot be guaranteed that all new homes in BC are constructed to the minimum energy efficiency requirements of the BC Building Code (BCBC). For example, it is common knowledge that many new homes have considerably higher air leakage than would be required to meet the intent of the BCBC. Many consumers, if provided with information on the energy performance of the home, may choose to purchase a more energy efficient home.

Keys to Successful Market Transformation – Applied to Energy Labelling Disclosure

The American Council for an Energy Efficient Economy (ACEEE) has investigated the experiences and successes from a variety of market transformation programs and used this work to highlight the key factors for potential future market transformation programs and target markets.³ The chart below highlights the ACEEE keys to successful market transformation, provides a summary of the ACEEE lessons, and then outlines how these lessons can be applied to the BC Energy Step Code and home energy labelling disclosure.

Keys to Successful Market Transformation (ACEEE 2017)	ACEEE Summary	Lessons to be Considered for the BC Energy Step Code and Home Energy Labelling Disclosure
National/Regional Scope and Coordination	Regional and national organizations have been vital in leading and coordinating market transformation. Target markets for transformation are regional and national; programs need to be at this scale to be effective.	<ul style="list-style-type: none"> Regional or province-wide programs will be more effective than isolated local governments requiring labelling disclosure. An effective administrator, with sufficient resources, is needed to coordinate labelling disclosure.
Collaborative Effort with Common Vision	Collaboration with a common vision among key stakeholders and key market actors —manufacturers, suppliers, retailers, tradespeople, design professionals, and utilities—is fundamental to addressing the many barriers faced in transforming markets.	<ul style="list-style-type: none"> There is a need to establish a common vision for home energy labelling disclosure and provide a foundation for broad stakeholder collaboration. Key stakeholders = local governments, developers, builders, real estate industry selling new Part 9 construction, energy advisors, utilities. See Vision for Home Energy Labelling Disclosure (page 23).
Market Understanding	To transform a market requires in-depth understanding of how that market functions: who is involved, what their motivations are, what the key relationships are, what creates customer demand, and what the baseline is. Market transformation requires a logical plan for addressing and measuring changes in targeted markets based on a specific theory of market barriers, actions that can overcome them, and indicators to track them from the baseline.	<ul style="list-style-type: none"> Stakeholders will need to establish a concrete plan for advancing home energy labelling disclosure with a goal to address barriers and invest time and resources in activities that will enhance market transformation. Program coordinators will need to establish a baseline and monitor how the combination of the BC Energy Step Code and energy labelling disclosure is impacting improvements in efficient construction, market valuation, and consumer demand for efficient homes.

³ Transforming Energy Efficiency Markets: Lessons Learned and Next Steps, ACEEE, 2017 (vi).

Long-Term Commitment	The many changes required to facilitate and coordinate market transformation occur over a relatively long period, typically 5–10 years.	<ul style="list-style-type: none"> • Market transformation success will take 5–10 years of committed program implementation and collaboration. • Outreach and support to stakeholders will need to start early and continue through to exit strategy/end point.
A Structured Process and Multipronged Effort	The complexity of transforming markets demands a well-structured process and multiple coordinated program initiatives that may include performance specifications, marketing campaigns, midstream or upstream incentives, labeling, and training.	<ul style="list-style-type: none"> • The alignment of home energy labelling disclosure with BC Energy Step Code will need to be complemented by consumer and industry education, incentives for labelling and disclosure, and training and capacity building for key stakeholders.
Effective Marketing Strategies that Address the Multiple Benefits of a Measure	Ultimately the success or failure of market transformation depends on customers responding positively to a targeted product or service. To be attractive to customers requires that the product or service offer clear benefits and value. Energy savings alone generally do not provide sufficient motivation to transform markets.	<ul style="list-style-type: none"> • A successful energy labelling disclosure program will require the development of consumer and industry education and awareness-building about the consumer benefits of energy efficient homes, including improved comfort, better indoor air quality, insulation from exterior noise, lower energy bills, increased durability, and smaller environmental footprint.
Flexibility and Adaptability	Markets are dynamic. Changes may be unpredictable. Market transformation programs need to be responsive to such changes, and this requires flexibility and adaptability of program approaches and delivery.	<ul style="list-style-type: none"> • Flexibility will be required in program design and implementation. • Program administrators should be open to exploring and adapting to new online and social media options to enhance public access to home energy labels.
Exit and Transition Strategies	Market transformation programs are fundamentally limited term efforts. They reach a point at which program efforts are substantially reduced or possibly eliminated. In some cases, the end state may be the establishment of codes and standards that lock in performance and efficiency gains. In other cases, it may require limited ongoing program support to sustain the gains made by the larger market transformation initiative.	<ul style="list-style-type: none"> • Integrating home energy labelling disclosure with the BC Energy Step Code creates a pathway to an exit strategy. Voluntary adoption of the Step Code by local governments creates a new status quo for energy modelling and increasing efficiency of new construction. The introduction of home energy labelling disclosure provides a mechanism for market valuation of homes and a marketing tool for industry. Over time, the equivalent level of efficiency of the higher steps of the Step Code will become mandatory and consumer demand will require higher efficiency homes.

Benefits and Barriers to Home Energy Labelling Disclosure

Stakeholder Benefits

There are a wide variety of benefits to home energy labelling disclosure. Because home energy labelling disclosure is relatively new in North America, many of these benefits should be presented as potential benefits. The chart below outlines the type of benefit, how it benefits, and which stakeholders may benefit.

Type of Benefit	How Home Energy Labelling Disclosure for New Homes can Benefit Different Audiences	Homeowner	Builder / Industry	Local Government	Provincial / Federal Government	Realtors	Energy Advisors
Enhanced Building Code Compliance	Enhanced third party verification that new construction meets, or surpasses, minimum energy efficiency requirements of the BC Energy Step Code.	✓	✓	✓	✓	✓	✓
Address Information Barriers	Provides a clear and recognizable means to determine a home's comparative energy performance relative to code requirements, industry averages, and best practices.	✓	✓	✓	✓	✓	✓
Consumer Protection	Like fuel economy ratings on automobiles and nutrition labels on food, energy labelling provides consumers with standardized third-party information to make informed choices when purchasing a home. This protects them against purchasing an energy-inefficient home with higher than expected energy bills, and permits them to voluntarily decide to purchase a home that has been verified to be a higher level of energy efficiency.	✓		✓	✓		
Build Industry Capacity	Disclosure programs create a viable and sustained market for the energy modelling industry. Typically the energy advisor industry has relied on tax payer or utility funded incentive and rebate programs to generate demand, which has led to high levels of variability and instability in the marketplace. The combination of the BC Energy Step Code and home energy labelling disclosure programs provides a solid market demand foundation, which will stimulate growth in the industry and private sector investments, leading to the development of highly qualified energy advising professionals. Investment and growth in the industry will lead to innovations in services and reductions in service costs.		✓				✓
Market Valuation	Having information about the comparative energy performance of a home provides the foundation to place a market value on new home energy efficiency. The home energy label validates the investments made by the builder in energy efficiency and provides the consumer with the information to make an informed choice. Standardized energy ratings and labels will increase consumer awareness and energy literacy and, in turn, motivate builders to find more cost-effective ways to build energy-efficient homes, creating demand for higher efficiency new home construction.	✓	✓	✓	✓	✓	✓
Closed Feedback Loop	The high performance home industry often operates with a disconnect between energy performance as designed at the		✓	✓	✓		✓

Between Design and Actual Performance	energy modelling phase and actual energy performance when operated. Energy labelling disclosure provides the opportunity to collect home energy performance information and create systems to track actual consumption. Over time this information can allow for adjustments in home design and energy modelling practices based on data-driven feedback on how homes are performing.						
Stimulate Innovation and Private Sector Investment	If home energy labelling programs are combined with a process to make home energy construction data publically available (in aggregate), this provides the opportunity for the new construction industry (builders, designers, manufacturers, contractors, etc.) to access valuable market intelligence information to inform market opportunity, market penetration strategies, and market development. This can result in increased private sector investments in efficient new construction technologies and practices.	✓	✓			✓	
Market Differentiator	Home energy labelling disclosure represents a marketing opportunity for industry to differentiate themselves as builders of high-efficiency homes or providers of products and services to improve the efficiency of new home construction.		✓				
Better Policies, Programs, and Regulatory Approaches	Being armed with detailed annual energy and GHG performance information on all new homes with disclosed energy labels will provide governments with the capacity to monitor and evaluate the progress of relevant new construction energy and GHG reduction policies, programs, and regulatory approaches.	✓		✓	✓		

Enhancing Public Energy Literacy through Labelling Disclosure

One of the core benefits of the combination of the BC Energy Step Code and home energy labelling disclosure is the potential to enhance public energy literacy. The chart below outlines some of the potential differences between the current context (without energy labelling disclosure) and the future context (with energy labelling disclosure).

Without Home Energy Labels Generally when a homebuyer purchases a newly constructed home they:	With BC Energy Step Code & Energy Labeling Disclosure (and a well-developed consumer & industry education program) homebuyers will:
Assume that the home they are purchasing is built to the minimum legal energy efficiency requirements of the BC Building Code.	Have a means to verify how energy efficient the home they are considering purchasing is, compared to a minimum code built home.
May believe that because the home has ENERGY STAR appliances, efficient windows, and/or a third party green home label, the home is already at a high level of energy efficiency.	Be able to recognize the energy efficient features of a home and have a home energy rating to determine exactly how efficient that home is compared to other homes.
Do not have the available information to make an informed decision on purchasing a home with low energy consumption or low greenhouse gas emissions.	Have clear information on the annual modelled energy consumption and greenhouse gas emissions footprint of the home prior to purchasing.

Challenges and Barriers to Labelling and Disclosure

Along with the potential benefits come a wide range of potential challenges and barriers to regulating home energy labelling disclosure. For the purposes of this report these challenges and barriers have been separated into nine separate categories.

New Construction - Barriers & Challenges to Home Energy Labelling Disclosure	
Category / Type	Barriers / Challenges
Stakeholder Political Will	Stakeholders can still be wary of spending political capital to implement labelling and disclosure programs, particularly if there are challenging regulatory steps or if there is potential for organized opposition.
Long Term Commitment	Advancing market transformation with home energy labelling, as with market transformation in other sectors, is a long term commitment of potentially 5-10 years. Collaborating stakeholders need to be able to make the long term resource and financial commitment to facilitate this market transformation.
Relatively Uncharted Territory	Home energy labelling disclosure programs are not new, but there are only a few existing programs in North America. There is a need for streamlined energy labelling disclosure processes to be in place prior to program launch. These processes need to be specifically designed for the context of the BC Energy Step Code.
Financial	There are start-up costs and ongoing home energy labelling disclosure program infrastructure and implementation costs that would need long term financial investment from participating stakeholders (government and utilities).
Privacy	Public disclosure of a home's energy rating has been criticized as an infringement on personal privacy. There is a need to communicate that a home energy rating is a rating of the home (using standard operating procedures) and not personal energy consumption, and that no personal information is included on the home energy label.
Energy Advisor Industry / Capacity	Capacity to Deliver: Prior to a province-wide home energy labelling disclosure program being introduced, an increase in the number of energy advisors operating in the province would be required, in particular for energy advisors servicing rural and remote areas.
	Capacity Building: There is a need for the energy advisor industry and supporting stakeholders to further advance the professionalism of the energy advisor industry through training and capacity building to provide high quality, accurate, and consistent services.
Awareness / Motivation	While consumers are familiar with EnerGuide labels on appliances and other products, there is still limited consumer understanding of the new EnerGuide Rating scale for homes and, in general, low awareness of the concept of home energy labelling.
	A common assumption is that if people are given good information (a home energy label) and provided with financial incentives, they will take action. Behavioral economics tells us that this is not the case. Successful implementation of home energy labelling disclosure will require multiple

	coordinated and overlapping initiatives, including marketing campaigns, consumer and industry education, and training.
Voluntary Programs Have Limited Impact	Typically, voluntary home energy labelling programs have had very limited impact. To make meaningful progress, a regulated and mandatory program is required.
Connecting to Home Sales/Purchase Process	Of the six real estate boards in B.C., only the Victoria Real Estate Board has added an EnerGuide rating field to their Multiple Listing Service (MLS) property listing system. Although a dedicated field in MLS is not necessary for disclosure, it is an important tool to help achieve consumer education and market transformation at a critical decision point.
	Some stakeholders have highlighted that hot real estate markets (like Vancouver and Victoria) don't need any additional motivations or schemes to sell homes, and buyers can't be overly discerning.

Unleashing Energy Labelling Disclosure: Key Findings

A review of the latest research and findings from leading programs highlights some key lessons that can be used to inform the development of home energy labelling disclosure programs in British Columbia.

Lesson Summary	
Lesson 1	The collective impact of voluntary energy labelling is virtually invisible without energy labelling disclosure and a well developed energy labelling consumer and education program.
Lesson 2	The real estate industry should be engaged and on board.
Lesson 3	Program and Process Design Matters: <ul style="list-style-type: none"> A) Well designed disclosure policy and processes need to provide the right information, in the right way, at the right time, and to the right stakeholders. B) Of key importance is trust in the home energy labelling system and the third party companies and organizations providing energy labelling services. C) The successful implementation of home energy labelling and disclosure initiatives require an administering authority and database.
Lesson 4	Incentive programs can be useful market transformation tools when focused on an end goal.

Lesson 1: Impacts of voluntary energy labelling are virtually invisible without energy labelling disclosure and a well developed energy labelling consumer and education program.

Analysis completed by City Green demonstrates that between January 2007 and February 2017 an estimated 61,785 new and existing homes were labelled in Metro Vancouver through the EnerGuide Rating System (ERS), representing approximately 11% of the total housing stock eligible for ERS single family detached and attached labelling.⁴ The existing homes that were retrofitted delivered modelled greenhouse gas emissions savings of 102,135 tonnes of carbon dioxide equivalent (t CO₂e) per year. However, the majority of interested stakeholders in BC were unaware of how many homes had received energy labels, the number and type of energy upgrades that were completed, or the greenhouse gas emissions reduction impacts of the energy upgrades. Additionally, there is no information available on whether or not any of these labels were posted visibly in the home or used by the homeowner at the point of selling the home to validate the investments they had made in home energy improvements.

Lessons:

- Without a transparent and publically accessible way for local governments and other stakeholders to both access the information on numbers of homes that receive energy labels (and are either built or retrofitted to higher levels of efficiency) and an effective process to communicate this information to industry and the public,

⁴ City Green Solutions, Metro Vancouver EnerGuide Rating System Critical Mass Report, March 2017.

the individual and collective positive economic and environmental impacts of home energy improvements and efficient new construction are virtually invisible.

- Voluntary approaches to energy labelling may serve the purpose of educating individual homeowners, but do not take advantage of the larger market transformation impact of the energy label or the data that is available about the home through the EnerGuide Rating System database. Regulated or mandatory approaches that make home energy labelling disclosure a requirement have far greater potential to stimulate market transformation.
- Regulated home energy labelling disclosure programs need to be complemented with well-developed consumer education and awareness raising programs. See Lesson 3.

Lesson 2: The real estate industry should be engaged and on board.

The real estate industry has been a well organized and powerful lobby in opposition to mandated energy labelling disclosure in Connecticut State, Vermont State⁵, and the Province of Ontario. In Ontario the opposition to mandated energy labelling disclosure appears to be more focused on the perceived negative impacts of the policy on existing homes, rather than new construction, but generally the opposition is against the broad concept of mandatory home energy labelling disclosure regulations linked to the time of sale or listing.

Lessons:

- Regulations that require home energy labelling for new construction seem to be acceptable to the real estate industry as there are minimal, if any, key points of opposition.
- Early engagement and collaboration among key stakeholders is necessary to address potential barriers and opposition to market transformation initiatives. Given a central factor in the impact of home energy labelling disclosure is the potential for it to enable the market to value energy efficiency at the time listing a home for sale, it is important that the real estate industry be engaged, consulted, and provided with the opportunity to help develop home energy labelling disclosure initiatives.

Lesson 3A: Program and Process Design Matters. A well designed disclosure policy and processes need to provide the right information, in the right way, at the right time, and to the right stakeholders.

Across the majority of studies on home energy labelling initiatives, a common theme is that the information disclosed on an energy rating and label must be clearly and easily understood by the average consumer and by industry stakeholders and that they must receive the right information, in the right way, at the right time.

Although a survey of consumers' understanding of the information on the home energy label was outside of the scope of this report, it could be generalized that there is likely not a high level of consumer understanding about the meaning of all the information contained on the EnerGuide label, or other home energy labels, or about how the information on the label can be used. For example:

⁵ Building Energy Rating and Disclosure Policies – Update and Lessons from the Field (p. 19).

- Natural Resources Canada has developed resources to introduce and educate consumers about the EnerGuide Label, but these resources may not always be making it into the hands of people who need to see them. If consumers receive an energy label, but don't fully understand what it means, there is much less impact than if they were to fully understand the information on the label.
- The EnerGuide Rating System Technical Procedures outline that the "energy advisor's scope of work includes the following tasks: a) Provide the label and Homeowner Information Sheet to the homeowner, either by mail or email. Encourage the homeowner to post the label in their mechanical room (e.g. on the electrical panel), or to display the label as required by local programs or regulations. A self-adhesive label template is available to service organizations and energy advisors from Natural Resources Canada. b) Show the homeowner a sample Homeowner Information Sheet and briefly describe its content. Inform the homeowner of the document, [Guide to the EnerGuide Label for Homes](#)."⁶ However, not all energy advisors may be encouraging builders and homeowners to post the label within the home and providing a copy of the Guide to the EnerGuide Label for Homes. Encouragement alone may not be enough to actually get the builder or homeowner to post the label on the electrical panel.
- As part of the research for this report, a few dozen real estate agents were informally surveyed about whether or not they are using the EnerGuide Rating in the home sale or purchasing process. By and large, the real estate agents were not asking about the existence of an EnerGuide Rating when posting a home for sale or assisting with a purchase, and they were not clear on how to complete the EnerGuide Rating section on a Property Disclosure Statement.
- In some energy labelling disclosure programs in the United States and Europe, the energy label is only required when selling a home and disclosed only to the buyer at the time of closing the sale. In this case, the buyers receive the information too late for energy efficiency information to influence their purchasing decision.

Lessons:

- More focus needs to be placed on educating homeowners and industry on what an energy label is, how to read it, where to put it in the home, and when and how to use it to compare the relative energy efficiency of different homes. To help achieve this:
 - There is a role for energy advisors and service organizations to build on their relationships with builders and homeowners to deliver information about the energy label.
 - There is a need for larger coordinated consumer and industry engagement campaigns to build awareness about home energy labels.
- Home energy labels need to be available early in the process of the home sale so that home buyers are provided with meaningful information to use energy performance in their decision making process. This means the home energy label needs to be available before the home is posted for sale, and at the time of listing, so it can be posted in the home (electrical panel), included in the home information package provided by the Realtor, and available for posting online.

⁶ [ERS Technical Procedures v 15.4](#), Section 3.3 Scope of Work (p. 18).

- An important impact of home energy labelling disclosure is the potential for it to enable the market to value energy efficiency. Provided with specific and clear information on the comparative energy efficiency of a home, some buyers will have a preference for more energy efficient new homes, which in turn motivates the new construction industry to place more emphasis on, at the minimum, building to minimum energy efficiency requirements and ideally building to higher levels of efficiency. If the energy label is provided too late, the disclosure policy weakens its capacity to influence the market value of an energy efficient home.

Lesson 3B: Program and Process Design Matters. The importance of trust in the home energy labelling system and the third party companies and organizations providing energy labelling services.

Evaluations of home energy labelling disclosure programs have identified that consumers must have a high level of trust in the home energy labelling system and in the third party companies and organizations that provide the energy labelling services. Third party service providers need sufficient training and certification and must be subject to a well-enforced code of ethics and robust quality-assurance process that has sufficient controls and capacity to maintain a high level of quality in the delivery of services.

Lessons:

- Home energy labelling programs in Canada have the potential to leverage the well-established and trusted EnerGuide Rating System infrastructure that is administered by Natural Resources Canada.
- Expansion of the roles for energy advisors and service organizations to provide BC Energy Step Code compliance verification services and home energy labelling disclosure services increases the responsibility for the sector and will require a higher level of training and quality assurance. As identified by the Energy Advisor Sector Council of the BC Home Energy Performance Stakeholder Council, there is a need to “further advance the professionalism of the industry through training and capacity-building to provide services of quality, accuracy, and consistency that can support implementation of future rebate and incentive programs and future regulatory programs.”

Lesson 3C: Program and Process Design Matters. The successful implementation of home energy labelling and disclosure initiatives require an administering authority and database.

A key success factor for home energy labelling disclosure programs in other jurisdictions is the existence of an effective administering authority to coordinate and administer the initiative, establish disclosure rules, provide the public and industry facing online platform, host the data collection, data aggregation and annual market transformation reporting to stakeholders, and so on.

Lessons:

- BC stakeholders will need to identify an administering authority for home energy labelling disclosure and define the scope of implementation activities.

- BC stakeholders should work with Natural Resources Canada to determine how a local, regional, or province-wide home energy labelling disclosure programs can use the Pending *My EnerGuide* website platform and the *EnerGuide Application Programming Interface* (API) as part of the energy label disclosure process in BC.

Lesson 4: Incentive programs can be useful market transformation tools when focused on an end goal.

Incentives have been proven to influence consumer and industry behaviours and the uptake of energy efficiency services and programs. Best practices for incentive program design identify the importance of specifically incentivizing the desired program outcome.

Lesson:

- If home energy labelling disclosure is a desired outcome for future new construction initiatives linked to the BC Energy Step Code, stakeholders should consider options for specifically incentivizing the disclosure of home energy labels. That is, the incentive should not be for hiring an energy advisor or having an energy model completed but rather for the actual process of disclosing the energy label.

Local Government Enabling Recommendations

The introduction of the BC Energy Step Code offers a unique opportunity to advance the market transformation impacts of home energy labelling disclosure. In turn, home energy labelling disclosure offers opportunities to enhance the regulatory and compliance impacts of the BC Energy Step Code. Local governments in BC can take advantage of these co-benefits by following these recommendations:

- Establish BC Energy Step Code by-law
- Introduce administrative requirements
- Avoid disclosing personal information

Recommendation #1: Establish a BC Energy Step Code By-law

Local governments are encouraged to review and use the resources for local governments provided on the BC Energy Step Code [website](#). After following the recommended process for stakeholder consultation, local governments should put forward a BC Energy Step Code by-law. An example model by-law is provided.

Model BC Energy Step Code by-law

*In relation to the conservation of energy and the reduction of greenhouse gas emissions, the City/District may reference and implement, in whole or in part, the **Energy Step Code**.*

*Effective DATE, 2018, any residential occupancy building regulated by Part 9 of the **Building Code** must be designed and constructed to meet the performance requirements specified in Step (1, 2,3,4, or 5) of the **Energy Step Code**.*

Application for Building Permit: Construction Regulation Bylaw⁷

Applications for a Building Permit for a building that conforms with Sentence 10.2.3.1.(1) of the Building Code shall:

- (a) Be designed to Step 1, as defined by Sentence 10.2.3.3.(1) of the Building Code;*

And

- (b) Provide sufficient documentation to demonstrate compliance with this Step to the satisfaction of the Chief Building Official.*

Recommendation #2: Introduce Administrative Requirements

Requirements for home energy labelling disclosure should not appear in a local government building by-law, as this is limited by the BC Building Act. However, local governments do have broad authority to introduce administrative requirements to complement a by-law. Other examples of administrative requirements linked to building by-laws include legal height and site surveys by a BCLS surveyor, final gas certificates, or mechanical ventilation calculation forms. The following administrative requirements are provided as a guideline for local governments wanting to advance home energy labelling disclosure:

⁷ North Vancouver, [Construction Regulation Bylaw 2004 No 7390](#) section 8.7

- A. Require the submission of the [BC Energy Compliance Report – As Built](#), with Section F completed.
- B. Require the submission of a home energy label (EnerGuide Rating System, Passive House Certification, or an acceptable standard comparable energy label). See Appendix 3. *
- C. Require a home energy label to be permanently affixed somewhere visible in the home (on or near the electrical panel). *
- D. Inform the builder that the information on the home energy label may be publicly disclosed online.

*It is important to note the EnerGuide Rating System label may not always be able to be issued prior to the issue of the occupancy permit. Occasionally, EnerGuide Rating System file submissions and issuing of energy labels can be delayed for a technical or quality assurance review.

Recommendation #3: Avoid Disclosing Personal Information

Because a home energy label does not include any personal information, local governments will not be restricted in home energy label collection, use, or disclosure by the Freedom of Information and Protection of Privacy Act. Local governments should design administrative requirements so that no personal information about an identifiable individual other than business contact information is disclosed (see Appendix 3).

Looking Ahead: Unleash the Potential on Home Energy Labelling Disclosure

Summary of Key Lessons

Lesson Type	Key Lessons to Improve Success
Market Transformation	Regional/Provincial Scope: Regional/province-wide programs will have a greater chance of being effective than localized programs focused on one city or district.
Market Transformation	Collaboration with a Common Vision: Collaboration among key stakeholders and market actors working towards a common vision is fundamental to success. Key actors for home energy labelling disclosure include local governments, builders and developers, energy advisors, Realtors, and utilities.
Market Transformation	A Long-Term Commitment: Get ready for a long ride! A long-term commitment of 5-10 years will be required to realize the full market transformation impacts of home energy labelling disclosure for new construction.
Market Transformation	Effective Marketing Strategies That Address the Multiple Benefits: Ultimately the success or failure of home energy labelling disclosure will depend on consumers and industry responding positively to the benefits and value of the program. Success will depend on a combination of effectively communicating a) that energy efficient new homes have proven non-energy benefits (including being more comfortable, healthier, quieter, more affordable to heat, and better for the environment), and b) the enhanced consumer protection benefits of regulating energy labelling disclosure.
Market Transformation	A Structured Process and Multipronged Effort: Achieving success will require much more than development of a home energy labelling disclosure process. Success will demand a well-structured process, multiple coordination efforts, and complementary initiatives that will include attractive incentive programs to motivate early adopter uptake and the implementation of effective marketing, communications, and training strategies to engage and inform consumers and industry.
Market Transformation	Flexibility and Adaptability: Markets and technology are dynamic, and future changes may be unpredictable. Home energy labelling disclosure programs need to be responsive to changes and have flexibility and adaptability built in to take advantage of changes in provincial and federal building codes and new ideas and innovative ways to enhance the disclosure process.
Energy Labelling Disclosure Best Practice	<p>Program and Process Design Matters: A home energy labelling disclosure program will have more success with the following elements incorporated into the design of the program and disclosure process:</p> <ul style="list-style-type: none"> • A well-designed disclosure policy that provides the right information, in the right way, at the right time, to the right stakeholders, while balancing access to information and the protection of privacy. • A sufficiently resourced administering authority to coordinate and manage the energy label disclosure process, provide the public and industry facing online platform, and manage the back end database for aggregating the home energy label information. • The consumer and industry facing components of the program need to be simple, streamlined, easy to use, and transparent. • Trust in the home energy labelling system and the third party companies and organizations providing energy labelling services. • Consumers and industry understand the energy rating and label, how to read it, and what to do with it.
Energy Labelling Disclosure Best Practices	The Real Estate Industry Should be Engaged and On Board: Early engagement and collaboration among key stakeholders is crucial in addressing potential barriers and opposition to market transformation initiatives. Given a key factor in the impact of home energy labelling disclosure is the potential for it to enable the market to value energy efficiency at the time listing a home for sale, it is important that the real estate industry is engaged, consulted, and provided with the opportunity to help develop home energy labelling disclosure initiatives.

Energy Labelling Disclosure Best Practices	Regulated Approaches will Have More Impact: Voluntary approaches to energy labelling may serve the purpose of educating individual homeowners, but do not take advantage of the larger market transformation impact of the energy label or the data that is available about the home through the EnerGuide Rating System database. Regulated or mandatory approaches that make home energy labelling disclosure a requirement have far greater potential to stimulate market transformation.
Energy Labelling Disclosure Best Practices	Incentive Programs can be Useful Market Transformation Tools when Focused on an End Goal: If home energy labelling disclosure is a desired outcome for future new construction initiatives linked to the BC Energy Step Code, stakeholders should consider options for specifically incentivizing the disclosure of home energy labels. That is, the incentive should not be for hiring an energy advisor or having an energy model completed but rather for the actual process of disclosing the energy label.

Stakeholder Communications and Resources

The successful implementation of a home energy disclosure program in BC will require coordinated development and delivery of communications materials and resources to engage and educate stakeholders. The chart below provides an summary overview of recommended materials.

Recommended Communications and Resources for Stakeholders		
Target Stakeholder	Type of Document	Description
Local Governments	Bulletin	A bulletin to provide guidance on the steps that local governments adopting the BC Energy Step Code for Part 9 buildings can take to improve consumer access to home energy labels. The bulletin should be short and provide specific recommendations.
All Stakeholders	Working Group Terms of Reference	A Terms of Reference for a Working Group with a mandate to: <ul style="list-style-type: none"> • advance the working vision for consumer access to home energy labels • explore options for an online platform to provide stakeholders with access to labels • provide recommendations on implementing the vision and online platform
Real Estate Industry	Guide	A summary guide to home energy labelling disclosure for the real estate industry. This should include abbreviated instructions for how and why to complete the EnerGuide Rating section in a property disclosure statement and include the EnerGuide Rating on the MLS (if the option is available).
Energy Advisors	Messaging	Template messaging for energy advisors and service organizations to provide consistency in messaging as to how homeowners and builders are encouraged to permanently display the label in a visible location.
Builders	Guide	A summary guide to using a home energy label as a marketing opportunity to differentiate themselves as builders of high efficiency homes. The guide will include a summary of the benefits of home energy labelling disclosure, highlight the options for disclosure, and provide tips, guidance, and examples of marketing energy efficient homes.

All Stakeholders	Guide	Building on existing resources, re-develop a Guide to the EnerGuide label. This should include information on how to understand the energy rating and label, how to read it, and what to do with it (where to post it in your home, how to compare the efficiency of two different homes, etc.).
All Stakeholders	Guide	Consumer friendly guide on the consumer features and benefits of energy efficient homes. This should be a practical and specific guide highlighting the consumer benefits and the enhanced consumer protection of purchasing a home with a home energy label.
All Stakeholders	Strategy	A communications and training strategy for stakeholders that will be involved in the development and implementation of home energy disclosure initiatives in BC.

Roles for Program Implementation Partners

For home energy labelling disclosure programs to become a reality in BC, there are a variety of roles and activities to be undertaken by implementing stakeholders.

Categories	Roles	Natural Resources Canada	Provincial Government	Utilities	Local Governments	Energy Advisors	Builders / Industry	Real Estate Boards
Consultation and Implementation	Participate in a Working Group to advance the working vision for expanding access to home energy labels.	✓	✓	✓	✓	✓	✓	✓
	Identify and address key barriers to home energy labelling disclosure.			✓	✓			
	Identify champion local governments and builders to lead on implementation.			✓	✓			
	Develop home energy labelling disclosure communications materials to inform consultations.			✓	✓			
Regulation	Develop an opt-in administrative requirement for home energy labelling disclosure to complement BC Energy Step Code by-laws.		✓		✓			
Administration of Disclosure Process	Design and map out a home energy label disclosure process that provides the right information, in the right way, at the right time, to the right stakeholders, while balancing access to information and the protection of privacy.	✓	✓	✓	✓	✓	✓	✓
	Identify an administering authority for home energy labelling disclosure.	✓	✓	✓	✓			

Incentives and Financial Support	Develop and administer financial incentive programs designed to motivate builders to build to higher levels of the BC Energy Step Code and specifically require disclosure of a home energy label as a condition of receiving the incentive.		✓	✓	✓			
	Enable financial support for leading local governments and stakeholders to develop home energy labelling programs, communication materials, and infrastructure.	✓	✓	✓	✓			
	Investigate options to incentivize home energy labelling disclosure process (energy evaluation subsidies).	✓	✓	✓	✓			
Marketing and Outreach	Develop and implement a comprehensive home energy labelling disclosure marketing and communications strategy, highlighting the consumer features and benefits of energy efficient homes and the industry marketing benefits of home energy labeling disclosure.	✓	✓	✓	✓	✓		
Training	Develop and implement a home energy labeling disclosure program training strategy for all key implementation sector stakeholders including: utilities, local governments, energy advisors, builders/industry, and real estate boards and members.	✓	✓	✓	✓	✓		
Advocacy	Lead broad market transformation by advocating for national/provincial scope, vision, and coordination on home energy labelling disclosure. Regional, provincial, and national programs will have higher market transformation success than localized disclosure programs.	✓	✓	✓	✓	✓	✓	✓
Data Collection and Reporting	Develop a home energy labelling data collection and reporting system that efficiently provides accurate and trusted information in an easy to use database system.	✓	✓	✓	✓	✓		
	Monitor and report on how home energy labelling disclosure is affecting construction standards, market values of efficient homes, and consumer demand.		✓	✓	✓			

Conclusion and Vision for Consumer Access to Home Energy Labels

The intent of this report is to provide guidance on how local governments adopting the BC Energy Step Code for Part 9 buildings can, at no additional cost to the builder, enable home energy labelling disclosure. A well-integrated combination of the BC Energy Step Code (to address regulatory challenges) and the introduction of home energy labelling disclosure (to address market valuation and market demand challenges) has the potential to become a strong market transformation strategy to improve the efficiency of new home construction. The disclosure of energy labels can offer the benefits of providing industry with a marketing opportunity to differentiate themselves as developers and builders of high efficiency homes, providing transparency of home energy performance information in property transactions to allow consumers to make informed decisions, and building industry and consumer awareness, understanding, and, ultimately, demand for more energy efficient homes.

The first steps for local governments to enable home energy labelling disclosure for new Part 9 construction includes:

1. Establishing a BC Energy Step Code by-law.
2. Introducing administrative requirements to complement the BC Energy Step Code by-law and enable the disclosure of home energy labels.

The next steps for local governments to realize the fuller market transformation potential of home energy labelling includes:

3. Engaging all stakeholders to collaboratively work towards a common vision for expanding consumer access to home energy labels.
4. Developing an effective disclosure mechanism (process for disclosing and online platform) that will make new home energy labels publically accessible to all stakeholders.

To this end, the Put a Label on It (BC Energy Step Code and Energy Labelling Disclosure) Working Group has established a working vision statement for stakeholders to consider, revise, and integrate into next step strategies.

Working Vision Statement: Consumer Access to Home Energy Labels

By 2022, it has become common practice that Part 9 residential new homes constructed in British Columbia receive a home energy label that is publicly accessible. Access to home energy labels and growing consumer and industry awareness on what an energy label is accelerates the adoption of energy efficient homes, providing the following results:

- Home buying consumers have access to a home's energy label information prior to buying a home. Consumers understand what an energy label is, what it means, and the full value and benefits of purchasing an energy efficient home.
- Builders and developers embrace energy labelling and use it as a marketing tool to demonstrate their homes meet or surpass the minimum energy efficiency requirements of the BC Building Code and BC Energy Step Code.
- REALTORS® understand and use the energy rating label when helping a client purchase or sell a home.
- The adoption and use of home energy labels, and increased public and industry understanding of energy and GHG performance of homes, result in higher efficiency homes being rewarded in the market as a consumer preference.
- All labelled new homes meet or surpass the minimum energy efficiency requirements of the BC Building Code.

Further and sustained ongoing work will be required prior to 2022 to engage stakeholders and develop effective processes and online platforms to enable public access to home energy labels.

Appendix 1: Bulletin #1: The BC Energy Step Code and Home Energy Labelling

To complement the Put a Label on It report, a bulletin was developed to inform local governments how to improve consumer access to home energy labels. The bulletin is available below and on the BC Energy Step Code website at: [The BC Energy Step Code and Home Energy Labelling \(PDF\)](#)



BULLETIN 1: THE BC ENERGY STEP CODE AND HOME ENERGY LABELLING

The intent of this bulletin is to provide guidance on how local governments adopting the BC Energy Step Code for Part 9 buildings can, at no additional cost to the builder, ensure homebuyers have access to a home energy label that provides information about the comparative energy performance of the home.

Home energy labels are recognized as an important tool and mechanism to enable energy efficiency considerations within market transactions, such as home construction and real estate. Transparency through labelling has become standard practice in many facets of our lives, from food nutrition to vehicle fuel economy; however, prospective homeowners are left in the dark about the energy efficiency and ongoing operating costs of what is likely the largest investment of their lives.

A home energy label is an informational tool, produced by a trusted and recognized third-party, and designed to provide consumers with recognizable and comparable information about the modelled energy consumption of a home.

The energy modelling and air testing requirements of BC Energy Step Code compliance generates the information contained within home energy labels. Local governments that are adopting, or have adopted, the BC Energy Step Code for Part 9 buildings should work with their building officials to establish *administrative requirements* that complement their BC Energy Step Code bylaw and enable consumer access to energy labels.

The following local government administrative requirements are provided as a guideline:

1. Require the submission of the [BC Energy Compliance Report – As Built](#), with Section F completed.
2. Require the submission of a home energy label, including EnerGuide Rating System, Passive House Certification, or an acceptable standard comparable energy label (see Appendix 1).
3. Require a home energy label to be permanently affixed somewhere visible in the home (on or near the electrical panel), prior to the issue of the occupancy permit.
4. Inform the builder that the information on the home energy label may be publically disclosed online. Because a home energy label does not include any personal information, local governments will not be restricted in home energy label collection, use, or disclosure by the Freedom of Information and Protection of Privacy Act.

The above noted administrative requirements are *an enabling first step* to provide homeowners with access to energy performance information. The use of energy labels as a foundation to increase industry and public awareness and ultimately, to drive demand for energy efficient new homes is a longer term objective that requires collaboration among stakeholders and all levels of government.



Appendix 1: Acceptable Standard – A Comparable Energy Label

The BC Building Code outlines that the energy performance measurement of the BC Energy Step Code can be conducted by the following stakeholders:

- ✓ Energy Advisors, Registered with Natural Resources Canada
- ✓ Certified Passive House Designer or Consultant, Approved by the Passive House Institute
- ✓ Others using modelling software tested in accordance with ANSI/ASHRAE 140 *Evaluation of Building Energy Analysis Computer Programs*

As a result, there may be different types of energy models produced which may not automatically generate a formal energy label that can be permanently affixed in the home, provided to the local government, or publically disclosed.

It is recommended that in order to advance consumer access to home energy labels, local governments should require the submission of an EnerGuide Rating System energy label, a Passive House Certificate *or* an acceptable standard comparable energy label.

This comparable energy label can be used when:

- Energy modelers are using software tested in accordance with ANSI/ASHRAE 140 *Evaluation of Building Energy Analysis Computer Programs*
- Energy advisors not registered with the EnerGuide Rating System use Hot2000 to model a home and produce a BC Energy Compliance Report
- Registered energy advisors are using Hot2000 but are unable to produce a formal EnerGuide Rating System home energy label. For example, when energy advisors use HOT2000 to model an attached home (townhome or row home) as-a-building rather than as a unit. When EnerGuide Rating System energy advisors are using alternate energy modelling and blower door testing procedures they are not able to produce an EnerGuide home energy label.

An acceptable standard comparable energy label would allow for stakeholders to receive comparable home energy performance information, for an energy label to be permanently affixed in the home, for energy label information to be posted on online platforms and for the energy label to be integrated into the home sale listing process. The chart below provides the recommended information that should be requested as part of an acceptable standard comparable energy label.



Recommended Information for an Acceptable Standard Comparable Energy Label	
Address	<ul style="list-style-type: none"> The street address of the home
Modeler	<ul style="list-style-type: none"> The date that the evaluation was conducted The company name and name of energy modeler that conducted the evaluation The name of the entity that provides quality assurance
Energy Rating	<ul style="list-style-type: none"> The Energy Rating: Energy Consumption of the home in GJ per year, with baseloads Reference House Energy Rating: Reference house energy consumption in GJ per year, with baseloads
Energy Metrics	<ul style="list-style-type: none"> Rated Annual Energy Consumption: Energy consumption GJ per year, broken down by fuel type (Natural Gas, Electricity, Oil, and Propane) Breakdown of Rated Annual Energy Consumption by system: Percentage of total energy consumption GJ per year by each different system (space heating, space cooling, water heating, ventilation, lights & appliances, and other electrical) Rated On-site Renewable Energy Contributions: Energy generated annually from on-site renewable sources (solar PV, wind, solar hot water) Rated Energy Intensity: Measured in gigajoules per square meter per year Rated Greenhouse Gas Emissions: Annual amount of greenhouse gases emitted in tonnes/year Total Heated Floor Area: The sum of the usable heated floor area of the building or unit, including all above-grade heated areas regardless of ceiling height, and all below-grade heated areas, such as basements, with a ceiling height of more than 1.2m

About this Bulletin

This bulletin is a product of the *Put a Label On It: BC Energy Step Code and Home Energy Labelling Report* (2018), completed by [City Green Solutions](#) and funded by [BC Hydro](#) in collaboration with local governments. The full *Put a Label On It* report is available on the BC Energy Step Code website (www.energystepcode.ca) as of August 2018.

We invite Local Government staff interested in sharing lessons on applying the BC Energy Step Code to join the Local Government Energy Step Code Peer Network by contacting sustainablecommunities@bchydro.com.

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Appendix 2: Data Available through the EnerGuide Rating System

Another key strategy of the Canada Building Strategy is to ‘Set Energy Data Free.’ The use of data available through the ERS may be one of the most underutilized information resources of demand side management programs and the new construction home energy performance industry in BC (and Canada).

To realize the energy and GHG reduction goals and targets of utilities and government, and encourage private investment in growing the market and expanding industry capacity, it is critically important to collect and utilize data gathered from the homes that participate in energy efficiency and home energy labelling programs.

The EnerGuide Rating System infrastructure, including the software platform, the network of Service Organizations, and the energy evaluation process, provides the infrastructure for the collection of a large amount of valuable data about participants’ homes including:

- Housing information (type, size, age, location)
- Mechanical systems (heating, domestic hot water, and ventilation systems)
- Insulation levels (attics, walls, foundation, etc.)
- Fenestration (windows and doors)
- % Lower, or higher, than ERS Reference House
- Energy and fuel consumption (modelled based on the information collected from the evaluation)
- Air tightness
- Type of construction (framing), size of home, etc.
- Number and level of energy efficiency of all labelled homes by type of home, city, region, province.

Data collected through the ERS and home energy disclosure process can be used to:

- Measure progress towards achieving the BC Energy Step Code 2032 target of net zero ready buildings.
- Measure progress and quantify GHG emission reductions that can contribute to local government goals of reducing GHG emissions by 33% from 2007 levels by 2020.
- Understand the efficiency of new construction by community, climate zone, type of home constructed, among other factors.
- Understand the additional new construction energy efficiency improvement potential by community, type of home, etc.
- Measure and evaluate participation rates, identify trends and opportunities to inform the evolution of utility and local government new construction energy efficiency programs.
- Design targeted industry engagement capacity building and training programs to take advantage of under-implemented new home construction energy efficiency products or building processes.
- Evaluate incentive, rebate, and subsidy levels to determine which level best motivates higher energy or GHG reductions from new home construction. Design a sequence of incentive programs to carry industry along the continuum of building more energy efficient homes.
- Evaluate and make data analysis available to provide invaluable market intelligence information to industry to inform market opportunity, market penetration strategies, and market development.
- Support local governments implementing GHG reduction programs by providing community specific data outlining key elements of the points identified above.

Appendix 3: Privacy Considerations

The collection, use, and disclosure of personal information by local governments is governed by the *Freedom of Information and Protection of Privacy Act* (“FOIPPA”). Personal information is defined as “recorded information about an identifiable individual other than contact information”.⁸ Personal information could include, but is not limited to, information such as name, age, income, purchases or spending habits, marital status, religion, education, employment information, or other information about an identifiable individual.

Because a home energy label does not include any personal information, local governments will not be restricted or limited in home energy label collection, use, or disclosure by FOIPPA.

An EnerGuide Label, for example, contains the following information: address of home, date of the energy model, name of business that produced the energy model/label, name of business providing quality assurance, annual rated energy consumption, annual reference house energy consumption, modelled breakdown of rated energy consumption by system (space heating, lighting, electrical, etc), on-site as designed renewable energy contributions, rated energy intensity, rated greenhouse gas emissions. Because energy modelling uses standard operating procedures for estimating the energy consumption of the newly constructed home, an energy label contains no specific information about the energy consumption of the existing or potential future occupants of the home.

Like building plans, the home energy label is information about a property, and not a person.

- The BC Office of the Information and Privacy Commissioner has held that building plans do not constitute recorded information about an identifiable individual.
 - Example: <https://www.oipc.bc.ca/orders/990>
- The Information and Privacy Commissioner in Ontario has released numerous decisions finding that building permit plans do not contain personal information, as the information therein is information about a property, not a person.
 - Examples:
 - <https://decisions.ipc.on.ca/ipc-cipvp/orders/en/item/308432/index.do>
 - <https://decisions.ipc.on.ca/ipc-cipvp/orders/en/item/134001/index.do>.
 - <https://decisions.ipc.on.ca/ipc-cipvp/orders/en/item/308311/index.do?r=AAAAAQAOYnVpbGRpbmcgcGxhb nMB>

⁸ [Freedom of Information and Protection of Privacy Act, RSBC 1996, c 165, Schedule 1](#)

Appendix 4: List of Consultations and Resources

Interview/Consultation Group:

- Put a Label On It Working Group
- FortisBC
- BC Hydro
- Natural Resources Canada
- City of Richmond
- City of New Westminster
- City of Vancouver
- Building and Safety Standards Branch, Province of BC

Resources:

- American Council for an Energy-Efficient Economy. 2017. "Transforming Energy Efficiency Markets: Lessons Learned and Next Steps." <http://aceee.org/research-report/u1715>
- American Council for an Energy-Efficient Economy. "Building Codes." <https://aceee.org/topics/building-codes>
- Canada Green Building Council and Integral Group. 2012. "Energy Benchmarking, Reporting and Disclosure in Canada: A Guide to Common Framework."
- Canadian Home Builders' Association. 2016. "Canada's Approach to Climate Change. How and Where to Reduce Emissions: Help Canadian Housing and Homeowners Continue to Lead the Way."
- City Green Solutions. 2017. "Metro Vancouver EnerGuide Rating System Critical Mass Report."
- City of Portland. "Chapter 17.108 Residential Energy Performance Rating and Disclosure." Web. December 2016.
- Government of Canada. 2017. "Build Smart Canada's Buildings Strategy: A Key Driver of the Pan-Canadian Framework on Clean Growth and Climate Change."
- Hayes, Jessica. 2017. "Program Development Pathways to Incentivize Home Energy Labelling: Encouraging Market Transformation and Residential Energy Efficiency by Reducing the Cost of Obtaining an EnerGuide Label."
- Nadkarni, Nikhil and Michaels, Harvey. 2012. "A New Model for Disclosing the Energy Performance of Residential Buildings." MIT Energy Efficiency Strategy Project.
- Natural Resources Canada. *EnerGuide Rating System - Technical Procedures v 15.4*. Section 3.3. Ottawa: Government of Canada, 2017.
- North East Energy Efficiency Partnerships. 2013. "Building Energy Rating and Disclosure Policies: Update and Lessons from the Field."
- Ontario Real Estate Association. 2015. "Submission to the Ministry of Energy, Home Energy Rating and Disclosure (HER&D) Program."
- Pembina Institute. 2015. "Home energy labelling Strategic Plan for Labelling of Part 9 Residential Buildings in B.C."
- Pembina Institute. 2016. "Building a Pan-Canadian Climate Plan – Policy options to meet or exceed Canada's 2030 emissions target." Submission to the federal-provincial-territorial climate change working groups.
- Shelton Group. 2016. "Energy Pulse™ 2016 Special Report: Playing the Planet Card."

Bylaws and Regulations:

- American Clean Energy Leadership Act 2009, s. 1462
- American Clean Energy and Security Act of 2009, s. 204
- City of Berkeley, Building Energy Saving Ordinance Ch. 19.81. 2015.
- City of Chicago, Energy Benchmarking Ordinance SO2017-7060
- City of Portland, Residential Energy Performance Rating and Disclosure Ch. 17.108. 2017.
- City of Vancouver, Energy Efficiency Updates Building By-law. 2017.
- City of Yellowknife Building By-law No. 4469-2008.
- City of Yellowknife, Building By-law No. 4685-2012.

- [Freedom of Information and Protection of Privacy Act, RSBC 1996, c 165, Schedule 1](#)
- Kansas Energy Efficiency Disclosure, KSA 66-1228. 2017.
- Maine Energy Efficiency Standards for Residential Rental Properties Act of 2006, Ch. 534.
- City of North Vancouver, [Construction Regulation By-law No. 7390-2004](#), s. 8.7
- Washington Senate Bill 5854. 2009.