

New Home Energy Efficient and 'Green' Labels
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Potential CHBA Assessment Criteria

Draft

Canadian
Home Builders'
Association



As of January 2011, there were nine initiatives operating in Canada for the labeling of new homes, based on either their energy efficiency or energy efficiency plus other environmental or 'green' features¹.

In addition, there are two energy performance rating systems for new low-rise housing: the EnerGuide Rating System (ERS) and the CRESNET E-Scale.

A number of these initiatives, including R-2000, the ERS rating regime, and ENERGY STAR for Homes, are operated by the federal government through Natural Resources Canada (NRCan).

A 2010 CHBA report² estimated that over 13,000 new homes were labeled under these initiatives in 2009, and that the total number of labeled homes in the country at that time was approximately 40,000.

In recent years, new home builders have adopted voluntary label systems at an increasing rate. Some labels, such as ENERGY STAR and Built Green, have in particular been adopted by large volume builders. As a result, in markets such as Ontario, new homes bearing voluntary, market-driven labels now hold a 20% market share.

With the exception of national initiatives such as R-2000, to date most new home labels have operated at a regional level, and not competed directly. This situation is now changing. In a number of regions, there are now multiple label systems available to builders.

As a result, there is concern within the industry that a proliferation of labels within markets could contribute to confusion amongst new home buyers and 'label fatigue'.

Additionally, differences between labels in terms of performance validation, quality assurance and implied or claimed benefits hold potential to confuse consumers, and undermine the overall credibility of voluntary, market-driven new home labeling.

As a result of these concerns, the CHBA Board of Directors has directed that research be conducted to support the Association in determining which label initiatives, if any, merit the CHBA's endorsement to builders, and on what basis. Specifically, Board resolutions call for the CHBA to develop "standards and criteria" by which to assess current label regimes.

Secondly, the Board directed that the CHBA "identify approaches" to potentially merge or simplify current label regimes, and to put forward a suggested model for such actions.

¹ These initiatives were: R-2000, EnerGuide for New Homes, ENERGY STAR for Homes, LEED for Homes, Novoclimat, Built Green, PowerSmart, EnerQuality Corporation's GreenHouse, and MASCO Corporation's *Environments For Living* program.

² *Green New Home Labels – A Discussion*, Marshall Leslie for the CHBA, October 2010

The intent underpinning these resolutions is twofold.

First, that the CHBA should determine what factors it considers are important in relation to how a label system is structured and operated, from the perspective of new home builders.

Second, that the Association provide its views on how label proprietors might collaborate, should they decide to merge labels in response to market forces.

The initial step in this process requires development of assessment criteria by which the existing energy efficiency new home labels, and more broadly-based 'green' labels, could be evaluated in a disciplined manner.

The CHBA recognizes that, when a builder participates in a new home label system, this represents a significant business decision. By associating their company with a specific label, a builder invests in the credibility of that label. The integrity and market value of the label is therefore of considerable importance to the builder.

Reflecting this, the identification of potential criteria was guided by the interests of new home builders, in three broad areas:

- The potential for liability to accrue to a builder as a result of participating in a label system, related to both technical and reputational factors.
- The financial viability of the label regime – it's capacity to remain viable and effective in the marketplace, over time.
- The delivery capacity of the label – the label's capacity to service builders in an efficient and cost-effective manner that is consistent with the requirements of the marketplace.

The following criteria, in relation to both the overall label regimes and their constituent elements or requirements, have been identified. Note that these criteria can be applied to both mandatory requirements and optional items typically listed in checklists or "point schemes" linked to label recognition levels.

Criteria for Assessing Labels

Assessment of the Overall Label Regime

There are a number of criteria that should be applied to assessing an overall label or rating system. For the most part, these focus on ‘guiding principles’ that support a label, and determine how it is structured and managed.

1) **Is the rating system/label supported adequately by sound building science and builder training, based on the R-2000 Initiative?**

The CHBA has long championed the need for a building-science based approach to any voluntary, ‘beyond code’ housing initiative. The rationale for this is straightforward: home buyers should not be subject to risks resulting from the use of unproven products, materials or building techniques, or from builders ill-equipped to undertake such projects. ‘House-as-a-System’ building science and builder training, developed through the R-2000 initiative, is recognized as the industry standard in this area. The CHBA should maintain its position that all label systems need to be based on an adequate body of building science, and include requirements for adequate builder training.

2) **Is the rating system/label supported by an open, transparent and science-informed consensus-based development and governance process that generally complies with that used by the Standards Council of Canada?**

The range of current new home label systems operating in Canada includes both publicly- and privately-owned initiatives. Those public labels operated by the federal government, through Natural Resources Canada (NRCan), are now supported by a development and policy-setting process based on Standards Council of Canada procedures.

Going forward, does the CHBA wish to assess the governance of a label regime in relation to the openness and transparency of its label development process?

One possible option for ensuring that label regimes comply with such principles is certification under the ISO 14020 and ISO 14024 Standards.

- *ISO 14020 Environmental labels and declarations – General principles* sets out an overall framework for identifying and quantifying the environmental attributes of products, and structuring programs to recognize these attributes.
- *ISO 14024 Environmental labels and declarations – Type I environmental labeling – Principles and procedures* provides a more comprehensive system of principles for third-party (Type One) environmental labeling initiatives. Many of

the requirements of ISO 14024 appear well aligned with principles held by the CHBA, including:

- A requirement that all such label regimes be voluntary in nature.
- That the label regime be based on product environmental criteria that have a recognized scientific basis.
- That the development and management of the label be grounded in a consultative process with interested parties, and that the process is transparent.
- That elements or requirements that support labeling of products be verifiable and consider the product's lifecycle.
- That label regimes avoid conflicts of interest.

At present, none of the new home label regimes operating in Canada is ISO 14020 or ISO 14024 compliant, although initiatives such as R-2000, the ERS and ENERGY STAR would appear to meet many, if not all, of the principles set out by these ISO Standards.

Further research is required to determine the feasibility of new home label regimes achieving compliance with these ISO Standards, but if feasible, the CHBA should consider recognition of ISO compliance as a criterion for endorsing a label regime.

3) Is the rating system/label performance-based? (i.e., does it involve requirements that can reasonably and consistently be expected to result in measureable performance outcomes?)

Any label recognition system that implies or states that labeled homes will provide a higher level of performance should include some objective basis for validating such performance claims. This should be based on credible performance data or metrics that are reliable, meaningful and widely accepted.

In relation to energy performance, the use of a third-party energy rating system such as the ERS, would meet this test.

Issues may arise for label systems that are points-based (LEED-H) where energy performance will vary among homes with the same rating, or for those in which recognition is awarded within a range of energy performance outcomes (Built Green). Such ambiguities need to be resolved.

In relation to non-energy requirements for which performance or other claims are implied or made, some generally accepted basis for supporting such claims should be adhered to by the label regime.

In short, the CHBA should insist that any and all performance claims have an objective, validated basis.

4) Does the rating system/label require independent, third-party verification of compliance in relevant and critical areas?

Independent, third-party validation of performance outcomes, based on recognized testing or measurement protocols, is the accepted 'gold standard' for environmental labels.

If a label system requires or recognizes a performance characteristic for completed homes, or for products and/or materials used in construction, it should provide independent validation of any such claims. In short, all performance-related claims should be 'proveable'.

5) Is the owner/proprietor of the rating system/label committed, demonstrably, to a voluntary, market-driven adoption process?

The CHBA has always maintained that any new home label initiative that aims at 'above code' performance should be both voluntary, and market-driven. Such initiatives should not be used as a regulatory instrument by jurisdictions.

Reflecting this principle, the CHBA should determine the policy of label proprietor/owners in relation to the use of their trademarks by regulatory authorities.

Label proprietor/owners have rights under law that they can exercise to prevent their trademarks from being used in ways they object to. The CHBA should determine whether label proprietor/owners are committed to taking action to prevent regulatory authorities from usurping their trademarks.

6) Does the rating system/label create builder liability?

Under a variety of circumstances, use of a new home label by a builder can involve increased liability risks. The CHBA has conducted extensive research in this area. While the potential for builder liability can never be fully extinguished, label proprietors can take reasonable steps to limit such exposure for builders.

These steps can involve both the technical requirements or options endorsed by the label, and its administrative structure.

For instance, if a label endorses or promotes the use of technologies, products or practices that are unproven, or which cannot be demonstrated objectively to deliver the claimed or intended result, a homebuyer may hold the builder responsible for not 'delivering' what was expected or promised.

ISO 14024 Environmental labels and declarations -- Self-declared environmental claims (Type II environmental labeling) sets out principles for any environmental product claim put forward by a builder, including claims associated with any label used by the builder.

The responsibility of the 'label user' for the accuracy of any environmental claim associated with a label is confirmed in ISO CAN/CSA 14021, which sets out specific requirements in relation to such claims, including that these be:

- Truthful, accurate, and able to be substantiated,
- Relevant to the product in question and environmental issues connected with it, and
- Clear about the environmental issue or aspect of the product the claim refers to.

Reflecting this, the CHBA should evaluate all label systems in terms of their potential to place the builder in contravention with the guidelines laid out in ISO CAN/CSA 14021.

Potential liability can also arise if the administration of the label regime is such that the builder cannot reasonably be assured that a home will achieve the label recognition intended, or in a timely manner, as this will likely be a requirement on any Agreement of Purchase entered into with a buyer.

More broadly, builders participating in a label regime could suffer harm if a label regime falls into disrepute, or attracts 'bad press' as a result of questions about its veracity.

Builder involvement in a label regime represents a significant business decision, and an investment in a 'brand' that will support and enhance the builder's business prospects. As such, the CHBA should place importance on the ongoing integrity of a label.

7) Is the rating system/label easily understood by both builders and consumers?

The intent of any new home label regime is to communicate, to consumers, attributes that both the label proprietor and the builder believe to be meaningful and offer value.

For this to occur, consumers must understand easily what the label signifies, and this impression needs to be consistent with the actual attributes resulting from labeling of the home.

Problems can occur if consumers' expectations of what a label 'stands for' are inconsistent with what it actually delivers. One area where confusion can occur is in relation to a new home's energy performance.

Some labels require a single, specific minimum level of energy performance (e.g., ENERGY STAR).

Other labels offer varying levels of recognition tied to increasing levels of energy performance (e.g., Built Green), but provide assurance that each higher level will always correspond with a higher minimum energy performance outcome.

Still other labels treat energy performance as a variable within a broader range of performance requirements, through a 'point system' (e.g., LEED-H) and this creates the potential for a home with a higher level of recognition to have the same energy performance as one with a 'lower' level label.

The CHBA should assess whether the structure of a label conveys an accurate and transparent representation of what is 'promised' to potential home buyers, as consumers should know what they are buying.

8) If the rating/label endorses specific products, are such endorsements based on accepted, independent certification or standards? How is the issue of conflict of interest related to product endorsements addressed?

Most new home label regimes do not endorse specific products, or brands of products. But some do.

Where this is the case, it raises obvious questions about the basis and criteria applied to support such endorsements. This would appear to be critical to the integrity of the label. If product listings or endorsements come about through 'sponsorship' or financial support for a label, rather than on the basis of objective performance criteria, there is, at the least, potential for perceived conflict of interest, and liability for builders.

As discussed, the 'gold standard' for environmental or 'green' label programs is the use of independent, third-party certification or validation of product claims and performance. Compliance with ISO 14024:1999 provides some assurance that this is in place.

The CHBA should expect that any label regime that endorses specific products or brands support any such endorsements on the basis of independent certification or validation to a recognized standard.

9) Is the rating system/label “stable” over time? Does it provide builders with something they can invest in with some confidence that it will remain consistent?

As noted previously, when a builder becomes involved with a label regime, this represents both a business decision and investment. Builders hold a reasonable expectation that the label will remain relevant to their business, and to their customers.

In practice, this requires that the label requirements, marketing and claimed benefits remain stable over time, and that the label maintains credibility in the marketplace.

It is recognized that, as building practices, equipment regulations, and building codes evolve over time, there will be a periodic need for labels to be 're-set', as is the case currently with both R-2000 and ENERGY STAR. This process is necessary in order to preserve the integrity and meaning of a label.

However, frequent or arbitrary changes to a label, in relation to performance or administrative requirements, can create instability and unnecessary costs for builders.

The CHBA should require that a label proprietor have a clear policy regarding when, and under what circumstances, label requirements will be changed.

10) Are the administrative and other “soft costs” required in gaining a rating/label clear and accurate?

Every label regime involves both 'hard' and 'soft' cost for builders. Hard costs are driven by the specific technical and performance requirements set out by the label regime, and, for the most part, builders have performance route options that allow them to comply in the most appropriate or cost-effective manner.

Label 'soft costs' can, in some cases, be more difficult to anticipate as these relate to both fees charged by the label proprietor, and any costs incurred in complying with a label's certification or reporting procedures. In practice, there is

considerable variability in soft costs among labels. In some cases, these costs are fairly predictable, in other cases they are far less so. The capacity of a label regime to provide adequate administrative support to builders, in a timely fashion, also influences the costs of participation (e.g., processing of reports, availability of verifiers, issuance of label documents, etc).

The CHBA should expect that a label proprietor will provide builders with reliable information on soft costs, and ensure that reporting and other requirements have predictable and stable costs, and business impacts.

Assessment of Specific Measures, Requirements and “Point Options” of the Rating System/Label

Beyond criteria that could be applied to the overall label or rating system, there are criteria that likely should be applied to any and all requirements, practices, options or technologies supported by a label. In this case, it is suggested that the CHBA may wish to ‘test’ the veracity of such measures through the sequential application of four criteria: Is the measure validated? Is the measure meaningful? Is the measure significant? Is the measure enduring?

- 1) Is the measure/requirement **validated**? It is critically important that the various elements and requirements of a rating or label be credible. The generally accepted process for determining the validity of a green measure is via an independent third-party, either through adherence to a recognized standard or certification process, or through actual performance measurement based on an widely-accepted protocol. Measures or requirements that cannot be quantified and validated should be avoided.
 - a. An example that meets this criterion might be wood products certified under any of the accepted sustainable wood certification regimes.
 - b. An example that might not meet this criterion would be a “point option” related to use of “drought resistant” landscaping materials, as there is no accepted standard or certification regime that attests to the performance outcome of such a measure.
- 2) Is the measure/requirement **meaningful**? Measures and requirements set out by the regime may seek to address a range of energy efficiency, environmental or occupant health outcomes. In order to be acceptable, such measures or requirements should be meaningful, in that they can be expected to yield a measureable performance improvement related to a specific outcome, when compared to typical practices. If a measure/requirement is not meaningful, it should be avoided.

- a. An example of a measure that meets this criterion might be an energy efficiency requirement for the mandatory use of natural gas furnaces rated at AFUE 95%+. Such a requirement would directly, and meaningfully, affect the energy performance of the home, and is objectively more stringent than minimum performance as set by regulation.
 - b. An example of a measure that might not meet this criterion would be a “point option” that rewards installation of an electric vehicle recharging station. The installation of such a device does not ensure that future occupants will actually own or use an electric vehicle, so it is not a meaningful measure, in that it does not ensure a specific outcome with any level of certainty.
- 3) Is the measure/requirement significant? A rating system/label may incorporate requirements or measures that have some general environmental relevance, but which lack significance, in that the use of the measure is unlikely to yield a performance outcome that would generally be judged to be of significance relative to conventional or mandated alternatives.
- a. An example of a measure that meets this criterion might be the use of ECM motors in mechanical equipment. By virtue of their design, these devices use far less electricity than conventional alternatives.
 - b. An example of a measure that might not meet this criterion is a “point option” that rewards the use of low/no VOC adhesives during construction. At present, there is no data that validates that such a practice yields a significant benefit in relation to indoor air quality during the period of occupancy. To the extent that there is any such benefit, it is more likely to accrue to the installer than the homeowner. As such, the use of low/no VOC adhesives may be a worthwhile occupational health measure, but cannot be shown to have a significant benefit to homeowners.
- 4) Is the measure **enduring**? A home is an enduring capital asset. Reflecting this, green requirements or measures should also be enduring. In practice, this should mean that any requirement or measure that contributes to a green designation should deliver benefits over the operational life of the home, and that these benefits should endure for a period similar or greater than those that might be gained if conventional alternatives were utilized.
- a. An example of a measure that meets this criterion might be added building envelope insulation, as this measure can reasonably be expected to yield performance benefits over the entire life of the home.
 - b. An example of a measure that might not meet this criterion is a “point option” that rewards the use of “green electricity” by the builder during the construction of the home. Such a measure also fails the test of

significance, and it is clearly not enduring in nature. Similarly, “point option” rewards for construction waste recycling do not yield enduring benefits. It may be, in the case of waste recycling, that a rating system/label operator may wish to require such a measure as it represents an environmentally responsible business practice, but this should not contribute to the actual rating or label given to the home.