

Notes from Webinar Meeting on August 12, 2009

ENERGY STAR Spec for HRV/ERV

About 50 people were recorded as attending the session August 12, 2009.

Comments made during the meeting are summarized below. As indicated during the meeting, NRCan requested written comments by the end of August. The day after the webinar meeting, the presentation was sent to those who registered. Most comments in these notes are not attributed to specific individuals.

Terminology re versions presented - Tier 1 and 2 with respect to the proposed expanded North American spec would be the same idea as Tables 1 and 2 of the draft Canadian spec. Both indicate initial and later performance requirements with different proposed start dates. Tier 1 / Table 1 would end when Tier 2 / Table 2 come into effect.

Need for ventilation (background)

Materials presented stressed the broad need for ventilation in houses because of higher air tightness in houses and recognition in building codes. This is not a future requirement that only applies to specially designed low energy houses. Ventilation is now a core requirement for indoor air quality in houses. However, during the discussion, there were comments suggesting that ventilation is less of an issue in milder climates and that other equipment (other than H/ERVs) may be more appropriate in milder climates based on cost considerations.

A simplified degree day based calculation of the annual sensible heating load for ventilation in Canada and the US was presented. No comments were received.

Proposed Specs

The Canadian spec and new TIER 1 and 2 specs were shown. There were a few questions of clarification but no real comments were made during the meeting.

There was a call for EPA to complete and make available their economic analyses.

Geographic zones

A number of alternative maps showing geographic zones were presented to demonstrate the wide range of approaches that are being used to define areas with similar climates. Other climate map were suggested for consideration including a recent addendum to A90.1 and the map in A62.2.

In answer to a comment, Andrew Fanara of EPA indicated that US specs will increasingly be based on climate zones. There is a correlation between the number of zones used and the complexity of the idea. Too many zones causes administrative and labelling problems and no more than 2-3 zones would be preferable.

On the number of zones required for HRV/ERV, there seemed to be general agreement that there should be no more than three (3) zones. One person summed it up that 3 zones seems to be “about right”. The suggestion of having two zones received no support.

There was also a suggestion that the spec could be based on application (such as HVAC equipment installed). This idea had some immediate support, however others pointed out that difficulties with this approach exist such as lack of experience with it, uncertainty for example where other equipment such as AC is installed and used very little, and difficulties in monitoring / compliance. An application-based approach would ultimately be driven by the climate in the region where the product would be installed in any event so it would implicitly come back to climate zone. One commenter pointed out that nearly all homes in the US (and in certain regions of Canada) have both heating systems and cooling systems installed, making an application approach both ineffective and confusing. There was a comment that geographic zones would be a good guide moving forward even if we don't go with an application based system.

One manufacturer suggested that information would continue to be required in addition to the spec in a particular geographic zone so people understand somewhat the rationale for the spec and equipment in that geographic zone. The spec could not be relied on as the sole guide on choice of equipment, installation, and maintenance. (This comment also applies to the communication section below.)

There was a suggestion for some consistency between residential and commercial zones, however that was questioned as possibly not being appropriate.

Residential contractors will need an easy method – whether it be by zones or by application – to know what to use. It must be easy to read, and easy to apply.

One manufacturer rep said he believes that three zones would be sufficient and added that we need to be decisive and clear in what HVI results would be required. Another manufacturer said geographic zones would be easy to use while not enough is known about application approach to make a decision.

Are southern and intermediate zones required?

This question was not fully addressed in the meeting, however some related points were made:

- The economics would be less favourable in those locations.
- The ENERGY STAR label might encourage sales in cases where the HRV/ERV is not the best solution. One manufacturer said he wished this would happen while indicating it unlikely. An NRCan participant asked whether specs for other ESTAR products like AC in Canada already demonstrates that specs are used in places where the economics are less compelling. The rationale for accepting this is “if you are going to install it, you might as well use efficient equipment”
- Those zones could be included in a later (Tier 2) spec.

Boundaries

Fanara said the Canadian-US border would not necessarily be the best boundary between zones. Rather, the weather / climate differences would dictate zone boundaries. Actual boundaries for HRV/ERV were not discussed to any extent in the meeting, except the boundary proposed earlier by HVI that defines the humid hot zone in the south east of the US. The cold-zone specification will include some portion of the US. All of Canada will be within the cold zone.

Defining the boundaries is yet to be done.

Equipment selection

EPA indicated desire to standardize a recommendation for which product is appropriate for a given zone (HRV or ERV).

Heat pump HRVs can also be included using the same testing standard (CSA C439) because they are already included within the scope of the standard. Accordingly, an ENERGY STAR spec is not a barrier for that type of equipment. Integrated equipment would not be included in the spec. One manufacturer suggested that a certification program for integrated equipment could be developed by those manufacturers when their sales volumes warranted it.

The question was raised about whether the goal of ENERGY STAR was to encourage the use of HRVs and ERVs or is it the goal to identify the highest performing models. EPA stated concern in pushing people (with the use of ENERGY STAR) towards a technology which might not be cost-effective for them. Our role should be to direct people who have already made the decision to go with H/ERVs towards the more efficient models. Comments supported both goals but weighed more heavily on identifying the high performance models.

There was a question on what market does this address. Fanara (EPA) said the entire market, while others suggested new housing was primary market along with existing housing with problems. Further input from manufacturers is requested to clarify what portions of H/ERV sales are to the new home market compared with existing home replacement, renovation or retrofit.

One presentation slide bullet directly asked whether there was any confusion regarding what type of equipment would be covered by the proposed EStar specification. No concerns were raised, indicating that the stakeholder group that participated in the meeting had no confusion.

Communications

We are looking for suggestions from manufacturers on good communication regarding selection, installation and maintenance of the correct equipment for the consumer's needs, including identification of the set of conditions where the recommendation would be to not use an HRV or an ERV. One manufacturer asked EPA to provide other examples of EStar or similar programs that required manufacturers to recommend that alternative products be used.

Controls

Rob Andrushuk (Manitoba Hydro) indicated that a common problem with their customers is the controls. The controls are not user friendly and houses are commonly over-ventilated or under-ventilated and often HRVs are turned off. He suggested controls be part of the specification.

Further to this, it was established that humidity control is still the most common driver for ventilation and most systems use a dehumidistat controller. No specific suggestions came forward as to how to incorporate controls in the spec. Someone did suggest that directions be simple and clear and easily available. Another commented that the HVI certified ratings do not incorporate any controls.

A question was asked whether control with a dehumidistat would result in a higher ventilation rate when using an ERV in a cold climate region compared with an HRV. If so, this could impact on the economic analysis. There was little response to the question during the meeting. Further input on this point is requested.

Market Size

One manufacturer suggested that the sales estimates in the presentation (65,000 per year sold in Canada and the same in US) are “not off the scale”. A further comment was made that the impact of potential savings is huge because the current number of (US) sales represents a market penetration rate of only a few percent.

Further input is again being requested from manufacturers relating to H/ERV market size and breakdown by:

- Efficiency level
- HRV vs. ERV
- Geographic region where sold/installed.

Labelling

The presentation included some examples of potential labelling approaches. There was limited discussion. One manufacturer suggested that we should piggy back on other product categories and use a labelling format similar to current ENERGY STAR windows labelling.

Further steps and timing

One manufacturer wants the total spec completed before introduction. Another said that would be preferable, however if the intermediate and southern zones require more time, intro of the cold region spec should move ahead. As noted above EPA indicated other zones could be part of Tier 2.

For feedback, August 30 was given as the date for feedback from the material presented at the webinar.

Next draft available for comments by mid-September.