

## **The R-2000 Initiative: An Important Continuing Investment for Canada**

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As the Federal Government moves forward with implementing the *Climate Change Plan for Canada*, the residential construction sector is expected to make a significant contribution to reducing our nation's emissions of greenhouse gasses. In relation to new housing, this effort will be built upon a very solid foundation – the R-2000 Initiative.

R-2000 represents a unique industry/government collaboration, one that has already delivered significant energy efficiency gains to Canada and to Canadian home buyers. R-2000 is recognized as a key factor in making the residential sector one of the most successful areas of the economy in reducing greenhouse gas emissions.

In the coming years, the R-2000 Initiative can, and must, continue to play a central role in addressing our nation's climate change goals in the residential sector.

In order for this to happen, the federal government will need to maintain and expand its commitment to R-2000, so as to ensure that the Initiative's infrastructure is adequate, that necessary research and technology development activities take place, and that new builders and other housing professionals continue to have the opportunity to receive R-2000 training and participate in the Initiative.

The importance of the R-2000 Initiative, and the rationale for continued public and industry investment in it, rests on a number of factors.

### **R-2000 is a Proven Innovation-Driver**

Since its inception, the R-2000 Initiative has proven to be a powerful innovation-driver for the Canadian home building industry. The average new home built in Canada today incorporates a wide range of housing innovations that were pioneered by the R-2000 Initiative. The overall improvement in the energy efficiency of new homes in Canada, in excess of 20% since the 1980s, has been closely tied to the R-2000 Initiative. The technology and building techniques developed through the Initiative have, over time, continually diffused across the industry and come into general use.

This process of innovation and diffusion is ongoing, and holds the promise of continuous incremental performance improvement, something that will benefit all new home buyers as well as the environment.

The ongoing positive impacts of the R-2000 Initiative reflect the underlying structure of the initiative. The Initiative provides new home builders with the training, proven technology, and the technical support required to make innovation work in a competitive marketplace. This process addresses the single greatest barrier to innovation: individual builder risk.

By serving as an “incubator” for leading-edge housing technology and building techniques, the R-2000 Initiative reduces the risk of innovation and provides an engine that drives new ideas and technology into commercial practice. In order for such innovation to continue, this engine must keep running.

### **R-2000 Balances Energy-Efficiency with Other Public Policy Objectives**

The R-2000 Standard reflects a holistic approach to improving new home performance, one based on sound building science that views the “house as a system”. While energy efficiency is the central focus, R-2000 recognizes the important interrelationships that exist between energy performance and other key outcomes, such as indoor air quality, occupant comfort and health, material interactions, and the efficient use of resources. In relation to new housing, this approach is unique to the R-2000 Initiative.

In practical terms the holistic focus of the R-2000 Initiative, coupled with its significant quality assurance procedures, guards against the sort of unanticipated building system or component failures that can, and have, occurred when energy efficiency objectives are pursued in isolation. It also offers reassurance that the health and comfort of occupants is given proper consideration.

It is worth noting that a 2004 Health Canada/Natural Resources Canada report<sup>1</sup> found that occupants in R-2000 Homes reported fewer symptoms of a variety of conditions associated with poor indoor air quality than did occupants of non-R-2000 homes.

As Canada strives for further improvement in the energy efficiency of housing, the balanced and holistic methodology that is integral to the R-2000 Initiative will only increase in importance. It is essential that, as new homes become more and more energy efficient, Canadians feel confident that both government and industry are conducting due diligence in relation to new technology, products and building techniques. The R-2000 Initiative provides this assurance.

### **R-2000 Provides an Essential Foundation for All Current and Future Energy Efficient Housing Initiatives**

While other new energy efficient labeling Initiatives such as BuiltGreen™ represent useful tools for promoting energy efficient homes, it must be recognized that these initiatives rely on the R-2000 Initiative for their technical foundation. The Initiative must continue to fill this important role.

The R-2000 Initiative has also become the “gold standard” for residential construction internationally. Exported under the *SuperE™* banner, R-2000 technology is being applied in many nations. For instance, some 1,500 *SuperE* homes are being constructed in Britain currently.

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<sup>1</sup> *Health in Occupants of Energy Efficient Homes*, Indoor Air 2004, Blackwell Publishing 2004

International interest in R-2000 reflects recognition of the same elements that make the Initiative so valuable within Canada: sound building science, the *house as a system* approach, solid training for builders and sound quality assurance. As other nations continue to adopt our R-2000 technology, it is vital that we ensure the Initiative remains strong domestically.

R-2000 can also serve as the platform upon which future Canadian housing initiatives can be built. For example, should the federal government endeavour to increase the use of residential-scale solar or wind power, or to support the commercialization of net-zero energy homes, R-2000 technology and infrastructure will be essential assets.

### **Action is Required**

It is difficult to overstate the continuing positive impact of the R-2000 Initiative on the quality and environmental performance of Canadian housing. R-2000 has already made a significant contribution to meeting Canada's climate change goals, while improving the quality, comfort and healthfulness of Canadian homes. It can make a much greater contribution, in all of these areas, in the years ahead.

For this to happen, continued government support and investment will be required. This investment must ensure that the Initiative's infrastructure has the capacity to support builders participation in the R-2000 Initiative in an effective and efficient manner. It is equally important that the Initiative is properly promoted to both non-R-2000 home builders and to consumers, so that it may continue to grow.

Ongoing investment in critical research and development will also be needed, to ensure continuous improvement in new home energy performance, while providing assurance the new technology and building techniques are sound, safe and effective.

In summary, for two decades the R-2000 Initiative has had a central role in driving forward energy efficiency improvements in Canadian housing. The Initiative needs to continue to fill this role.