

#26 EXECUTIVE SUMMARY

Energy, Mines & Resources Canada

R-2000 Energy Efficiency Home Program

The R-2000 program was initiated by Energy, Mines and Resources (EMR) in 1981 with the goal of affecting the construction of energy-efficient homes in Canada by establishing a new energy performance standard, training builders to construct houses to that standard, and stimulating the demand for such homes. R-2000 has become one of the best known new residential construction programs of its kind. Its homes are as much as 50% more energy-efficient than homes built to Canada's existing codes and the program has proven to be a viable means of stimulating the construction of energy-efficient homes regardless of R-2000 certification.

To date more than 6,000 R-2000 have been built, mostly in Ontario, accounting for less than 1% of all new Canadian homes built since the inception of the program. In addition, many builders incorporate R-2000 standards into their homes even though they do not seek R-2000 certification. EMR estimates that at least an additional 14,000 to 15,000 homes (about 1.5% of the new home construction market) have been built to R-2000 standards since the onset of the program.

In order to be registered as an R-2000 builder, a builder must complete the training program and construct a demonstration home which is inspected during and after construction. Certified builders must submit subsequent plans to their regional office where energy use is evaluated using the HOT-2000 heat loss simulation program. R-2000 certificates are then provided to the homebuyers.

In some regions builders can receive grants for their R-2000 homes. Ontario Hydro, for example, pays C\$2,000 to the homebuyer and gives the same incentive to the builder as long as the home is built in a non-gas supplied area. In New Brunswick, the regional utility pays C\$1,000 to the homebuyer and the Bank of Montreal offers a 1/4 point reduction on mortgage rates for R-2000 homes. Since the inception of the program it has saved Canadians over C\$150 million in energy savings from the R-2000 homes built. However, R-2000 has impacted the entire building industry in Canada. The total program cost spent by EMR and CHBA between the years 1981 and 1991 was about C\$50 million. Program costs in 1991/1992 were C\$1.2 million.

Perhaps more important than the energy savings directly by R-2000 houses has been the program's overall effect on improving energy efficiency in new homes. It is estimated that between 1980 and 1992, the average level of energy efficiency in new homes in Canada has increased by as much as 50%. Much of this improvement is due to the R-2000 program's promotion to consumers and builders and the training provided to builders in constructing energy-efficient homes. Since the program began, over 5,000 builders have been trained, with more than 300 actively participating in the program. Many of the builders who were trained through R-2000 but are not actively participating are still constructing homes that meet or come close to R-2000 standards. EMR has also announced a new program called Advanced Houses. While R-2000 homes use about half the energy of typical Canadian standards, Advanced Houses use about a quarter the energy of typical new homes.

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ENERGY, MINES, & RESOURCES CANADA R-2000 Energy Efficiency Home Program

Sector: Measures:	Residential Building envelope, ventilation systems and equipment, combustion equipment, appliances, and other energy efficiency improvements.
Nechanism:	A federal certification process for energy-efficient home construction. Both builders and homes are certified through the R-2000 program.
History:	Started in 1981.
1991 DATA	

Cost: \$1,254,000

Participation: ~1,500 homes certified.

PROGRAM DATA

R-2000 homes certified: ~6,000 # Non-certified R-2000 homes built: ~14,000 # R-2000 builders certified: ~5,000 Total EMR costs: ~C\$50 million Total benefits: ~C\$150 million

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or TFlanigan@EcoMotion.us