

In the early and mid 1990s The Results Center produced 126 case studies of the most successful energy efficiency and renewable energy programs in the United States and around the world. 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.

#10 EXECUTIVE SUMMARY

BRITISH COLUMBIA HYDRO & POWER, REFRIGERATOR BUY-BACK PILOT PROGRAM

British Columbia Hydro's Power Smart Refrigerator Buy-Back Program provides utility customers with an environmentally-sound means of disposing of "second" refrigerators, alleviating restricted landfill capacity, the uncontrolled release of chlorofluorocarbons into the atmosphere, and inefficient electricity use. Each year in British Columbia over 30,000 refrigerators are landfilled, and their CFCs, embedded in refrigerants and in the insulation of the refrigerators, are released harming the ozone layer.

Many consumers keep old, second refrigerators in their garages and basements — often stocked with little more than a six of beer! A market research study found that 60% of these second refrigerators are full-sized, and that 55% of them are more than 12-years old. To pull these "hulks" out of service, B.C. Hydro implemented a pilot buy-back program during fiscal years 1990 and 1991 and offered a \$50 bounty for customers who would allow the utility to come and take the refrigerator away. The pilot has been B.C. Hydro's most successful residential program and has received more press coverage than any other program including those offered province wide.

The Refrigerator Buy-Back pilot program is a logical complement to B.C. Hydro's New Refrigerator Rebate Program. The latter was effectively influencing consumers' buying behavior in favor of efficient new refrigerators, but often the customers did not how to properly dispose of their old units. The pilot program operated for two years, picking-up more than 16,000 refrigerators saving an estimated 119 GWh over the calculated remaining life of the second refrigerators. For a total cost of \$2.8 million (1990 U.S.\$) the pilot has also resulted in peak capacity savings of 1.36 MW. Now B.C. Hydro is in the process of expanding the Buy-Back Program to offer service to its customers province-wide.

Of the most profound results of the pilot is the existence of a state of the art dismantling facility for refrigerators just outside the City of Vancouver. There, old refrigerators are sorted by refrigerant and the refrigerants are carefully removed and recovered. The remains are then dismantled and their components recycled. As a result of the success of this facility, and the marketing and delivery mechanisms developed by Power Smart for the program, Power Smart Inc. is making the program guidelines available to its members around the world and several Power Smart member utilities in Canada plan to implement the program this year.

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BRITISH COLUMBIA HYDRO & POWER Refrigerator Buy-Back Pilot Program

Sector: Residential/Commercial

Measures: Removal of second refrigerators

Mechanism: Free refrigerator pick-up, \$50 rebate to the owners, education

History: The pilot program began in March of 1990 and ended in March of 1992. A province-wide program began in March of 1992

FISCAL 1991/92 PROGRAM DATA

Annual energy savings: 7,933,280 kWh
Lifecycle energy savings: 79,332,800 kWh
Capacity savings: 0.91 MW
Cost: \$1,908,779

FISCAL 1990/91 - 1991/92 DATA

Energy savings: 11,948,608 kWh
Lifecycle energy savings: 119,486,080 kWh
Capacity savings: 1.36 MW
Cost: \$2,821,094

CONVENTIONS

For the entire 1992 profile series all dollar values have been adjusted to 1990 U.S. dollar levels unless otherwise specified. Inflation and exchange rates were derived from the U.S. Dept of Labor's Consumer Price Index and the International Monetary Fund's International Financial Statistics Yearbook: 1991.

The Results Center uses three conventions for presenting program savings. Annual savings refer to the annualized value of increments of energy and capacity installed in a given year, or what might be best described as the first full-year effect of the measures installed in a given year. Cumulative savings represent the savings in a given year for all measures installed to date. Lifecycle savings are calculated by multiplying the annual savings by the assumed average measure lifetime. Caution: cumulative and lifecycle savings are theoretical values that usually represent only the technical measure lifetimes and are not adjusted for attrition unless specifically stated.