

**NUTEK**

**Swedish Refrigerator Procurement**

The Swedish National Board for Industrial and Technical Development (commonly known as NUTEK) established the Swedish Technology Procurement Program (STPP) to exploit Sweden's potentials for energy efficiency and to counter increases in electricity use where this could be done cost effectively. NUTEK's goal for STPP is to reduce national demand for electricity by 10 TWh by the year 2000, thereby replacing 15% of the 60-70 TWh that Sweden currently generates using nuclear power. (In 1980, the public's concern about nuclear safety prompted the passage of a referendum to phase-out nuclear power.) To fulfill this target, STPP has completed procurement of energy-efficient computer monitors, lighting, washing machines, windows, heat pumps for single-family houses, industrial flow control systems, and refrigerator/freezers, the focus of this Profile. In each case the technology procurement has been devised and implemented to transform the market by encouraging manufacturers to produce more and more efficient equipment, rather than subsidizing purchases of efficient technology through rebates and other forms of direct incentives.

Excluding electric heating refrigerator/freezers consume 30% of residential appliance consumption. After determining that there was strong potential for greater efficiency in this end-use area, NUTEK assembled the "strong actors" who had the most interest in participating in the procurement process. Together they designed a request for proposals and formed a purchaser group to buy at least 500 refrigerator/freezers for rental properties. The group wanted the new units to be 40% more efficient than models available at the time and to reduce or eliminate the use of chlorofluorocarbons in both the insulation and cooling systems of the new units. NUTEK has followed up the procurement with the "Eloff" labeling campaign which requests that retailers add energy labels to appliances to help consumers make better choices.

The winning proposal of the technology procurement was submitted by Electrolux AB, a Swedish company. Its prototype "TR 1066" was a 10.15 ft<sup>3</sup> unit that was 33% more efficient than the most efficient model already on the market, 44% more efficient than the most popular model, and 60% more efficient than the average model in use in homes in Sweden. The group's original order was for approximately 600 units. Since the program's inception in 1991, however, fully 3,350 Electrolux TR 1066s have been purchased, highlighting the immediate impact that the original purchase created. Furthermore, the market share for efficient refrigerator/freezers has increased from less than 1% to 5% in a matter of a few years, showing the leverage that incentives to a single manufacturer can cause. Cumulative savings through 1994 for the Electrolux model alone are more than 1 GWh and NUTEK estimates that annual savings from all of its market transformation initiatives will be 1 TWh by the year 2010, all at a cost to NUTEK of significantly less than half a million dollars.

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<b>NUTEK</b>	
<b>SWEDISH REFRIGERATOR PROCUREMENT</b>	
<b>Sector:</b>	<i>Residential</i>
<b>Measures:</b>	<i>Super efficient refrigerators</i>
<b>Mechanism:</b>	<i>Buyers group of rental property management companies presented RFP to manufacturers for 500 apartment sized refrigerators that consumed 40-50% less electricity than the most efficient model available at the time; Electrolux won the contract based on energy savings and reductions of CFCs</i>
<b>History:</b>	<i>632 Electrolux TR-1066 refrigerators delivered to the purchasers group in 1991; A slightly modified version became available to all consumers soon after</i>
<b>1994 PROGRAM DATA</b>	
Energy savings:	<i>519.7 MWh</i>
Lifecycle energy savings:	<i>2,395 MWh</i>
Capacity savings:	<i>36.4 kW</i>
Cost:	<i>\$95,540</i>
<b>CUMULATIVE DATA</b>	
Energy savings:	<i>517.4 MWh</i>
Lifecycle energy savings:	<i>7,761 MWh</i>
Capacity savings:	<i>117.8 kw MW</i>
Costs:	<i>\$311,020</i>

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](mailto:TFlanigan@EcoMotion.us)