



### Vending Machines

Refrigerated beverage vending machines (“vending machines”) present a previously untapped opportunity for significant energy savings.

Initial estimates suggest that approximately 3.5 kWh/day can be saved per machine through refrigeration and lighting energy efficiency improvements alone, most of which have already proven successful in other applications. Over the ten year machine life, the proximate per machine savings are 13,000 kWh @ \$0.15 per kWh, electric bill savings of \$1,950, and carbon dioxide savings of almost 10 tonnes. Additional energy savings are achievable through energy management features that enable the lights to be turned off during off-peak times and the refrigeration system to cycle down when the machine is idle for extended periods.

The actual daily energy consumed by a vending machine is dependent upon the machine capacity, the machine manufacturer, the machine location, and its usage. For example, a machine that is located in an unshaded area in a warm climate will use significantly more energy than a machine in a climate controlled building.

### Potential efficiency improvements

The two major energy consuming systems in beverage vending machines are the lighting and refrigeration systems. Lighting accounts for roughly one third of machine energy use and typically consists of two T-12 fluorescent lamps and magnetic ballast. The lamps used are either high output or slim-line depending on the beverage company’s light output requirements. The lamp technology currently employed does not take advantage of widely available, more efficient technology such as T-8 lamps and electronic ballasts.

The lights contained within existing machines are generally left on continuously, even in spaces that are unoccupied for extended periods of time.

Numerous low cost technologies such as programmable timers or motion detectors could easily be employed to reduce the time lights are on and consuming energy.

Energy Star rated vending machines have been available in the United States for over 10 years and the demand was largely market driven. So ask your distributor what units they can provide which will save you money in operating costs.

### Save thousands on operating costs



### Fridges and freezers

Along with vending machines fridges and freezers also supplied by distributors of ice cream products, drinks and ice are often not energy efficient.

Savings can also be achieved from commercial display fridges which often have internal lights that add heat and draw power and are often not needed – where possible disconnect this light thereby saving a minimum \$100 (2x36w). Saving through reducing the heat loading would also be expected. You can also place a timer on a drinks fridge (not containing food or dairy products) the savings from turning off just one soft drink fridge overnight add up to over \$80 per year. A timer switch which turns the fridge off at 11pm and back on again at 7am to ensure that drinks are cold in time for opening.

Ice freezers supplied by the distributor were often old and in need of repair and placed in direct sunlight. These inefficient units could cost over \$1,000 a year to operate.