

the supply. The market for solid-state ballasts is expected to expand rapidly. Penetration of 30-50% is projected within the next 10 years (American Council for an Energy-Efficient Economy and Energy Conservation Coalition, 1986). Figure 4.2 describes the market penetration of solid-state ballasts thru 1987 and estimates future sales levels thru 1991.

#### 4.2.4 Energy Savings

In terms of national energy goals this DOE program has been highly successful. LBL estimated, in 1985, that with two million solid-state ballasts in operation, each one saving 25 watts for 4,000 hours annually, annual savings would be 200 million kWhs. At an average energy cost of \$0.075 per kWh, this would be an annual savings of \$15 million. If solid-state ballasts saturate the market, savings worth up to \$5 billion per year could be achieved by reducing electricity demand by an amount equal to the output of ten large (1,000 MW) power plants (American Council for an Energy-Efficient Economy and Energy Conservation Coalition, 1986).

#### 4.2.5 Return on the DOE Investment

For a total investment by DOE of \$2.7 million, two major achievements have occurred. First, the major U.S. manufacturers are now producing solid-state ballasts and the product is widely available. It is unlikely that U.S. companies would have begun producing this product without the stimulus of the DOE program. Foreign manufacturers might well have introduced the technology to the market instead, as occurred in the case of compact fluorescent lights. Secondly, substantial energy savings have resulted because of the entry of solid-state ballasts into the marketplace (Fig. 4.2). With annual energy savings worth over \$15 million already occurring, the DOE investment has been returned five fold. With full market penetration, future savings