



Energy & Capital Savings

Replace 100W incandescent with 25 W Compact Fluorescent

Annual	Electricity per year	CO ₂ produced	Operating Expense
100W Incandescent	182 kWh	260 lbs	\$14.56
25 W Compact Fluorescent	47 kWh	67 lbs	\$3.76

Assumptions: \$0.08/kWh @ 5 hrs/ day, 1.43 lbs of CO₂/kWh (Rocky Mountain Institute)

Capital Cost Savings

New nuclear plant will cost \$2-3 million/MW_e or (taking \$2 million/MW_e) about \$2/watt.

A 25 W compact fluorescent which produces the same light output as a 100 W incandescent, can be purchased for less than \$10 and "saves" 75W of production capacity and the need to transport the electricity. This effectively "produces" power at a capital cost \$0.13/W!

However, power plants may run 24 hours/day and are licensed for 20 years while CF bulbs have rated life of 15,000 hours but I have probably overestimated the cost of a CF by 25% . Taken together, this "reduces" the advantage of CF to new production capacity.

Installing a CF bulb "produces" electricity about 50% cheaper than building a nuclear plant and the transmission lines to distribute the power.

I have ignored power line capital costs, energy losses in transporting the power (10%). I have also ignored down-time at power plants and repairs.