

Energy Savings Payback Calculator

Estimates simple energy-project payback from annual kWh savings, electricity rate, and project cost, without modeling financing, rebates, or escalation.

Generated October 10, 2026

<https://www.elecatrix.com/power-energy-cost/energy-savings-payback-calculator/>

Inputs

Input	Value	Unit
Existing annual energy	20000	kWh/year
Proposed annual energy	15000	kWh/year
Electricity rate	0.15	\$/kWh
Project cost	5000	\$

Results

Result	Value	Unit
Existing annual cost	3000	\$/year
Proposed annual cost	2250	\$/year
Annual kWh saved	5000	kWh/year
Annual cost saved	750	\$/year
Simple payback	6.6667	years

Calculation details

Detail	Value	Unit
Calculation basis	Existing and proposed annual costs use the entered electricity rate. Simple payback divides project cost by annual cost savings.	
Savings boundary	Screening estimate only; no rebate, financing, tax, escalation, degradation, or demand-charge result is made by this calculator.	

Formulas

$$C_{\text{existing}} = E_{\text{existing}} \times r$$

$$C_{\text{proposed}} = E_{\text{proposed}} \times r$$

$$E_{\text{saved}} = E_{\text{existing}} - E_{\text{proposed}}$$

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$$C_{\text{saved}} = E_{\text{saved}} \times r$$

$$T_{\text{payback}} = \frac{C_{\text{project}}}{C_{\text{saved}}} \text{ when } C_{\text{saved}} > 0$$

Warnings and limitations

This payback estimate uses only entered energy use, rate, and project cost. It does not model rebates, tax treatment, financing, maintenance, performance degradation, escalation, or demand charges.