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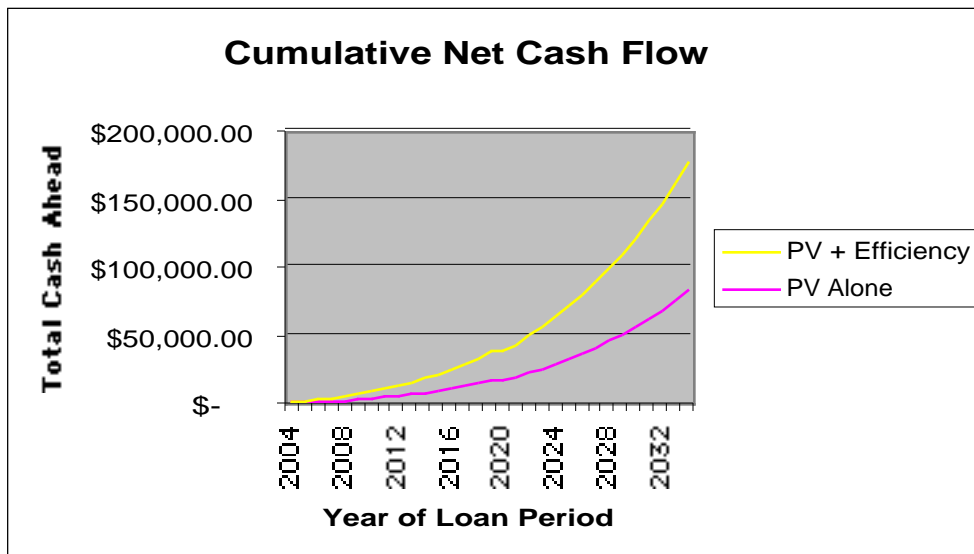
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Efficiency + Solar = Increased Cost-Effectiveness

Efficiency improvements, done in combination with a solar photovoltaic (PV) system, can improve your total energy savings at a lower initial installation cost. We like to say "an ounce of *conservation* is worth a pound of *generation*" to get this point across. The table below summarizes the economic benefits of solar electricity alone versus solar electricity with efficiency for an average, 2500 s.f. home built in Grass Valley, California in 1974. By including efficiency with solar we saved over \$3,100 in up front cost, increased the first year savings by \$62, and increased the solar contribution by 4% with a smaller system using six less solar modules!

	Solar Electric Alone	Solar Electric + Efficiency ¹
Initial Cost	\$17,646	\$14,509
Solar Contribution	94%	98%
# of PV Modules	24	18
Annual Savings	\$1,226	\$1,288
Simple Payback (years)	14	11

While simple payback may be easy to understand, it doesn't capture the effect of utility costs rising at a rate of about 5% per year and the economic benefits of a mortgage deduction on the money borrowed for these energy investments. The following chart shows the cash flow of each case over a typical 30-year mortgage period, accounting for rising utility costs and the mortgage deduction. This same trend applies to all types of buildings, residential or commercial, regardless of age. The older the building the more



potential there is for cost-effective efficiency measures. But because every building is unique, the specific efficiency measures are unique as well, so we use calibrated computer models and other tools to find solutions appropriate to each case.

¹ Specific energy efficiency measures applied in this case included a programmable thermostat, compact fluorescent and white LED lighting, duct insulation and sealing, low-e replacement windows, attic insulation, and an energy-efficient refrigerator.