

**RESOURCE**

Rates, Escalation, and Uncertainty in Planning Estimates

Every RetrofitROI engine that runs a calculation over a multi-year horizon has to make an assumption about whether energy prices stay flat or change over time. That assumption is not a forecast, it is a planning input you choose, and how you choose it can meaningfully shift a long-horizon result.

Electricity rate escalation

The [electricity rate escalation impact engine](#) shows how a modest annual rate increase compounds over a 10- or 20-year horizon, which can meaningfully improve the economics of any project that reduces electricity consumption, since the savings you are avoiding get more valuable each year.

Gas rate escalation, the mirror case

The [gas rate escalation impact engine](#) applies the same logic to gas prices. For a fuel-switching decision, the relative escalation of your two fuels, not just their current prices, can determine which direction the decision trends over a long ownership horizon.

Forecasting your annual cost, not just your rate

The [annual energy cost forecast engine](#) combines a rate-escalation assumption with your usage to project a full annual cost forward, which is the figure most directly useful for comparing against a purchase's ongoing savings over the same horizon.

Solar has its own version: degradation, not escalation

Solar panels produce slightly less electricity each year as they age. The solar degradation impact engine applies that decline the same way an escalation assumption applies to a rate, an input you set deliberately rather than an assumption buried invisibly in the math.

How much a target requires from these assumptions

The energy bill reduction needed for envelope engine works backward from a target payback to the annual savings, and therefore the bill reduction, that target actually requires, which is a useful sanity check against whether your escalation assumptions are doing more work than they should in making a project look attractive.

The honest way to use an escalation rate

Treat any escalation or degradation figure as a scenario input, not a promise. Run the calculation at a conservative rate and again at a more typical historical rate for your utility, and pay attention to whether the recommendation changes between the two. If it does not, the decision is robust to that uncertainty; if it does, you are relying more heavily on the assumption than the headline number suggests.