RESOURCE

Comparing Competing Home-Energy Investments

Most homeowners cannot fund every worthwhile home-energy project in the same year. Solar, a heat pump, insulation, and backup power all compete for the same limited budget, and ranking them by gut feeling, or by whichever contractor called first, is how a good project loses out to a mediocre one with better marketing.

Solar against equipment upgrades

The solar versus heat pump capital allocation engine and the solar versus insulation capital allocation engine directly compare a fixed budget spent on solar against spending it on a heat pump or envelope project instead, using each option's own payback and savings profile.

Electrification under a shared budget

If you are staging multiple electrification purchases rather than choosing between unrelated project types, the electrification budget allocation engine ranks appliance conversions by savings per dollar within that specific project family. See the electrification sequencing resource for the fuller staging discussion.

Resilience competes for budget too

Backup power is easy to leave out of a capital-allocation comparison because its value is partly non-financial. The battery resilience budget allocation engine prices that resilience value explicitly so it can be weighed against a savings-driven project on comparable terms, not left out entirely.

Sequencing envelope work ahead of equipment

The envelope upgrade priority engine ranks insulation and air-sealing projects by their own payback, and is also the right first stop before allocating budget to a heat pump, since a tighter envelope can reduce the equipment capacity, and cost, that a heating or cooling system actually needs.

A simple allocation heuristic, used carefully

Rank available projects by payback or NPV per dollar spent, fund the strongest ones first until the budget runs out, then check whether any dependency between projects, like envelope work changing equipment sizing, should reorder that simple ranking. The ranking is a strong starting point, not a substitute for checking dependencies.

When "the best project" is not the only right answer

A capital-allocation ranking optimizes for dollar return. If resilience, comfort, or a near-term equipment failure risk matters enough to you to override that ranking, that is a legitimate reason to fund a lower-ranked project first, as long as it is a deliberate choice made with the ranking in view, not a decision made without ever seeing it.