Are Deep Energy Retrofits Worth It?

Costs and Savings

Kohta Ueno
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Green Building Advisor

Musings of an Energy Nerd

Contemplating residential energy use

Deep Energy Retrofits Are Often Misguided

It's time for energy retrofit specialists to overcome their prejudice against PV systems

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Although the 1980s and 1990s was a small band of North Americans worked to maintain and expand our understanding of residential energy efficiency, these were the pioneers of the home performance field. These, however, are the experts, weatherization contractors, and "district leaders" in the energy efficiency training. At conferences like McCollum's, they shared their knowledge and helped others overcome the challenges associated with energy efficiency. However, these professionals understood what was wrong with American homes: They lacked air, they were insulated poorly, and their duct systems were a disaster.

Occasionally, these energy renovators would ask of their clients who were more interested in "green living" — a phrase that usually described photovoltaic panels — how they were to decide all these issues in their home's thermal envelope.

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Are DERs Worth It?

Parametric Simulations
So… Are DERs Worth It?

- Yes, PVs are cheap and getting cheaper!
- Run the numbers: savings vs. PVs worth understanding
- BUT still worth considering:
  - Addressing end-of-service life cladding—once in generation upgrade opportunity
  - Fuel costs ≠ accounting for all carbon externalities
  - Dealing with existing moisture issues (damp basements, wall failures)
  - Dealing with existing comfort issues (drafts, windows)
  - Improving wall condensation resistance (running at higher winter RH safely)

Questions?

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