

**DOCKETED**

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Questions have been posed as to resilience of PV and storage systems and what exactly is to be mandated.

Currently the state of play is that every already-constructed building has PV and/or storage as an option, and there is no mandatory requirement to add them. This I presume will be changing in the future. But for now the energy code itself has a performance method – the method normally used, in which a proposed new low-rise residential construction is calculated out against a standardized version of itself, first while ignoring the PV prescriptively required of low-rise residential and the proposed PV (NO PV IS CURRENTLY REQUIRED ON HIGH-RISES OR NONRESIDENTIAL), then including these. Both have to pass muster for compliance. One upshot of this is that no amount of PV will make up for noncompliance of a project in all other aspects, but exemplary performance in all other aspects reduces the amount of PV required. This is fully in accord with what actual activists and green building professionals have been saying all along, which is that as much as possible should be done to reduce energy consumption before sizing out the renewables.

Many existing houses have issues which can be addressed to increase their energy efficiency before adding PV or batteries. Efforts are underway in this as well. Yes, we know, on-site renewables are rarely going to a given place fully off the grid. Why this is seen as an argument for not making it a permanent *piece* of the solution going forward eludes me, a piece along with pumped hydro, rail energy, flow batteries, and all manner of energy storage options currently making their cases. I also saw an issue raised that the most frequent outages are for only a few minutes, and that this can wreak havoc on electronics and such. I am sure those who pose this question, and anyone else with expensive and/or short-outage-sensitive equipment has them on some reasonably robust UPSs, yes? Not investing in those at this point would be a bit like not investing in backup drives.

Yes, technically everyone currently has the choice to hard-pipe a natural gas generator. But the rosy picture I've seen painted repeatedly by some of this as an alternative to the space taken up on the roof by modules and in the garage by inverters and batteries does not say much about the twenty-foot-radius circle which would be off limits any time it is operating if they value avoiding exposure to products of combustion. A whole backyard's use obliterated in the name of saving a few cubic feet of garage space! You think inverters and charge controllers are noisy? There's a reason one doesn't see whole neighborhoods already sold on the generators which, after all, have been an option for decades, and technically you could save money running one of these all the time and never taking grid electricity. Do you want to be putting out pollution that close to your bedrooms all the time is the question. Obviously the answer has been "negatory" for most.

There's almost nothing left for which gas is irreplaceable. Even in cooking, I'm sure we will in not that long be seeing plug-in brazing rigs which use electricity to superheat air and blow it out a tip, or

even home hydrolysis rigs to cook with hydrogen.

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