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## **CABEC Comments on Energy Storage System Ready (ESS Ready) Provisions and ADUs**

The CABEC Advocacy Committee is submitting the following comments on the 2022 Energy Code, and specifically the Energy Storage System readiness requirements of section 150.0(s) as they apply to small homes (including newly constructed detached ADUs). We understand that the code has already been promulgated and that at this point, only clarifications and interpretations within the bounds of the code can be issued practically. So let these comments also stand as preliminary commentary on changes for the 2025 Standards, which are currently under development.

ESS Ready provisions are mandatory provisions that apply to most new single family construction projects (with the exception of townhomes). The CEC's Blueprint newsletter recently clarified that these provisions are fully applicable to small homes such as ADUs, which can sometimes be as small as 200 sq.ft. or even smaller.

General Recommendation: We believe that there should be ongoing consideration to adapt some of these requirements to either exempt, or scale down the ESS readiness requirements currently in place in the 2022 Energy Code for smaller homes.

### **Busbar rating**

The requirement of a panel with a minimum 225 Amp busbar rating seems exuberantly sized for a small home. While panels with this busbar rating are commonly available, it does not seem appropriately sized for a 200 square foot home. Indeed, the entirety of section 150.0(s) appears to be sized with a presumption of a 2100 sq.ft. home, and members of our committee regularly see newly-constructed single family homes (ADUs in particular) that are an order of magnitude smaller.

While the cost of such a panel isn't itself a particular hardship, it does seem out of proportion with what it otherwise needed for such a building according to NEC sizing rules. While we're still early on in the 2022 Energy Code cycle, we expect some confusion in the field with respect to disambiguating busbar capacity and required feeder sizing. To wit, a 225 amp panel implies a feeder/service commensurate with that capacity, and there may be unnecessary service upgrades triggered which dramatically increase project cost, as well as grid costs for larger upstream service equipment.

Recommendation: We recommend that the minimum busbar rating be qualified to apply only to new single-family buildings that include dwelling units where the conditioned floor area of the building is greater than 1200 square feet.

ESS Interconnection equipment

The language around Energy Storage System readiness requirements also does not seem as appropriate for small accessory dwelling units on a single-family lot (as opposed to a 2100 sq.ft. main dwelling unit). Like the 225 amp busbar rating, the minimum 60 amp 4-circuit interconnection equipment seems exuberant for a small ADU. Given that most newly constructed detached ADU's are developed without independent utility service, it seems unlikely that any energy storage system would be installed only at the ADU and not include the main dwelling, so the added value of this interconnection equipment at this location is in doubt.

And lastly, many ADU's are built along the 4-foot setback as allowed by State law, and we do have a concern that in the evolution of fire codes, location of ESS's at these setbacks may someday prove to be a safety concern (though we hope not), and therefore be constrained or even prohibited by future fire code (admittedly, this is highly speculative).

In the vision of many (shared by CABEC members and the CEC), the inclusion of ESS-readiness is in no small part to aid in our energy transition towards a two-way distributed energy system, where buildings, cars, and power plants can play into energy markets and become active "grid citizens." Many new small homes in the 2022 energy will be exempt from PV requirements, and so the value proposition of including a battery in these small homes will be significantly reduced. It's one thing to have a battery which can encourage self-consumption under NEM 3.0 rules. If it's a battery only system, then it's much less likely that this will be cost-effective, since purchasing power from the grid under current TOU rates is much more expensive than solar. If the battery system is coupled with solar, then the higher value approach would be to incorporate the ESS system closer to the electrical service entrance, where there is better design flexibility around optimizing for behind-the-meter self-consumption for the whole property.

Recommendation: We recommend that ESS requirements either have a square footage threshold, or have broader design flexibility to allow for installation at Main Dwelling units, or around existing electrical service entrances.

Variations on a theme:

Electric-ready requirements Cooktop, HPSH,

Does a 200 sq.ft. ADU need a 50 amp breaker for a cooktop? 30 Amps for HPSH?

Many small ADUs come with a 2-hob cooktop which is possible with a 15 amp circuit breaker. And for space heating, many small ADUs can be well conditioned with a circuit much smaller than 30 amps. While electrification proponents (ourselves included) may use this code to leverage further electrification in new projects, there are edge cases where these requirements end up being unnecessarily costly. In the least, these requirements indicate that small homes were not properly considered in the composition of this code.

Thank you

Luke Morton  
On behalf of the CABEC Advocacy Committee