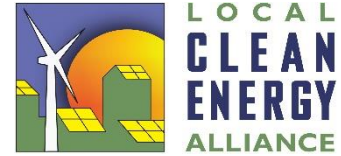


Technical Note: Meeting SB100 Policy Goals

By Robert Freehling, 7/10/23



This note attempts to answer a couple of key questions that seem to be ongoing sources of confusion:

- What is the amount of renewable energy needed to meet California's SB 100 policy goals?
- What is the potential for *distributed* generation, especially solar PV, to meet those goals?

The recent [Newsom Plan](#) says that 148,000 megawatts of new renewable resource capacity is needed to meet the SB 100 target, 100% renewable energy by 2045. It cites the [SB 100 report](#) prepared by the state's three energy agencies (CPUC, CEC, and CARB); however, the SB 100 report's "core" scenario had 145,000 megawatts of new procurement. More importantly, this *includes 53,000 megawatts of energy storage*. Thus, the actual amount of *new RPS renewable power capacity* is projected to be about 92,000 megawatts, of which 70,000 megawatts would be solar.

The question is whether this 70,000 megawatts of *utility scale solar* in the SB 100 core scenario for 2045 could be replaced with *distributed solar*. There is not even a serious doubt that this is possible.

Rooftop solar alone has the potential for at least 168,000 megawatts, according to the most up to date source, [Google's Project Sunroof](#):

This figure is roughly in line with [NREL's 2016 study](#), which found 128,900 megawatts rooftop solar potential, assuming 16% efficient solar panels. Today's solar panels average about 20%, thus the current potential is $20/16 \times 128,900 = \sim 161,000$ MW, using the NREL figures. Since that study, there is additional square footage of rooftops from residential and commercial buildings that also needs to be added.

This is by no means the full potential for distributed solar, since solar can also be built in parking lots, other types of ground mount, on parts of buildings other than the roof (walls, windows, awnings), and directly integrated into vehicles.

Hence, there is no need whatsoever for *any* of the projected 148,000 MW of new renewables to be *utility scale solar*, let alone *all of it*.