



December 16, 2016

Chairman Mary Nichols
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: 2030 Target Scoping Plan Update – Discussion Draft

Dear Chairman Nichols,

SolarCity respectfully submits the following comments in response to the 2030 Target Scoping Plan Update discussion draft released on December 2, 2016.

Background

SolarCity is California's leading full service solar power provider for homeowners and businesses – a single source for engineering, design, installation, monitoring, and support. The company currently has over 4,000 California employees based at more than 40 facilities around the state and had installed solar energy systems for over 300,000 customers nationwide as of September 30, 2016.

Comments

SolarCity commends the leadership of the California Air Resources Board (ARB) and staff in driving consistent stakeholder engagement throughout the process of developing the 2030 Target Scoping Plan Update by providing the public with timely updates, including the current discussion draft.

Overall, we are pleased to see greater reference to several issues within the discussion draft that we highlighted in previous comments to ARB.¹ First, throughout the discussion draft there is greater reference to the importance of and coordination with the Integrated Resource Planning (IRP) effort currently underway by the California Public Utilities Commission (CPUC).² Given that the greenhouse gas (GHG) scenarios developed by ARB in the scoping plan update will serve as an input to the IRP, we reiterate the need for close collaboration between the CPUC, ARB and the California Energy Commission (CEC) as these planning efforts move forward in 2017.

Second, the draft includes an explicit reference to Title 24 building standards for 2019 and beyond in the context of Zero Net Energy (ZNE) requirements.³ While the discussion draft references ZNE, we recommend that the final report specifically acknowledges the need for the electric grid and energy use to adapt to accommodate intermittent renewable generation that is driven by high adoption of renewables and ZNE homes. As we have stated in previous comments, this can be done with the least environmental impact and most efficiently if there are incentives to adopt energy storage or load control technologies with photovoltaic (PV) systems and ZNE homes.

¹ SolarCity comments on draft concept paper, July 8, 2016 available at: <https://www.arb.ca.gov/lists/com-attach/46-sp-concept-paper-ws-USJSN1YjWXNVDAk.pdf>

² For example, under known commitments for the energy sector, the discussion draft references the following: Per SB 350, with respect to Integrated Resource Plans, establish GHG planning targets for the electricity sector and each load-serving entity (p.41).

³ For example, under potential new measures for the energy sector, the discussion draft references the following: Adopt Zero Net Energy (ZNE) standard for residential buildings by 2018/2019, and for commercial buildings by 2030 (p.42).

Furthermore, there is also reference to accelerating fuel switching in various sections of the draft, which relates to several different sectors but continues to be particularly relevant for the building sector, including ZNE homes.⁴ It appears that in several sections, including the Alternative 1 Scenario, emphasis is placed on having electric heat pumps in buildings (heating, ventilation, and air conditioning (HVAC) and water heating) – by 2030.⁵ In our most recent comments on the GHG scenarios and analysis, we agreed that electrification of buildings presents a large untapped opportunity for reducing GHG emissions and meeting the state’s carbon targets, and we urged ARB to provide greater recognition within the 2030 Scoping Plan Update scenarios regarding the lack of policy structures in place to incentivize the electrification of buildings.

To build on this, the final Scoping Plan Update should also reference the opportunity for pairing grid enabled electric water heaters with solar PV as a cost-effective means to eliminate carbon emissions associated with water heating and facilitate greater integration of PV resources. Utilizing existing technology, the output of a rooftop solar array can be matched via sensor and software with the operation of an electric water heater, such that the water is heated almost entirely with renewable power. The hot water can then be stored for domestic use during the evening hours after the sun sets, which eliminates the emissions from water heating, which would otherwise come from natural gas or from the grid during times of high emissions. Additionally, the water heater can provide a renewable integration benefit by acting as a form of energy storage.

Lastly, in previous comments SolarCity highlighted that the final Scoping Plan Update should reference the numerous proceedings currently underway at the CPUC that will impact the speed of deployment of distributed energy resources (DERs), which is an underlying assumption to the goals, commitments and measures referenced in the discussion draft and ultimately the final Scoping Plan.⁶ Generally, the current discussion draft includes little additional detail on the expected deployment of DERs. An area in the final plan that could reference the various CPUC proceedings, beyond the IRP, that will impact the deployment of DERs and thereby the 2030 target, is in the low carbon economy section.⁷ Since there are several sections of the draft plan that have not been finalized and released, one section where in general it would make sense to include a discussion of DERs and the potential technology deployment necessary to achieve the 2030 target is in the “Innovation” section referenced in the table of contents under “achieving success.”⁸

Conclusion

As the Scoping Plan Update is further developed and refined, the IRP, ZNE buildings, electrification and fuel switching, and the speed of deployment of DERs continue to be important policy issues that will ultimately impact California’s ability to meet the 2030 GHG reduction target.

SolarCity thanks the Air Resources Board for the opportunity to comment on the discussion draft for the 2030 Target Scoping Plan Update. We look forward to continuing to participate in finalizing the Scoping Plan.

Respectfully submitted,

⁴ See discussion draft p. 42 and p. 46.

⁵ See discussion draft p. 42 and p.92.

⁶ SolarCity comments on draft concept paper, July 8, 2016 .

⁷ See discussion draft pp.37-42.

⁸ See discussion draft table of contents p. 5.



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