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SB 100 Joint Agency August 12, 2021, Next Steps for Resource Build Workshop â€“ Resource Mapping; Docket No. 21-SIT-01

Additional submitted attachment is included below.

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California Energy Commission
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RE: San Diego Gas & Electric Company and Southern California Gas Company Joint Comments on the SB 100 Joint Agency August 12, 2021, Next Steps for Resource Build Workshop – Resource Mapping; Docket No. 21-SIT-01

Dear Commissioner Douglas, Commissioner Gunda, Commissioner Houck, and Vice President Millar,

San Diego Gas & Electric Company (SDG&E) and Southern California Gas Company (SoCalGas) appreciate the opportunity to submit comments regarding the August 12, 2021, Next Steps for Resource Build Workshop on Resource Mapping for Senate Bill 100 (SB 100) jointly hosted by the California Energy Commission (CEC), California Independent System Operator Corporation (CAISO), and California Public Utilities Commission (CPUC).

The goals set forth in SB 100 call for a complete transformation of the way energy is generated, delivered, and consumed. This call to action requires a massive infrastructure overhaul that SDG&E and SoCalGas believe requires the adoption of a multifaceted approach that prioritizes reliability, flexibility /technology inclusivity, and cost minimization. Further, the August 2020 reliability events confirm that to preserve reliability we must assure an adequate and flexible energy supply consisting of a mix of technologies, routed to load centers by transmission, and clean fuels as we continue to shape the paths to achieve California's 100% zero-carbon electricity goals. Similarly, evidence of severe and systemic economic disparities,

heightened by the recent pandemic, highlights the need minimize costs, especially for customers least able to afford it. And we must do these things even as we push to achieve decarbonization.

SDG&E and SoCalGas are committed to enabling and accelerating the transition to zero-carbon electricity on behalf of our customers and the communities we serve. We support the SB 100 report, Integrated Resource Planning (IRP), and 20-Year Transmission Outlook efforts as they serve as a starting point to provide high level estimations of the costs, multiple pathways, procurement planning and evaluation of grid feasibility to achieve zero-carbon electricity.

SDG&E and SoCalGas appreciate the increased attention and collaborative effort given to resource mapping. The coordination between the CEC, CPUC, and CAISO is especially encouraging as this collective effort is critical to secure that efficient and low-cost clean energy resources are sited and built, and that their clean electrons are delivered to homes and businesses in time to meet SB 100. Many factors must be considered when planning California's resource mapping and the transmission and distribution grids needed to support these new resources.

We also appreciate the thorough presentation on the CEC's current work to incorporate environmental and land use concerns in the high-level planning of solar, wind and geothermal siting. It is unclear whether the tool also considers transmission corridors associated with the evaluation of the resources, but if it doesn't, we recommend that additional overlay. We also agree that geographic information system (GIS) mapping is an ideal tool to address multiple different priorities for California land use.

SDG&E and SoCalGas have multiple priorities for the broader SB 100 effort which we categorize in the following three key pillars: reliability, flexibility/technology inclusivity and cost minimization. As detailed below, SDG&E and SoCalGas urge the CEC, CPUC and the California Air Resources Board (CARB), collectively the SB 100 Joint Agencies, to consider more frequent analysis and reporting. We further urge CAISO and the SB 100 Joint Agencies to incorporate our three pillars when planning the implementation of SB 100: (i) prioritize robust **reliability** assessments that consider land and resource mapping in its examination of opportunities to decarbonize, (ii) remain **flexible and technology inclusive** when implementing resource mapping as a mix of solutions will likely reveal opportunities for reliability and cost minimization, and (iii) make progress toward **cost minimization** of SB 100 by ensuring modeling and input cost assumptions appropriately capture all costs related to resources including its portion of transmission costs. Additionally, CAISO and the SB 100 Joint Agencies should consider using the resource mapping process to include Equity layers. SDG&E and SoCalGas believe that these considerations will enable California to achieve the goals of SB 100 without sacrificing reliability or resulting in suboptimal costs.

SB 100's success hinges on meeting reliability by building adequate clean energy resources and transmission lines

SDG&E and SoCalGas' main takeaway from the workshop was the strength of GIS modeling as a tool to layer on multiple constraints and deliver a cumulative map of potential sites for solar, geothermal and wind. The CEC presentation clearly articulated the resource mapping process and the importance of the mapping results. We are encouraged that the CEC nearly completed the first set of maps and is preparing to hand-off the resulting resource mapping to the CAISO. This quick turn-around addresses California's urgency to begin planning as transmission line projects, in some cases, require approximately 10 years to permit and complete. In this vein, we note that renewable resource planning isn't only about looking at the land-use implications of the renewable resource area and then the physics of moving the electricity through transmission; it must also include the land-use implications of the hardware of transmission lines. We respectfully suggest that the CEC should incorporate associated transmission corridors in the scoring of specific renewable resource projects.

In contrast to the clarity of the CEC portion of the workshop presentations, it was unclear what will happen after the hand-off of mapping information to CAISO and the SB 100 modeling process. The CAISO committed to utilizing the data as part of its 20-year outlook. And while this initially sounds promising, to ensure the mapping effort makes its way into the CPUC's IRP, the resource mapping needs to inform CAISO's Transmission Planning Process (TPP) process. Yet the workshop did not address how the mapping would work its way into the IRP. Similarly, the presentation was missing an important link of how resource mapping would be incorporated into the RESOLVE modeling that is used for SB 100 analysis and scenario planning. SDG&E and SoCalGas are hopeful that the CEC's resource mapping will filter to TPP, IRP and the SB 100 analysis work, but note that currently stakeholders are unaware of how that will occur. The next iteration of the CAISO's TPP and CPUC's IRP should clearly identify how this resource mapping information will be used.

Noticeably absent from the presentation, moreover, was CARB and the Scoping Plan efforts. CARB is undertaking an effort to set emission targets for Natural and Working Lands (NWL) that presumably uses some of the same data and restrictions as the CEC's resource mapping effort. There needs to be collaboration with CARB to ensure the same land is not being marked for different purposes by the two agencies. Also, the Scoping Plan modeling should utilize the same resource mapping that will ultimately feed into SB 100 RESOLVE modeling to ensure consistency. Finally, due to the recent CAISO regulatory filing on exceptional dispatch, we recommend the CEC and CAISO map the gas grid in conjunction with the electricity grid in its SB 100 transmission planning. The CEC, CAISO and CPUC should consider how to appropriately maintain the necessary gas delivery infrastructure which, even if it experiences decreasing throughput in the aggregate, may be more heavily relied upon during shorter periods, such as during steep ramping events.

We understand from the presentation that the CEC plans to offer other opportunities for the public to engage with this resource mapping effort as it evolves. SDG&E and SoCalGas encourage the CEC, CPUC, CAISO and CARB to improve the transparency of this important issue and inform stakeholders how this work will be utilized in all relevant planning activities like the IRP, TPP, the Scoping Plan and SB 100.

Once resource mapping is incorporated, SB 100, Scoping Plan, IRP and TPP modeling and analysis need to ensure deliverability of identified potential resource locations via support by transmission and distribution (T&D) planning. The potential resource and T&D costs, congestion and load shapes need to be considered during more granular work of selecting resource and Transmission planning.

All pathways and portfolios to SB 100 should support flexibility and technology inclusivity

SDG&E and SoCalGas support technology neutrality and inclusivity and as such believe that all technologies, existing and emerging, should be considered as potential contributors to reaching SB 100 targets. California's resource mapping should also be technology inclusive. SDG&E and SoCalGas were therefore encouraged that geothermal was included as a resource type as it provides temporal diversity with the capability to provide power 24/7.

In addition to land-use constraints, SB 100 modeling and analysis should continue to value technological, geographical, and temporal diversity as these will help to maximize reliability and resiliency of the grid. The SB 100 final report also values diversity as it concluded that "[p]ortfolio diversity, both technological and geographical, is generally valued by the model" and that this diversity lowers overall costs.

Most of the resource types excluded from the resource mapping analysis, including distributed energy resources (DERs), microgrids, and hydrogen fuel cells, have zero or close to zero land impact. If implementing the CEC's Resource mapping involves assigning land impact scores to potential solar, wind and geothermal areas, the CEC, CPUC and CAISO, should also assign appropriate, much lower, land impact scores to other resources. The workshop was unclear how or even whether these scores would be incorporated in future CEC, CPUC, and CAISO modeling efforts.

The CEC resource mapping tool can be useful for CEC, CPUC and CAISO to implement geographic diversity which can help the agencies plan for a more resilient grid.

Resource-associated costs need to be modeled appropriately to enable solutions that minimize costs to ratepayers

Cost minimization can only be achieved if costs are appropriately modeled. SDG&E and SoCalGas believe that the magnitude of new solar, wind and geothermal resources will likely require new transmission lines to be built to move the energy generated by these clean resources to homes and businesses. It is impossible to know if least cost resources are being chosen by the modeling without including robust transmission and distribution modeling. This includes high-level land-use planning screenings because decisions to underground transmission lines or routes that add distance to the line, such as to avoid areas like forests or communities, can add significant and unforeseen costs to projects. SB 100, IRP, the TPP and CAISO's 20-year outlook modeling and analysis should include each resources' portion of added transmission costs to ensure that all costs are being included. Only by including those costs will planning efforts present the lowest cost portfolios and minimize ratepayer impacts.

Next Steps of GIS Resource Mapping should include an Equity screen

During the workshop, commenters suggested that disadvantaged community layers could be added to mapping efforts. We agree that the GIS platform presents an opportunity for CEC, the SB 100 Joint Agencies, and CAISO to use the tool to advance the work towards building a more equitable grid. Adding CalEnviroScreen layers to the resource maps could additionally help CAISO and the CPUC select resources, and transmission line locations, that support equity and Environmental Justice efforts.

Conclusion

SDG&E and SoCalGas believe the path to SB 100 needs to incorporate our three pillars of: **(1) reliability; (2) flexibility and technology inclusivity;** and, **(3) cost minimization**. SDG&E and SoCalGas further believe that adequate incorporation of these three pillars necessitates more frequent analysis. Increasing the frequency would provide opportunities to capture updated land-use constraints, updated IRP plans, updated reliability information from the TPP and the new 20-year transmission outlook initiatives, model upgrades, new information on emerging technologies, and updated cost assumptions. Simply put, every four years is insufficient frequency to address the urgency of climate change and to capture changes in resource and transmission planning. SDG&E and SoCalGas therefore recommend that, at a minimum, the SB 100 modeling be done at least once every two years to better align with the IRP and TPP processes.

We look forward to working collaboratively with the CAISO and the SB 100 Joint Agencies to enable a transition to 100% zero-carbon electricity.

Sincerely,

/s/ Chris A. Summers

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/s/ N. Jonathan Peress

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