SMUD®

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Sacramento Municipal Utility District's Comments Re: the Draft 2030 Target Scoping Plan Update

SMUD appreciates the opportunity to comment on the *2017 Climate Change Scoping Plan Update (2017 Scoping Plan Update*). SMUD has long supported ARB's efforts to address Climate Change by reducing GHG emissions in California. SMUD provided comments on the initial *Scoping Plan* and the *First Scoping Plan Update* released and adopted in 2013-2014, as well as the *Draft Scoping Plan Concept Paper* and *Discussion Draft 2030 Scoping Plan Update*.

SMUD supports the Proposed Plan included in the *2017 Scoping Plan Update* for the principal reason that it employs a familiar market-based program – Cap and Trade – to foster the most cost effective and technologically feasible reductions to meet the new GHG emission limit in the law. At the same time, the Proposed Plan includes significant complementary measures, or "known commitments," that will result in additional direct emission reductions at covered sources beyond those that will come from the Cap and Trade Program itself. SMUD requests that ARB consider adjustments to utility allowance allocations in the final Proposed Plan to encourage measures to foster increased building electrification to further reduce emissions at direct sources.

Proposed Plan: Pages 31-48 of the *2017 Scoping Plan Update* describe the Proposed Plan, which meets the 2030 target with a variety of known commitments and additional prescriptive measures, backed up by an extended Cap and Trade program through 2030. SMUD supports the Proposed Plan, and in particular a robust and well-designed Cap and Trade structure that allows for a smooth transition from 2020 to the 2030 carbon reduction goals. Under current Cap and Trade regulations, SMUD's experience has been positive due stable allowance prices, consumer protection, and the desired carbon reductions.

The Cap and Trade structure has been a successful adjunct to complementary policies like the Renewables Portfolio Standard (RPS), the Low Carbon Fuel Standard (LCFS) and energy efficiency (EE) programs. The advantage of the Cap and Trade measure is the economic efficiency resulting from giving covered entities flexibility to select least-cost solutions, rather than constraining their entrepreneurship by prescribed regulatory actions. At the same time, most of the emission reductions expected to meet the 2030

target come from the complementary measures or “known commitments.” These measures, such as the 50% RPS, doubling of energy efficiency targets, and an extended and enhanced LCFS, will result in significant emission reductions at covered sources in California, backstopped by a robust Cap and Trade program.

Building Electrification: While the primary focus of the 2017 Scoping Plan Update is outlining how California will achieve its 2030 GHG reduction goal, this must be accomplished with an eye toward easing the pathway to 2050. Enhanced electrification of buildings is seen as playing a significant role in achieving the 2050 target, and the State should be focusing on addressing barriers and fostering market transformation in this area today, not in the next Scoping Plan update. Due in large part to the RPS, California’s grid is becoming cleaner over time. Many of California’s utilities, including SMUD, have already reached or exceeded a 50% carbon-free threshold. As electricity providers work to meet the 50% RPS target and more customers choose community solar models and 100% green energy tariffs, the GHG-reduction potential of electrification will grow substantially. California should not wait until 2030 to leverage a cleaner grid to reduce the carbon footprint of our buildings.

Many home appliances eligible for electrification have lifespans of 10-20 years. This means that California will have a limited number of opportunities to intercede and encourage consumers to replace aging natural gas appliances with electric appliances. Working today to address the policy and market barriers electrification efforts face could bring down the costs of moving from California’s 2030 to 2050 goal.

Electrification is already cost-effective for certain applications and will become more so in coming years. In particular, Heat Pump Water Heating (HPWH) and Heat Pump Space Heating (HPSH) measures are cost-effective for residential new construction and renovation projects and in all-electric buildings with no gas connections. As California transitions away from its traditional tiered rate structure and towards time-of-use rates, electrification will become even more cost-effective. The new rate structure will encourage consumption when resources with low marginal costs, like renewables, are generating and grid emissions are lower and discourage consumption when natural gas resources, with higher marginal costs, are operating and grid emissions are higher. New dynamic rates will support renewable integration efforts and help utilities leverage additional controllable loads. This will further enhance the GHG-reduction potential of electrification.

Accordingly, SMUD believes that CARB should consider adding the electrification measures suggested in the No Cap and Trade Scenario to the Proposed Plan. At the very least, the final Proposed Plan should indicate the State’s intention to address policy and market barriers to improved electrification.

SMUD also notes that electrification will reduce GHG emissions and criteria pollutants and toxic air contaminants overall, even as the additional loads may result in increased GHG emissions in the power sector. Power plants have stringent criteria emission controls -- leading to minimal associated increases in criteria pollutants and toxic air contaminants from power plants. Decreases in criteria pollutants from aging infrastructure will significantly outweigh potential increases from power plants. SMUD recommends that the ARB develop a method to adjust utility allowance allocations to

encourage electrification of buildings, similar to adjustments that need to be made for transportation electrification.

Alternative Scenarios: SMUD does not support the other four alternatives examined in the *2017 Scoping Plan Update,* as all have significant flaws. Of these, the "All Cap and Trade Scenario" is preferable, as it continues course on the market-based Cap and Trade program in California. However, the significant flaw in this scenario is the elimination of continued progress in reduction of carbon in California's transportation fuels through an enhanced and extended 2030 LCFS. SMUD supports the higher 18% LCFS by 2030 in the Proposed Plan, rather than leaving the standard at 10% beyond 2020.

The LCFS is another market-based carbon reduction mechanism that works hand-in-hand with the Cap and Trade program by reducing the demand for allowances and hence helping to keep prices low in those markets. The LCFS also helps to address direct emission reductions at stationary sources by incentivizing efficiency and fuel-switching at refineries. In particular, the All Cap and Trade alternative would miss an important opportunity to achieve the substantial air quality and public health co-benefits that are so important to the well-being of all populations in California.

SMUD would consider supporting a revised version of the "All Cap and Trade Scenario" that added a higher LCFS stringency (moving to 18% carbon reduction in fuels by 2030) and added the building electrification measures that SMUD suggests above.

The other examined scenarios – "No Cap and Trade," "Carbon Tax," and "Cap and Tax," are all critically flawed and should be rejected by CARB.

The Carbon Tax Scenario, while still providing a market-based, flexible foundation for GHG reductions, includes unclear long-term incentives for investment and a program hiatus, thereby risking the 2030 GHG reduction goal and a broader, trans-national carbon market in North America. This scenario would involve essentially starting over on implementation details, meaning 3-4 years where progress on GHG reductions may stall and there would be little to no short-term revenue for state programs. If implemented after a necessary delay, the alternative would result in significant and difficult to mitigate increased costs to California ratepayers and consumers, as shown by ARB's own analysis. In contrast, the Cap and Trade alternatives have viable existing measures to mitigate these costs, and it is unclear whether mitigation replacements can be developed that can function as well. Increased electricity rates will inevitably lead to more economic and emissions leakage. In addition, while a hard carbon tax would send a clear market signal, the experience of British Columbia has shown that "the carbon tax impact effectively diminishes if the rate remains unchanged …," creating uncertainty whether a carbon tax set at any particular level will achieve the 40% reduction required by SB 32. In response, CARB would have to increase the tax at a future date, which would likely require new political support. Thus, the price certainty of a carbon tax ironically is creates greater uncertainty in the long run, making investment and procurement decisions that reduce GHG emissions problematic.

The Direct Regulations Scenario removes the market-based flexibility that has held down costs of achieving the State's GHG goals, and raises the significant disadvantage of higher overall costs of compliance, again leading to political problems down the road. In addition, it is not clear to SMUD that many of the measures in the Direct Regulations Scenario are even technically feasible. The dramatic direct regulations contemplated for large stationary sources are a recipe for economic and emissions leakage, rather than a viable path to the 2030 target.

The Cap and Tax scenario is also fatally flawed by requiring direct emission reductions at stationary sources that would make those producers less competitive, forcing either price increases, cuts in production or facility shutdowns, resulting in job losses and emissions leakage. This scenario compounds that flaw by imposing a tax that increases costs on California consumers and ratepayers.

SMUD also has the following specific comments on the *2017 Scoping Plan Up*date.

Page ES-5: SMUD suggests deleting the description of CARB staff's previously posted potential concepts for "strengthening" the Cap and Trade program. SMUD does not think that these concepts "strengthen" the program (as explained in more detail below in these comments), nor does this sentence rise to the level of inclusion in this list in the Executive Summary. The bullet should read:

> CARB will look for opportunities to strengthen the program to support more air quality co-benefits, including specific program design elements. ~~In Fall 2016, ARB staff described potential future amendments including reducing the offset usage limit, redesigning the allocation strategy to reduce free allocation to support increased technology and energy investment at covered entities and reducing allocation if the covered entity increases criteria or toxics emissions over some baseline.~~

Page 26: In the paragraph describing Figure I-5, there is an errant "the" that should be removed, just before the first reference to the year 2050.

Page 34: Table II-1 on page 34 contains a list of measures in the Proposed Plan, including a variety of "known commitments" either underway or required. SMUD believes that SB 350 is not accurately described in the table. The table indicates that the ***primary objective*** of SB 350 was to:

> "*Reduce GHG emissions in the electricity sector through the implementation of GHG emission reduction planning targets in the Integrated Resource Plan (IRP) process."*

In fact, SB 350 was crafted to include a wide variety of actual GHG reduction measures, including those described as "highlights" in Table II-1 – the renewable portfolio standard and doubling energy efficiency. A third highlight should be added to the table, describing the transportation electrification aspects of the bill. SB 350 does not apply solely to electricity (it also includes the natural gas and transportation parts of the energy sector). The bill did not include any language about Integrated Resource Planning until just before it was passed by the legislature, it rather was introduced as

and focused on what was called the “50-50-50” goals – a 50% RPS, a doubling of energy efficiency, and a 50% reduction in petroleum use. Integrated Resource Plans do not reduce GHG emissions, they outline procurement strategies intended to, over time, meet State policy goals as well as continuing to provide reliable and affordable power. SMUD contends that if the IRP language was not in SB 350, the amount of GHG emission reductions resulting from policies in the bill would be nearly equivalent, due to the 50% RPS, energy efficiency, and transportation electrification policies in the bill. Hence, the IRP process cannot be the “primary objective” of SB 350. SMUD suggests:

> “*Reduce GHG emissions in the energy~~electricity~~ sector through the implementation of a 50% Renewables Portfolio Standard, doubling California’s energy efficiency savings, and focusing on transportation and building electrification. ~~GHG emission reduction planning targets in the Integrated Resource Plan (IRP) process~~.*”

Page 40: Here, the *2017 Scoping Plan Update* discusses a few measures under possible future consideration to further the “prioritization” for direct emission reductions that Assembly Bill 197 requires ARB to consider. SMUD believes that the Proposed Plan, including an extended Cap and Trade structure, will provide direct emission reductions at levels that clearly meet the required “prioritization,” particularly if additional measures as suggest above are included.

SMUD believes that, given the clear prioritization already included above, these are unnecessary and could be counterproductive. The three suggestions presented all have problems, as described below.

The first potential measure was to evaluate limiting offsets more than in the current structure for a post-2020 Cap and Trade program. This suggestion will just increase costs. Offsets are an important cost containment mechanism that should remain in full force in the program, and they are very well monitored by ARB to ensure that actual emission reductions occur where the offset projects are located (some of which provide co-benefits within California). The post-2020 Cap and Trade program comes with much steeper reductions under the new targets, which makes flexibility mechanisms like offsets that much more critical to ensuring stable, politically acceptable prices while maintaining a steady carbon reduction trajectory.

Accordingly, SMUD believes that the current 8% offset limit should be maintained. As the known commitments are implemented and the cap decreases forcing direct emission reductions at covered sources, including transportation sources, the quantitative use of offsets compared to direct emission reductions will be sharply decreased. Even with an offset limit retained at 8% of compliance, a 40% reduction in GHG emissions from 2020 to 2030 as required by SB 32 implies that, even if used up to the limit, offsets will represent a significantly less important contribution to compliance than in the current program. Staying the course on the 8% offset limit means that a significantly greater contribution to meeting the 2030 target will come from direct emission reductions, not offsets.

The second potential measure was to redesign the post-2020 allocation strategy to reduce allocation of free allowances, hoping thereby to support increased technology

and energy investment at covered sources. SMUD contends that allocating fewer allowances to covered sources in favor of increased auction does not lead to a clear reduction of emissions at covered sources. Differences in allowance allocation do not change the basic question as to whether it is less expensive to reduce emissions and hence not use (and potentially sell) the allowance, or to use the allowance to cover actual emissions for compliance. Auctioning greater amounts of allowances has other implications, but does not materially alter the amount of direct emission reductions at covered sources.

The third potential measure, decreasing a covered facility's GHG allowance allocation if the covered facility increases criteria and toxics emissions over some baseline, also has problems, particularly for sources in the electric sector. Due to the significant fluctuations in hydroelectric generation in the state and the fact that each covered power plant is part of the interconnected electric grid, increases in generation and hence emissions from any one source are likely to occur in some years. This is a necessary aspect of the electric sector and does not imply any lack of commitment to long-term reductions in emissions for the sector. Power plants should not be penalized in allocation for operating to maintain the reliability of the grid during a drought or an unforeseen outage elsewhere on the grid.

Pages 87-89: SMUD recommends a few language changes in the discussion of Integrated Resource Planning that begins on page 87 of the *2017 Scoping Plan Update*. The sentence in the last paragraph on page 87 that begins, "Through their IRPs, filing…" should be reworded as follows:

> "Through their regulator approved IRPs, filing entities will demonstrate how they plan to ~~will~~ meet the planning target ranges established by CARB ~~electricity sector's share of the State's 2030 GHG reduction target~~ while ensuring reliability in a cost-effective manner."

This rewording recognizes that it is CARB that will establish GHG target ranges and that the IRPs are simply plans that show how the GHG target ranges will be met if the conditions and procurement represented in the plans occur as shown. It also recognizes that the IRPs will not necessarily demonstrate meeting the "electricity sector's share" of the State's 2030 GHG reduction target, as the IRPs will not cover the entire electric sector (since not all LSEs are required to submit IRPs) and some electric sector GHG emission reductions may come from measures outside the IRP process.

In the Looking to the Future section, under the heading "Electricity Goals" on page 88 of the *2017 Scoping Plan Up*date, bullet one reads:

- Achieve sector-wide and load-serving entity specific GHG reduction planning targets set by the State through Integrated Resource Planning.

SMUD understands that Senate Bill 350 requires larger load-serving entities (LSE) to follow an Integrated Resource Planning process that identifies a path toward meeting sector and LSE-specific GHG targets. However, these targets are planning targets, providing general direction for resource planning over time and subject to revision in

subsequent IRP processes as procurement circumstances change and lessons are learned. SMUD's Governing Board will maintain ultimate discretion of resource procurement decisions for its customers while achieving State and Local environmental and reliability goals. These targets cannot be "achieved" in the same way that the 40% statewide GHG reduction level must be achieved. They cannot be achieved "… through Integrated Resource Planning." SMUD recommends the bullet be reworded as follows:

- Provide the regulator approved IRP plan that shows ~~Achieve~~ that the load-serving entity expects to meet their specific GHG reduction planning targets set by the State.

On page 89, the two top bullets are duplicative -- SMUD recommends removing the second. The first bullet, which talks about establishing GHG planning targets, is not nearly as important a measure, in terms of actual GHG reductions, as those in the following bullets. SMUD recommends placing this first bullet last in the list. The ninth bullet, at the bottom of page 89, describes doubling energy efficiency savings per SB 350, a measure that is far more important. SMUD suggests moving this bullet up and also including the bullet in the list of measures for the natural gas sector.

Page 137: Table V-1 on page 137 contains a similar statement about IRPs that should be removed from the table or altered. SMUD recommends just striking the sentence, as follows:

> ~~Reduce GHG emissions in the electricity sector through the implementation of GHG emission reduction planning targets in the IRP process.~~ Load-serving entities plan to meet GHG emission reduction planning targets through a combination of measures evaluated in regulator approved IRPs.

Thank you for the opportunity to comment.

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cc: Corporate Files