

October 22, 2021

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**RE: Joint Utility Group Comments on 2022 Scoping Plan Update- Draft Scenario Inputs Technical Workshop on September 30, 2021**

The Joint Utilities Group (JUG) appreciates the opportunity to offer comments on the California Air Resources Board’s (CARB) September 30, 2021, public workshop on the 2022 Scoping Plan Update (SPU) Draft Scenario Inputs Technical Workshop. The JUG consists of the electricity sector’s investor-owned, publicly-owned and electric cooperative utilities in California.<sup>1234</sup> To date, the majority of California’s greenhouse gas emissions (GHG) reductions have been achieved by the electricity sector as illustrated in CARB’s recently released annual inventory report: “California Greenhouse Gas Emissions for 2000 to 2019”.<sup>5</sup> California utilities have accomplished this through aggressive investments in new renewable energy resources, the development of low- and zero-emission resources and divesting of high-GHG-emitting generating resources. These accomplishments position the electricity sector as a key facilitator for enabling decarbonization of other economic sectors and addressing the risks of climate change.

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<sup>1</sup> This JUG letter represents the collective comments of the following utilities: Pacific Gas & Electric Company, San Diego Gas & Electric Company, Turlock Irrigation District, the Golden State Power Cooperative, the Northern California Power Agency, Southern California Public Power Authority, and the California Municipal Utilities Association.

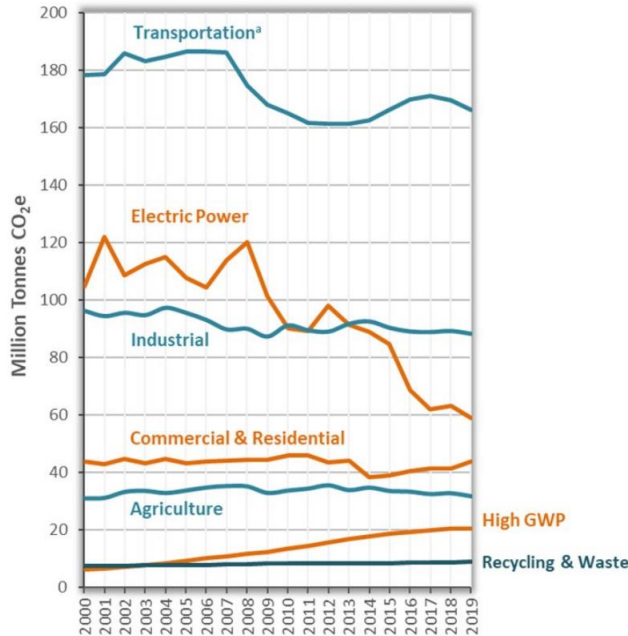
<sup>2</sup> The Northern California Power Agency (NCPA) is a nonprofit California joint powers agency established in 1968 to construct and operate renewable and low-emitting generating facilities and assist in meeting the wholesale energy needs of its 16 members: the Cities of Alameda, Biggs, Gridley, Healdsburg, Lodi, Lompoc, Palo Alto, Redding, Roseville, Santa Clara, Shasta Lake, and Ukiah, Plumas-Sierra Rural Electric Cooperative, Port of Oakland, San Francisco Bay Area Rapid Transit (BART), and Truckee Donner Public Utility District—collectively serving nearly 700,000 electric consumers in Central and Northern California.

<sup>3</sup> The Southern California Public Power Authority (SCPPA) is a joint powers agency whose members include the cities of Anaheim, Azusa, Banning, Burbank, Cerritos, Colton, Glendale, Los Angeles, Pasadena, Riverside, and Vernon, and the Imperial Irrigation District. SCPPA Members collectively serve nearly five million people throughout Southern California. Each Member owns and operates a publicly-owned electric utility governed by a board of local officials who are directly accountable to their constituents.

<sup>4</sup> The California Municipal Utilities Association is a statewide organization of local public agencies in California that provide electricity and water service to California consumers. CMUA membership includes publicly-owned electric utilities that operate electric distribution and transmission systems. In total, CMUA members provide approximately 25 percent of the electric load in California.

<sup>5</sup> [https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000\\_2019/ghg\\_inventory\\_trends\\_00-19.pdf](https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf)

Figure 3. Trends in California GHG Emissions.



This figure shows changes in emissions by Scoping Plan sector between 2000 and 2019. Emissions are organized by the categories in the AB 32 Scoping Plan.

The JUG appreciates CARB’s efforts to create transparency and the public workshops/discussion during the SPU development process. The JUG looks forward to discussing electricity sector-specific issues in more detail during the SPU November 2, 2021 workshop on the electricity sector.

The JUG offers several recommendations about the electricity sector components of each carbon neutrality scenario. Specifically, these comments address general criteria that should be used for scenario input selection, Electricity Generation sector provisions of each of the proposed alternatives set forth in the “Proposed PATHWAYS Scenario Modeling Assumptions (or Assumptions)” workshop material table, and the table’s Attachment B, “Generation Technologies to be included in Modeling.”

First, the reliability of the electricity sector needs to be the paramount consideration for all carbon-neutrality scenarios. California’s decarbonization success depends on ensuring that clean electricity is reliable. Decarbonizing sectors such as transportation, buildings, and industry will significantly increase electric demand and will require a clean and reliable electric system. Thus, the electric sector is a lynchpin for the decarbonization of the whole state. Because the reliability of the electric grid is essential to achieving the state’s decarbonization goals, the Scoping Plan economy-wide modeling must ensure the resulting electric portfolios can reliably produce and deliver clean energy 24x7 for all days and all seasons of the year. Unfortunately, prior Scoping Plan workshops have been silent on electric reliability modeling and even the SB 100 report that CARB is relying upon acknowledges that their modeling did not include an assessment of the portfolios’ impacts on electric grid reliability. It is critical that CARB be transparent on the status

of its reliability modeling plans that will inform the ultimate Scoping Plan recommendations. The implementation of Scoping Plan scenarios that may not be reliable is not acceptable. If there is a possibility that a particular scenario would adversely impact or compromise electric grid reliability within a particular scenario, then that scenario should not be considered.

Second, energy affordability to consumers must be a key consideration when selecting a final preferred scenario. More specifically, an electricity rate impact analysis should be incorporated in addition to the planned economic analysis. As stated by the California Public Utilities Commission (CPUC) in the first SPU workshop: “Broader implementation of economy-wide decarbonization measures will rely in large part on maintaining electric cost affordability.” If the success of California’s decarbonization is dependent on electricity rates, then part of the scenario selection process should include an evaluation of each scenario’s electricity rate impact so that rate impacts can be compared across scenarios. This will be critical in assessing which scenario provides the necessary GHG emissions reductions with the least impact on electric rates. Affordable electricity is essential to the health and safety of all Californians, as well as the viability of its businesses, industries, and schools. Moreover, it is also necessary for the successful adoption of electrification and decarbonization of California’s economy because it will facilitate decarbonization in other sectors, like transportation and buildings.

Third, Alternative 1 and its generation technology restrictions of carbon neutrality by 2035 could pose significant risks to grid reliability and it is imperative that all of its implications be carefully studied if CARB models this scenario. The complete elimination of combustion-based, zero-carbon electricity generation (including combustion of natural gas with carbon capture & sequestration or use of green hydrogen), leaves little room for firm, dispatchable generation as part of the Alternative 1 portfolio which is absolutely essential for the reliability and resiliency of the electric grid. In the Summer of 2021, the California Independent System Operator issued several “flex alert” events, and the California Energy Commission encouraged utilities to install natural gas turbines or diesel generators to keep the lights on and maintain the reliability of the grid. The need for zero-carbon combustion reliability resources will be increasingly important as load increases due to electrification in buildings, transportation, and other sectors on an accelerated timeframe. In addition, the greenhouse gas target for the electricity sector of 23 million metric tons of carbon dioxide in 2030 would prohibit many utilities from fulfilling commitments on existing baseload resources and maintaining reliability.

Alternatives 1 and 2 propose achieving carbon neutrality by 2035. Transforming the electric grid to zero-carbon and upgrading the transmission and distribution system to meet the demand resulting from electrification of other sectors of the economy will likely require more time than allowed with the 2035 target. For example, permitting would need to be expedited across all state, local and federal agencies (for transmission and renewable resources outside of California). Development of high-voltage transmission can take on average between 10 to 12 years or more. This timeline incorporates tasks such as planning, scoping, mapping, environmental review, public comment, project approval, permitting, land acquisition, and construction. The JUG

believes that for Alternative 1 to be feasible, permitting for building a high-voltage transmission line should have begun several years ago.

The JUG supports further exploring Alternatives 3 and 4, which align with Senate Bill 100 (“SB 100”) and the target of carbon neutrality by 2045. These alternatives forecast a significant incremental GHG emissions reduction from the current targets. Utilities across the state have already started to plan for the 2045 time horizon, as transmission studies and project development can take decades. Each utility request-for-proposal cycle takes a year, at minimum, and results in newer technologies becoming available and meeting economic and reliability criteria. As newer technologies are only now beginning to be considered as part of the utility portfolio mix for *future firm, dispatchable* resources, the adopted scenarios should focus on practical and tested technologies.

Fourth, the JUG appreciates CARB’s proposed list of technologies eligible for Alternatives 2, 3, and 4 as listed in Attachment B, since it appropriately recognizes that diverse existing and emerging zero-carbon generation technologies will be needed to meet the state’s zero-carbon electricity policy while maintaining affordability and reliability. Flexible technologies such as large hydro, geothermal, hydrogen fuel cells, green hydrogen combustion, bioenergy and carbon capture and sequestration solutions are needed to complement renewables and collectively decarbonize the electric portfolio. Thus, these resources should count toward the State’s carbon neutrality goals. CARB should continue expanding the list of eligible zero-carbon technology solutions by adding emerging, new, and yet-to-be-developed clean energy solutions. Solutions such as methane pyrolysis, energy from diverted organic waste and wastewater, and other clean firm/dispatchable resources and clean fuel technologies should also be eligible. It is imperative that California be open to additional potential clean energy solutions. Resource diversity is beneficial to the electric portfolio and the entire California economy. The year 2045 is not far away, and California needs alternative firm, dispatchable resources, in addition to diversified renewable development, to make SPU scenarios plausible.

The JUG reminds CARB of the importance of their work to the future development of emerging technologies. By following a technology-inclusive Scoping Plan, CARB would invigorate the development of clean energy technologies. However, prescriptive and technology-exclusive signals could hamper market development, regulatory support and investment for otherwise viable technologies. California is at the forefront of decarbonization efforts at the national level, and the entire globe will benefit or suffer from the selected scenarios and eligible technologies provided by the Scoping Plan.

Lastly, as mentioned earlier, the JUG appreciates CARB’s efforts to create a transparent public dialogue with stakeholders in the SPU process. Additional workshops focused on the electricity and other sectors will allow entities to provide input on options for analysis and consideration. After the modeling is complete, CARB should conduct additional workshops on outcomes, rate analyses, practicality, policy implications, and the real-life impacts of each scenario, especially

on the electricity sector, to address feasibility and help protect against unintended consequences before CARB identifies a preferred scenario.

The JUG looks forward to additional collaboration with CARB and other stakeholders in the SPU public process.