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October 18, 2021

Rajinder Sahota
Deputy Executive Officer
California Air Resources Board
1001 I Street
Sacramento, CA 95814

RE: San Diego Gas & Electric Company Comments on the September 30, 2021, 2022 Scoping Plan Update – Draft Scenario Inputs Technical Workshop

Dear Ms. Sahota,

San Diego Gas & Electric Company (SDG&E) appreciates the addition of the September 30, 2021, 2022 Scoping Plan Update – Draft Scenario Inputs Technical Workshop. The presentation of updated draft scenarios and solicitation for stakeholder feedback makes it clear that the California Air Resources Board (CARB) is committed to a transparent process that values stakeholder input. Feedback, engagement, and buy-in from California's many sectors is important and necessary to align a collective effort to achieve the State's carbon goals, including eventually carbon neutrality. Our decarbonization goals require a transformation of the way energy is generated, delivered, and consumed. It will affect all sectors of our economy. Thus, a continuation of the current robust stakeholder input into the Scoping Plan process is a necessity. SDG&E suggests that CARB include another opportunity for stakeholder input on scenarios after completion of draft modeling at the beginning of 2022.

SDG&E is committed to doing our part by enabling and accelerating the transition to carbon neutrality on behalf of our customers and the communities we serve. We are proud of our role in helping reach the AB 32 goals four years before the 2020 target. And in March 2021, we made a climate pledge to reach net zero greenhouse gas (GHG) emissions by 2045, which includes SDG&E's direct emissions as well as those from our customers' consumption of energy.[1] SDG&E is committed to California's collective decarbonization effort and is appreciative of the opportunity to contribute to the Scoping Plan scenario dialogue in this comment letter.

The Scoping Plan modeling will need to take into account California's expected/projected energy transformations. SDG&E agrees that CARB should select multiple scenarios for this modeling and analysis. However, SDG&E emphasizes that selected scenarios should represent **realistic**

[1] Scope 1, 2, and 3 emissions are included in the net zero pledge.

and feasible paths to decarbonization. We have limited time to perform the necessary analysis to reach our decarbonization targets. In an ideal world, with an abundance of time and resources, it might be possible to run all permutations of potential scenario inputs; however, we do not have this time. For this reason, SDG&E recommends that CARB focus on scenarios that are feasible. We believe that scenarios that are unattainable or unsustainable should not be entertained as they would detract much needed time and resources from feasible scenarios and if selected as final Scoping Plan scenarios could cause California to fail in reaching its carbon neutrality targets. SDG&E believes the main lens through which to measure the feasibility of scenario options is by prioritizing **reliability, flexibility/technology inclusivity, and energy affordability**.

Also, we understand that the modeling process is iterative and as such the propriety and adequacy of each selected scenario might not be understood fully until model runs are complete. Even if scenarios are selected for their expected benefits to **reliability, flexibility /technology inclusivity, and energy affordability,** the outcomes of those scenarios will only be known after receiving modeling results. Therefore, to maintain continual transparency, CARB should build the Scoping Plan schedule to allow an additional round of stakeholder scenario feedback after preliminary results are shared with stakeholders. At the workshop, CARB staff indicated that the initial run of selected scenarios will commence in November and require multiple months to complete. SDG&E recommends that CARB plan a workshop to allow stakeholders to view scenarios and their modeling results together. The workshop schedule should allow sufficient time to incorporate stakeholder feedback into subsequent scenario selection and model runs that will inform the Spring 2022 Draft Scoping Plan.

In addition to transparency, the growing intersections of climate-related work done by the multiple California agencies is creating an increasing need for more inter-agency collaboration. Agency-specific regulations, programs, proceedings and expertise on important topics need to be conducted such that timing and data flow to other agencies supports our collective efforts to analyze, model and implement decarbonization solutions. To improve the timing and interaction of various agency deliverables such as the Scoping Plan, the California Public Utilities Commission's (CPUC) Integrated Resource Planning (IRP) proceeding, the SB 100 Joint Agency Report, and the California Independent System Operator's (CAISO) Transmission Planning Process (TPP), SDG&E recommends that these processes synchronize their cycles such that each produces its final outcome in consecutive years. For example, finalize the Scoping Plan in 2022, the IRP's next Preferred System Plan cycle in 2023, and the SB 100 report in 2024, and then repeat in 2025 with the Scoping Plan. In this way, each process can inform the next process in the series. Similarly, new directives on rate design, reliability analysis, technology changes and/or updates to cost curves can be incorporated annually by whichever proceeding is active in that year.

In our comments, SDG&E details our recommended approach to scenario input selection using the pillars of reliability, flexibility/technology inclusivity, and energy affordability. Then we provide detailed feedback on alternatives of multiple select sectors. Our comments are structured in the following sections:

1. Scenario selection should prioritize reliability, flexibility/technology inclusivity, and energy affordability.

2. Feedback on Carbon Free Electricity Grid / Electricity Generation Sector – Draft Scenario Alternatives
3. Feedback on Vehicle Fleet Electrification – LDV Zero Emission Vehicles (ZEVs) – Draft Scenario Alternatives
4. Feedback on Vehicle Fleet Electrification – Truck ZEVs – Draft Scenario Alternatives

1. Scenario selection should prioritize reliability, flexibility /technology inclusivity, and energy affordability

Electric System reliability and resiliency are foundational and must be considered as a critical component of scenario development.
California's decarbonization success is dependent on a reliable decarbonized electric grid. 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 decarbonization of the whole state. Due to the necessity of electric reliability, the Scoping Plan economy-wide modeling must ensure that 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. It is therefore critical that CARB be transparent on the status of its reliability modeling plans. Implementation of Scoping Plan scenarios that may not be reliable is not acceptable. SDG&E is committed to the goal of a reliable and decarbonized California grid and thus strongly urge CARB to perform a reliability analysis of the electric grid in its Scoping Plan process.[2]

Performing supply-side modeling for carbon neutrality scenarios to ensure electric system reliability is critical and necessary, and it is important to understand that this work has not yet been completed. The SB 100 final report found that SB 100 is directionally achievable but did not model reliability, nor did it include the costs associated with ensuring grid reliability. Thus, all Scoping Plan scenario inputs, including those that leverage SB 100 scenarios to inform needs for the electric sector, need to undergo Loss of Load Expectation (LOLE) reliability assessments with a planning target of 0.1 days/year, or 1 day in 10 years, to ensure they are achievable while minimizing cost. LOLE studies are the industry-accepted approach traditionally used by resource planners to establish system resource need – put simply, it is the "gold standard" of reliability planning.[3] The costs associated with the resulting reliability assessments should also be incorporated into the economic analysis to ensure supply-side costs are captured in the Scoping Plan's estimated Scenario costs.

Incorporating LOLE studies and including clean firm and dispatchable resources along with adequate transmission and distribution to deliver clean energy to electric vehicle car

[2] If the Scoping Plan process will not include reliability modeling, then CARB must make clear to stakeholders and regulators that Scoping Plan scenario results may result in an unreliable grid. CARB should also inform stakeholders of the venue in which the necessary reliability assessment will take place.
[3] LOLE studies focus on the peak hour of the days that have significant Loss of Load Probability (LOLP). LOLP changes over time, which means that new LOLE studies must be conducted periodically in order to ensure the validity of the planning data and decarbonization assumptions.

chargers, buildings and industry are necessary steps to creating reliable scenarios and ensuring that California's decarbonization goals are achievable. Further, any scenarios resulting in an unreliable electricity grid should be immediately discarded.

Flexibility and technology inclusivity should be valued and encouraged in Scoping Plan scenarios.

SDG&E is technology neutral and values flexibility and technology inclusivity. In general, Alternative 1 inputs presented at the workshop were overly restrictive and the antithesis of flexibility. We agree with the SB 100 final report general conclusion that the electric portfolio benefits from technological and geographical diversity and we support an inclusive and flexible portfolio approach to developing a GHG reduction strategy. Three independent studies further found that in order to decarbonize California's electric portfolio diversity is not only favorable, but necessary. [4] The studies concluded that decarbonizing California beyond 60%, is not possible using exclusively renewables. Achieving renewable/clean energy penetration beyond 60% will require other solutions to maintain grid reliability and serve California's expected electricity needs.

CARB's proposed list of technologies eligible for Alternatives 2 - 4 of the Electricity Generation sector scenarios listed in Attachment B of the "Draft Scenario Assumptions" workshop material are a move in the right direction. The inclusion of flexible technologies such as geothermal, hydrogen fuel cells, green hydrogen combustion[5], and engineered carbon removal (ECR) solution are needed to complement renewables and collectively decarbonize the electric portfolio. However, we encourage CARB to continue expanding the list of eligible solutions by adding new/emerging 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 to the entire California economy.

CARB's work in this area is of great importance to future development of emerging technologies. Investors, legislators, and the industry are watching. Prescriptive and technology exclusive signals could hamper market development, regulatory support, and investment for otherwise viable technologies. On the other hand, a technology inclusive Scoping Plan would invigorate development of clean energy technologies. California is at the forefront of decarbonization, and the entire globe will benefit or suffer from the selected scenarios and eligible technologies provided by the Scoping Plan.

[4] See "California needs clean firm power, and so does the rest of the world: Three detailed models of the future of California's power system all show that California needs carbon-free electricity sources that don't depend on the weather" at https://www.edf.org/sites/default/files/documents/SB100%20clean%20firm%20power%20report%20plus%20SI.pdf

5 Combustion of green hydrogen produces no CO_2, thus is a GHG zero-emission process. While hydrogen combustion does release NOx, an air pollutant, studies indicate that NOx can be nearly eliminated with proper engineering. Thus green hydrogen combustion can serve to reduce/eliminate both GHG and air-pollutants. See Dan, et al., H21 Leeds CityGate Project Report." City of Leeds, 2017, https://www.h21.green/wpcontent/uploads/2019/01/H21-Leeds-City-Gate-Report.pdf, pages 162-163.

Energy affordability needs to be a fundamental consideration of Scoping Plan modeling.

To reach carbon neutrality, California will need to change the way it produces, delivers and consumes energy. Thus, in addition to considerations of costs and savings due to health and other societal impacts, it is important to consider energy costs and energy affordability in Scoping Plan modeling. Energy cost inputs such as electricity rates, natural gas rates, and gasoline costs should all be analyzed and a consideration when selecting final Scoping Plan scenarios. In particular, the Scoping Plan modeling should include an electric rate impact analysis. As stated by the CPUC at the June 8, 2021 Scoping Plan Overview and Framework 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 and modeling process should include an evaluation of each scenario's electricity rate impact so 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 to electric rates and therefore the best support for decarbonization through electrification. Affordable electricity is paramount to decarbonization because it will facilitate decarbonization in other sectors, like transportation and buildings.

2. Carbon Free Electricity Grid / Electricity Generation Sector – Draft Scenario Alternatives

CARB staff presented four draft alternative scenario inputs for the Carbon Free Electricity Grid / Electricity Generation Sector. SDG&E recommends rejecting Alternative 1 as infeasible, further analyzing the accelerated timeline of Alternative 2, and considering Alternative 3 and/or Alternative 4 as possible final scenarios for Scoping Plan Modeling. SDG&E offers the following more detailed feedback on these Alternatives.

- **Alternative 1 - Carbon Neutrality by 2035; No combustion; Total load coverage**
  Alternative 1 violates the pillar of technology inclusivity. And because no reliability assessment was conducted on the SB 100 No Combustion scenario, this scenario cannot claim to be reliable. Further, multiple studies question whether there is sufficient land to accommodate the large amounts of solar and wind facilities needed to support a No Combustion scenario.[6] Due to its technology exclusivity, lack of reliability assessment and potential to require more land than what is available, **Alternative 1 should be considered infeasible and should be excluded from consideration.**

- **Alternative 2 - Carbon Neutrality by 2035; – Renewable Portfolio Standard (RPS)-eligible and zero-carbon generation resources; Total load coverage**

  Carbon Neutrality: Carbon neutrality by 2035 is an ambitious goal. SDG&E recommends CARB evaluate the feasibility and implications, including costs, associated with achieving current emissions reductions and carbon neutrality goals

[6] Ibid.

prior to pursuing the more aggressive targets in Alternatives 1 and 2. While the intentions of accelerating these timelines are in good faith, the outcomes may well be unattainable in a practical sense. Should CARB consider exploring an accelerated timeline to carbon neutrality, SDG&E recommends that this decision be informed by modeling and analysis to address the implications of this decision. Specifically, electric system reliability and supporting infrastructure build-out must be assured for decarbonization goals to be achieved. Also, the cost of decarbonization in an accelerated timeline would be condensed into a shorter time frame, leading to affordability challenges, and an increased risk of inequitable outcomes. SDG&E would like to reiterate its support for attainable acceleration of decarbonization goals; however, the feasibility of achieving existing targets, including the prioritization of reliability, cost minimization, and equity, should be the primary evaluation for accelerating carbon neutrality.

Eligible Technologies: Alternative 2 presents a substantial improvement to Option B from the August 17 Scenario Concepts workshop. Attachment B of the "Draft Scenario Assumptions" September 30 workshop material clearly defines the technologies available for Alternatives 2-4. SDG&E appreciates the inclusion of flexible technologies such as geothermal, hydrogen fuel cells, green hydrogen combustion, and ECR solutions as this diverse portfolio of resources will be needed to complement renewables and collectively decarbonize the electric portfolio. However, we encourage CARB to continue expanding the list of eligible solutions by adding new/emerging 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. Inclusion of many different clean technology solutions will help maintain grid reliability and allow the grid to select low-cost solutions, supporting cost and electric rate minimization.

Total Load Coverage: With full technology inclusivity, as this Alternative recognizes and allows, total load coverage is likely possible. Solutions like combustion of renewable hydrogen and ECRs, which are now included in Attachment B, will be needed to go beyond SB 100's retail sales coverage.

Alternative 2 Conclusion: SDG&E recommends more analysis prior to accelerating the carbon neutrality timeline. SDG&E agrees with the direction of Alternative 2's technology inclusivity. With true technology inclusivity, SDG&E supports total load coverage. Overall, **SDG&E believes Alternative 2 has potential pending further reliability and affordability analysis.**

- **Alternative 3 - Carbon Neutrality by 2045; RPS-eligible and zero-carbon generation resources; Total load coverage**

Carbon Neutrality: SDG&E supports carbon neutrality by 2045 and has made a climate pledge to reach net zero GHG emissions by 2045, which includes SDG&E's direct emissions as well as those from our customers' consumption of energy.

Eligible Technologies: As with Alternative 2, SDG&E supports CARB's direction towards true technology inclusivity and encourages CARB to continue expanding the list of eligible solutions by adding a row that captures new and yet-to-be developed clean energy solutions.

Total Load Coverage: With full technology inclusivity, as this Alternative recognizes and allows, total load coverage is likely possible. Solutions like combustion of renewable hydrogen and ECRs, which are now included in Attachment B, will be needed to go beyond SB 100's retail sales coverage. SDG&E encourages CARB to continue expanding the list of eligible technologies to incorporate other existing and upcoming clean energy solutions.

Alternative 3 Conclusion: **SDG&E supports Alternative 3 due to technology inclusivity.** With true technology inclusivity, SDG&E believes that California can achieve "Total Load Coverage" while maintaining grid reliability and supporting lower electricity rates.

- **Alternative 4 - Carbon Neutrality by 2045; RPS-eligible and zero-carbon generation resources; Retail Sales load coverage**

  Carbon Neutrality: As with Alternative 3, SDG&E supports carbon neutrality by 2045.

  Eligible Technologies: As with Alternatives 2 and 3, SDG&E supports CARB's direction towards true technology inclusivity and encourages CARB to continue expanding the list of eligible solutions by adding a row that captures new and yet-to-be developed clean energy solutions.

  Retail Sales Load Coverage: SDG&E agrees that retail sales load coverage can be met with the technologies listed in Attachment B.

  Alternative 4 Conclusion: Alternative 4 is similar to the SB 100 Core Scenario and further supports technology inclusivity. **SDG&E supports Alternative 4.**

- **Additional Alternative / Proposal**
  Other than continuing to provide an expansive list in Attachment B, SDG&E does not have additional proposals at this time.

3. Vehicle Fleet Electrification – LDV Zero Emission Vehicles (ZEVs) – Draft Scenario Alternatives

CARB staff presented four draft alternative scenario inputs for ZEVs in the light duty vehicle (LDV) category. SDG&E recommends rejecting Alternative 1 as infeasible and unenforceable; further analyzing the accelerated timeline of Alternative 2; selecting Alternative 3 as the final

scenario for Scoping Plan Modeling; and rejecting Alternative 4 due to it being too lenient. SDG&E offers the following more detailed feedback on these Alternatives.

- **Alternative 1 - 100% of LDV sales are ZEV by 2025; no Plug-in Hybrid Electric Vehicle (PHEV) sales after 2030; Only ZEVs on road by 2035; No PHEVs on road by 2035**

  100% ZEV sales by 2025: Governor Newsom's Executive Order N-79-20 requires that all new sales of LDVs (passenger cars and trucks) in California be ZEVs by 2035. Alternative 1 accelerates that target to 2025. Similar to our comments regarding carbon neutrality acceleration, SDG&E appreciates the intention of accelerating California's carbon reduction goals around transportation; however, there are numerous barriers to achieving the current ZEV goals, let alone accelerated statewide goals that would require expanded availability of both ZEVs and refueling infrastructure. SDG&E recommends that CARB study the feasibility and the impact of accelerating the target, including manufacturers' ability to produce additional vehicles, gaps in available versus needed refueling infrastructure, cost barriers to vehicle adoption by residents, and equitable access to technology and infrastructure among California's disparate communities.

  No PHEV sales after 2030: SDG&E is technology neutral and thus believes that PHEVs that use clean fuels should be eligible solutions.

  Only ZEVs on road by 2035; No PHEVs on road by 2035: SDG&E disagrees with this target. It is over-reaching and likely unenforceable. It is unclear, for example, how CARB would enforce this target, particularly for out-of-state drivers. Nor is it clear that this target would survive foreseeable legal challenges, including on Constitutional (including Commerce Clause) grounds. In addition to these considerations, there would likely need to be exemptions for emergency response and specialty vehicles.

  Alternative 1 Conclusion: **Alternative 1 should be considered infeasible and should be excluded from consideration due to over-reaching on types of vehicles allowed on the road.**

- **Alternative 2 - 100% of LDV sales are ZEV by 2030; no PHEV sales after 2035**

  100% ZEV sales by 2030: Alternative 2 also accelerates current LDV sales targets from 2035 to 2030. SDG&E's recommendation above to study the feasibility and impacts of accelerating this goal applies to Alternative 2 as well.

  No PHEV sales after 2035: SDG&E is technology neutral and thus believes that PHEVs that use clean fuels should be eligible solutions.

Alternative 2 Conclusion: **SDG&E prefers Alternative 2 to Alternative 1; however we are concerned with the exclusion of PHEV and the feasibility of a 2030 target.**

- **Alternative 3 - 100% of LDV sales are ZEV by 2035**

  100% ZEV sales by 2035: Alternative 3 mirrors Executive Order N-79-20. SDG&E supports California's 2035 LDV ZEV goals.

  Alternative 3 Conclusion: **SDG&E supports Alternative 3.**

- **Alternative 4 - 100% of LDV sales are ZEV by 2040**

  100% ZEV sales by 2040: Alternative 4 is less stringent than Executive Order N-79-20. SDG&E prefers Alternative 3 as it better aligns with our stated sustainability and carbon neutrality goals.

  Alternative 4 Conclusion: **SDG&E believes that Alternative 4 moves in the wrong direction in terms of the state's climate goals and prefers Alternative 3.**

4. Vehicle Fleet Electrification – Truck ZEVs – Draft Scenario Alternatives

CARB staff presented four draft alternative scenario inputs for truck ZEVs. SDG&E recommends rejecting Alternatives 1 and 2 as infeasible and unenforceable; rejecting Alternative 3 for being infeasible; and accepting Alternative 4 for the Scoping Plan scenario. SDG&E notes that some of these targets are being considered in CARB's Advanced Clean Fleets (ACF) regulatory proceeding. SDG&E offers the following more detailed feedback on these Alternatives.

- **Alternative 1 - 100% of Medium Duty Vehicles (MDV)/ Heavy Duty Vehicles (HDV) sales are ZEV by 2030; Only ZEVs on road by 2035; No PHEVs on road by 2035**

  100% ZEV sales by 2030: Alternative 1 accelerates current MDV/HDV 100% ZEV sales target being considered in the ACF proceeding currently from 2040 to 2030. Similar to our comments regarding carbon neutrality acceleration and acceleration of LDV sales targets, SDG&E appreciates the intention of accelerating California's carbon goals but recommends that CARB first study the feasibility and the impact of moving the target. Like the LDV segment, CARB should evaluate the ability of manufactures to meet the vehicle requirements of an accelerated MDV/HDV sales goal, the refueling infrastructure needed to support the new goal and whether it can be installed in time, and cost barriers to ZEV fleet adoption as well as available funding to support the transition, particularly for smaller fleets.

No PHEV sales after 2030: SDG&E is technology neutral and thus believes that PHEV that use clean fuels should be an eligible solution.

Only ZEVs on road by 2035; No PHEVs on road by 2035: SDG&E disagrees with this target. It is over-reaching and likely unenforceable. Again, there could be Commerce Clause issues with interstate commercial fleets. Additionally, PHEV MDV/HDVs purchased before a 2035 deadline should still be able to use California roads through their useful life, even if that extends past 2035. CARB's recently finalized Advanced Clean Truck (ACT) regulation allows MDV/HDV manufacturers to get partial credit for PHEVs with minimum all electric range until 2035, which will count toward the state's ZEV MDV/HDV manufacturing goals. The draft ACF regulation includes similar treatment of PHEVs, allowing PHEVs purchased before 2035 to count as ZEVs for compliance purposes throughout their useful life, including post-2035.

Alternative 1 Conclusion: **Alternative 1 should be considered infeasible and should be excluded from consideration due to over-reaching on types of vehicles allowed on the road.**

- **Alternative 2 - 100% of MDV/HDV sales are ZEV by 2030; Only ZEVs on road by 2045; no PHEVs on road by 2045**

100% ZEV sales by 2030: Same concerns as Alternative 1.

Only ZEVs on road by 2045; No PHEVs on road by 2045: Despite this Alternative allowing 10 more years of non-ZEV/PHEV on the road, SDG&E's concerns are the same. This target is likely is overreaching, likely unenforceable and may be susceptible to foreseeable legal challenges, including on Constitutional grounds. There may also be PHEV MDV/HDVs that were purchased before the end of non-ZEV sales that still have useful life. These vehicles should still have road privileges.

Alternative 2 Conclusion: **Similar to Alternative 1, Alternative 2 should be considered infeasible and should be excluded from consideration due to over-reaching on types of vehicles allowed on the road.**

- **Alternative 3 - 100% of MDV/HDV sales are ZEV by 2035**

100% ZEV sales by 2035: Alternative 3 accelerates the MDV/HDV sales goal being considered in CARB's ACF regulatory proceeding from 100% ZEV sales by 2040 to 100% by 2035. While SDG&E and Sempra have pledged to operate a 100% ZEV fleet by 2035 (assuming certain exemptions for emergency vehicles and vehicles not commercially available as applicable), SDG&E is concerned that without additional feasibility analysis to ensure needed charging infrastructure will be built and that manufacturers will be able to meet demand, this target may not be achievable. Solutions for MDV/HDV are still being developed and thus accelerating the target may be a stretch.

Alternative 3 Conclusion: Alternative 3 should be subject to further market review and feasibility analysis**.**

- **Alternative 4 - 100% of MDV/HDV sales are ZEV by 2040**

  100% ZEV sales by 2040: Alternative 4 is in line with the target under consideration in the ACF regulatory proceeding and is SDG&E's preferred Alternative.

  Alternative 4 Conclusion: **SDG&E prefers Alternative 4 above all others.**

Conclusion

Reliability, flexibility/technology inclusivity, and energy affordability are essential to the success of California's decarbonization efforts and must be incorporated as the filters that CARB will utilize to select the set of Scoping Plan scenarios that E3, UC Irvine and Rhodium will ultimately model and analyze. Using these pillars to gauge the feasibility of potential scenarios is critical to avoid unrealistic or unachievable scenarios. Further, we encourage CARB to conduct more frequent Scoping Plan updates and to align future Scoping Plans with IRP and SB 100 deliverables. Finally, transparency of analysis and modeling, especially as it relates to electricity reliability modeling, is critical to the success and acceptance of the Scoping Plan work. We urge that CARB add another round of scenario review after test runs have concluded. SDG&E strongly believes that these considerations will help lead to a Scoping Plan that can help California achieve its 2030 goals and ultimately carbon neutrality by 2045.

Sincerely,

/s/ Samantha Pate

Samantha Pate
Director
Strategic Planning
SDG&E