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California Energy Commission
Docket Office
1516 Ninth Street
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RE: SDG&E's Comments on the California Energy Commission's DRAFT Proposed EPIC Interim Investment Plan 2021

Dear Commissioners:

San Diego Gas & Electric Company (SDG&E) appreciates the opportunity to submit comments regarding the California Energy Commission's (CEC) DRAFT Proposed Electric Program Investment Charge (EPIC) Interim Investment Plan 2021 (Plan) issued on January 4, 2021.

The EPIC program was established to "provide public interest investments in applied research and development, technology demonstration and deployment, market support, and market facilitation, of clean energy technologies and approaches for the benefit of electricity ratepayers of Pacific Gas and Electric Company (PG&E), San Diego Gas & Electric Company (SDG&E), and Southern California Edison (SCE), the three large investor-owned utilities (IOUs)."¹

To help ensure the CEC's initiatives in the 2021 Interim Investment Plan provide benefits to SDG&E's electricity ratepayers, SDG&E offers the following high-level comments with more details below:

- Increased transparency on initiative funding allocation and selection criteria should be included,
- Investment initiatives should focus on providing incremental value to existing efforts,
- Research for technology recycling could help promote circularity and avoid a hazardous waste management catastrophe down the road. Two elements, key to advancing the State's Energy Transition goals.
- Expanding criteria of community impact is a welcomed approach, and
- Recommended adjustments to proposed initiatives.

Increased transparency on initiative funding allocation should be included

¹ California Public Utilities Commission Decision (D.) 12-05-037 at 1.

The DRAFT Proposed EPIC Interim Investment Plan 2021 notes the “authorized budget of \$147.26 million per year for the first investment cycle of January 1, 2021 through December 31, 2026.”² The Plan notes that under-resourced communities will receive dedicated funding, anywhere from 25 percent up to 100 percent within an initiative’s funding but fails to discuss details regarding funding levels for each of the nine identified initiatives proposed within the Plan. The lack of transparency around selection criteria and funding allocation creates concern around whether the initiatives appropriately follow the guiding principle of the EPIC program of providing net benefits to electric ratepayers. SDG&E recommends that the CEC include proposed funding allocations to each initiative for public and stakeholder comment prior to submitting the plan for approval by the California Public Utilities Commission (CPUC).

Investment initiatives should focus on providing incremental value to existing efforts

Proposed Initiative 6 – Valuation of Investments in Electricity Sector Resilience would contribute to the development of methods for valuing public benefits of customer and grid resilience investments. On January 14, 2021, the CPUC approved the proposed decision in Track 2 of the Microgrid Order Instituting Rulemaking (R.) 19-09-009 (Microgrid OIR) which included directing the CPUC’s Energy Division Resiliency and Microgrids Working Group to examine the “costs and value propositions of microgrids.”³ As identified in the decision, microgrids involves many cross-overs with other policies and as such, a siloed effort within this plan would detract from participation in ongoing efforts directed by the CPUC to occur at the same time as the timing of this Plan. To offer a multi-faceted and cross-over policy approach as envisioned by the CPUC “to establish a consistent policy framework”,⁴ SDG&E recommends that the efforts in this proposed initiative be removed from the Plan and instead directed towards the CPUC’s Resiliency and Microgrids Working Group’s efforts to determine the value of resiliency within the context of the Microgrid OIR.

Research for technology recycling could help promote circularity and avoid a hazardous waste management catastrophe down the road

The draft 2020 IEPR Volume I recommends: “the CEC should continue to fund and explore opportunities for second-life batteries and battery recycling.” Battery recycling or any type of recycling seems to be missing from this Investment Plan. As many of the solar panels installed during the initial years of the California Solar Initiative are approaching their end of life, California will have an increasing issue with solar panel disposal. The CEC should invest in research to reduce the amount of waste that goes into landfills from these technologies and increase reuse and recycling. Battery storage have an even shorter useful life and so the vehicle and station batteries installed five or so years ago may reach the end of their useful life in the next couple years and again will create problems on disposing of them. The CEC should create a focused initiative that promotes solar and battery recycling.

² DRAFT Proposed EPIC Interim Investment Plan 2021 at A-1.

³ *Decision Adopting Rates, Tariffs, and Rules Facilitating the Commercialization of Microgrids Pursuant to Senate Bill 1339 and Resiliency Strategies* approved on January 14, 2021 at 53.

⁴ *Id.* at 54.

Upgrading electrical infrastructure and investing in new technologies

Wildfire is one of the most pressing hazards threatening a resilient electrical grid – throughout California. SDG&E is implementing several fire mitigation strategies that aim to harden and upgrade existing and future infrastructure. Some of these include programs to leverage wind and meteorology data to improve design criteria, replace #4 and #6 copper conductors, upgrade wood poles to steel poles, install additional overhead SCADA sectionalizing switches, perform pole loading calculations, coordinated strategic use of data from fault indicators and other data sources to more rapidly locate electrical faults, and support future growth of falling conductor protection⁵. Additionally, the utility is strategically undergrounding lines in high-risk areas, avoiding the use of SF6 gas – where possible – in circuit breakers and distribution switches, and plans to pilot a Virtual Power Plan (VPP) that further expands and leverages available distribution-level demand response (DR), flexible load management as a means to reduce GHG emissions, advance resource adequacy and enhance grid resiliency⁶. Investing in research beyond what utilities are doing/proposing in their grid hardening plans will be critical for supporting climate resiliency and wildfire mitigation, especially as the probability and intensity of wildfires in California grows in the coming decades.

Expanding criteria of community focus is a welcomed approach

The Plan appears to identify “under-resourced communities” as disadvantaged, low-income communities, and Native American tribes.⁷ We support and appreciate the expansion of targeted communities of concern to include low-income and tribal communities, since these communities are the exact communities that deserve attention in a just and equitable energy transition in California. This expansion mirrors the strategy taken by the California legislature in Assembly Bill 841 Section 1 and in the CEC’s Senate Bill 1000 report, where it was shown seems to serve as a strong proxy for both disadvantaged communities and race.

In the Plan, the discussion around under-resourced communities was focused more on how each initiative could support these communities but did not offer any specifics to help determine which communities may qualify as under-resourced. SDG&E is interested in hearing more about the specific criteria that would qualify a community as “under-resourced” in the CEC’s Plan to be filed for approval by the CPUC. Consistency in definitions when evaluating the needs of communities of concern is key to ensuring that climate justice and equity concerns are fully addressed and proposed solutions are appropriately designed to fulfil local community needs, which vary across the region.

Recommended adjustments to proposed initiatives

Proposed Initiative 3 – Energy Efficiency and Load Shifting in Indoor Farms is focused on demonstrating pre-commercial technologies, hardware systems, control systems,

⁵ San Diego Gas & Electric Company Wildfire Mitigation Plan (pg. 16-17)

https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/News_Room/NewsUpdates/2019/SDGE%20WMP%20Presentation%202.13.19%20Final.pdf

⁶ [SDG&E Sustainability Report_0.pdf](#)

⁷ DRAFT Proposed EPIC Interim Investment Plan 2021 at A-6.

and operational procedures of a digitized indoor farm that would increase energy efficiency and develop the potential to shift load. Farming in an urban setting can promote education, provide fresh produce to those in under-resourced communities, and lessen energy costs as fewer air conditioners will be running as these efforts can reduce “urban heat islands” as identified by the United States Environmental Protection Agency.⁸ For example, the City of San Diego has an Urban Agriculture Incentive Zone Program that promotes urban farming within city limits that could serve.⁹ In Addition to developing technological advancements as proposed in this initiative, utilizing the Earth’s natural processes, from increasing carbon sequestration in agriculture, implementing re-forestation programs such as SDG&E’s “Right Tree, Right Place” initiative¹⁰, partnering with local community groups to manage forest land to better mimic natural ecological cycles, monitoring soil health, would all result in greenhouse gas (GHG) emission reductions and reduced energy usage especially when paired with advancements in AI, GIS, etc.

Proposed Initiative 4 – Optimizing Long-Duration Energy Storage to Improve Grid Resiliency and Reliability in Under-resourced Communities is focused on clean long-duration energy storage systems that can provide resilience to critical facilities in under-resourced communities. There has been significant interest in the development of long-duration energy storage technologies for a multitude of reasons and SDG&E supports the inclusion of investing funds to continue to develop these technologies. Proposed Initiative 7 – Vehicle-to-Building Technologies for Resilient Back-up Power is similarly focused on providing power to critical loads during grid outages. Hydrogen is a key component to innovative and transformative breakthroughs while providing the long-duration grid reliability benefits being sought in this initiative. Hydrogen can also be used as a fuel in vehicles to both power the vehicle and provide back-up energy storage to provide resiliency. SDG&E recommends that technologies utilizing hydrogen be explicitly eligible for these initiatives. Other non-battery storage technologies should also be considered. In addition to economics (levelized cost), safety risk, community and climate impact should also drive the diverse technology-mix selection and resilience criteria.

Proposed Initiative 8 – Offshore Wind Energy Technologies is split into four tracks. The first track is focused on manufacturing, assembly, and installation of offshore wind (OSW) components, while the second track is targeted towards the testing and validation of monitoring systems for components that would reduce both the installation and operation and maintenance costs of OSW technologies. The third track is to develop tools or methods for assessing and monitoring the environmental impacts associated with assembly and operation of OSW technologies. The fourth track is a pilot of an OSW system offshore of California to identify hurdles associated with commercial-scale OSW projects.

⁸ See <https://www.epa.gov/green-infrastructure/reduce-urban-heat-island-effect>

⁹ See <https://www.sandiego.gov/economic-development/business/starting/urban-agriculture>

¹⁰ See SDG&E’s Sustainability Strategy located here:

https://www.sdge.com/sites/default/files/documents/SDG%20E%20Sustainability%20Report_0.pdf?nid-18226 at 20.

While wind generation, especially offshore, offers a profile complementary to solar in many areas of the state of California, there are many other hurdles associated with OSW technology. The first track appears to be focused on making California “one of the first global manufacturing centers for FOSW infrastructure.”¹¹ EPIC is funded by California IOU electric ratepayers and as such, they should benefit from the investment of EPIC funds. The viability of OSW solutions in California, especially Southern California is fraught with challenges. Given the nascency of feasibility and the unique challenges this pathway faces, it may be too early to pass on the cost of R&D to California Utility ratepayers. Barring job growth benefits, California Utility ratepayers should not be burdened to pay for manufacturing of products we may not be able to deploy at scale in California or capture as benefit in our path to carbon neutrality. The fourth track piloting OSW technology does not seem to fit within the timeline of this interim investment plan. As identified in the proposed initiative, there is much work to be done before this technology could be commercially ready and therefore should not be included in this interim investment plan. OSW technology will require significant infrastructure investment to get the energy produced from OSW onto shore – whether that includes undersea and underground transmission lines or floating energy storage devices which are transported between the OSW location and onshore. Also, the environmental impact of large-scale development of OSW on sea life (plants and animals) should be thoroughly examined before committing significant funds to this area. Additional discussion should occur before including this effort in an investment plan. SDG&E recommends deferring tracks I and IV from this proposed initiative and limiting funding for tracks II and III, till the feasibility of deploying OSW becomes clearer off the coast of California. Allocating ratepayer funds R&D initiatives that advance climate resilience, sustainable economic growth and desired social impact within the investment plan and have a clear deployment roadmap are advisable till the efficacy of OSW become clear.

SDG&E appreciates the opportunity to comment on the CEC’s DRAFT Proposed EPIC Interim Investment Plan 2021 and looks forward to providing continued support to the EPIC program.

Sincerely,

/s/ Tim Carmichael

Tim Carmichael
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San Diego Gas & Electric

¹¹ DRAFT Proposed EPIC Interim Investment Plan 2021 at A-59.