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2020-2021 Annual Report of the Disadvantaged Communities Advisory Group

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Purpose of the Disadvantaged Communities Advisory Group

The purpose of the Disadvantaged Communities Advisory Group (DACAG), pursuant to Section 400(g) of the California Public Utilities Code, is to advise the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) regarding the development, implementation, and impacts of proposed programs related to the Clean Energy and Pollution Reduction Act of 2015, also known as Senate Bill (SB) 350, in disadvantaged communities.

The DACAG will review and advise the CPUC and CEC on policies and programs designed to benefit disadvantaged communities and effectively reach low-income households, small businesses, and hard-to-reach customers (including rural and tribal communities) within disadvantaged communities.

Specifically, the DACAG will provide advice on programs related to renewable energy, energy efficiency, transportation electrification, distributed generation and clean energy research and development programs and determine whether those proposed programs will be effective and useful in disadvantaged communities.

- *Disadvantaged Communities Advisory Group Charter*

2020-2021 DACAG Members

The DACAG members represent many of the communities that make up California's richly diverse population, including urban and rural, cultural and ethnic, and geographic diversity as well as a diversity of subject matter expertise.

- Fred Beihn
- Stephanie Chen
- Jana Ganion
- Stan Greschner **(2020-2021 Chair)**
- Angela Islas **(2020-2021 Vice Chair)**
- Roger Lin
- Adriano Martinez
- Roman Partida-Lopez
- Andres Ramirez
- Phoebe Seaton **(2020-2021 Secretary)**
- Tyrone Roderick Williams

Background

In early 2018, the CPUC and the CEC jointly approved members of the DACAG that consists of representatives of disadvantaged communities who provide advice about state programs proposed to achieve clean energy and pollution reduction. The creation of the DACAG fulfills a requirement in SB 350, the Clean Energy and Pollution Reduction Act of 2015.

The DACAG's work is guided by its Equity Framework (Appendix A), adopted in 2018 as one of the DACAG's first formal actions. The framework defines disadvantaged communities for purposes of the DACAG's scope as including:

- Disadvantaged communities as defined by the CalEnviroScreen,
- Tribal lands,
- Census tracts with median incomes at or below 80% of area median income or state median income; and
- Households with incomes less than 80% of area median income (AMI)

This definition aligns with the CPUC's Environmental and Social Justice Action Plan, as adopted by the CPUC in 2019, and the CEC's Inclusion Diversity Equity Access (IDEA) Initiative, established by the CEC in 2019. The framework highlights the following priorities regarding climate and clean energy programs to guide the DACAG's work and focus:

- Health and Safety
- Access and Education
- Financial Benefits
- Economic Development
- Consumer Protection

Both the CPUC and CEC designate lead commissioners to be the primary points of contact for the DACAG at the Commissioner level. During the 2020-2021 term, the CEC's lead commissioners were Janea Scott and Karen Douglas, and the CPUC's lead commissioners were Martha Guzman-Aceves and Cliff Rechtschaffen.

2020-2021 Priorities

Every year, the DACAG adopts priority areas that the agencies are working on to help narrow the scope of the group's focus. For the April 2020 through April 2021 term, the DACAG established the following as its priorities:

- Storage
- Electric Program Investment Charge (EPIC)
- Solar Access
- Transportation Electrification
- Biomethane
- Building Electrification
- Workforce Development
- Assembly Bill 617
- Senate Bill 100
- Public Safety Power Shutoffs (PSPS)
- Telecommunications / Broadband / Digital Divide
- COVID-19 Response
- CPUC's Environmental and Social Justice Action Plan
- Community Engagement

Summaries of DACAG Actions or Recommendations Related to Priority Areas

Storage

At its July 17, 2020 meeting, the DACAG approved a comment letter to the CPUC opposing a proposal to shift funds from the Self Generation Incentive Program (SGIP) Equity Resiliency Budget (ERB) to the SGIP non-residential Equity Budget (Appendix B). The letter noted that there is significant need, exacerbated by COVID-related shelter-in-place orders, among the low income and medically vulnerable customers who are eligible for the ERB, and funds should not be taken away from this priority population in order to serve other kinds of customers.

At the August 21, 2020 meeting, the DACAG heard a presentation from CEC on California Native American Tribal Energy Storage Demonstrations, especially longer duration storage that can supply power more consistently through emergencies and longer power outages.

Electric Program Investment Charge (EPIC)

Over the last year, the DACAG's EPIC subject matter experts met with both CPUC and CEC staff to provide feedback on their investment and engagement efforts. These meetings included feedback on the CEC's EPIC Interim Investment Plan, CEC's Empower Innovation Platform and strategies for serving Prefabricated, Manufactured, Mobile, Modular Homes.

Select members met with the EPIC staff as they developed the EPIC Interim Investment Plan and provided recommendations on how best to address equity and improve benefits to low-income and disadvantaged communities through the upcoming research and funded projects. DACAG member comments were reflected in the final EPIC Interim Investment Plan. Members also provided guidance to the CEC on organizations and communities to engage to improve participation in the Empower Innovation Platform.

Additionally, the full DACAG received a presentation at its August 21, 2020 meeting from the EPIC Policy Innovation and Coordination group on its purpose and efforts to date. The DACAG discussed best practices for engaging disadvantaged community voices and receiving input directly from impacted communities on the direction of the EPIC program, and how to ensure EPIC-funded projects best serve and partner with disadvantaged communities.

The DACAG looks forward to discussing the upcoming EPIC 2021-2025 Investment Plan.

Solar Access

At the January 22, 2021 meeting, the DACAG received a briefing from Commissioner Guzman-Aceves on the CPUC's Net Energy Metering (NEM) successor tariff proceeding (R.20-08-020), and the principles proposed in the proceeding to guide the Commission's development of a successor tariff for customer-sited solar. The DACAG discussed ways to balance the conflicting goals of building out distributed solar and preventing customers who do not have solar or other distributed energy resources from subsidizing the customers who do have these technologies, given the income differential between the two groups.

Commissioner Guzman-Aceves also presented at the February 19, 2021 meeting on the schedule for the NEM successor tariff proceeding, a proposal by E3 on potential options to ensure that customer-sited solar grows sustainably in disadvantaged communities. Commissioner Guzman-Aceves also presented findings regarding the cost shift from solar customers to non-solar customers from the Commission staff's February 2021 white paper on electric costs and rates.

Transportation Electrification

The DACAG's Transportation Electrification subject matter experts met with Pacific Gas & Electric (PG&E) representatives to discuss the Low Carbon Fuel Standard (LCFS) program and provided suggestions to facilitate the successful deployment of electric vehicles in disadvantaged communities. The DACAG looks forward to discussing this program further with PG&E as the program moves towards implementation and hopes that other Investor Owned Utilities (IOUs) also reach out to discuss their progress with the LCFS in their service territories.

At its May 15, 2020 meeting, the DACAG voted to submit a letter to the CEC on the 2020-2023 Clean Transportation Plan Investment Plan Update (Appendix C). The DACAG also provided input on the CPUC's recent Transportation Electrification Framework at its July 16, 2021 DACAG meeting, specifically on how the Framework prioritizes low-income communities and directs funds to disadvantaged communities.

Senate Bill 100

At its August 21, 2020 meeting, the DACAG discussed and approved providing public comments on the implementation of SB 100 and the Joint Agency Report of the CEC, CPUC and California Air Resources Board (CARB) (Appendix D). The DACAG supported community-based organizations' requests for the Joint Agencies to include a non-combustion scenario and to revise outdated cost-effective tests to include non-energy benefits and social costs of energy resources. These comments were reiterated in the DACAG's comment on the CEC's 2021 Integrated Energy Policy Report (IEPR) Scoping Order, which was adopted at the February 19, 2021 meeting (Appendix E). We are pleased that the Joint Agency Report included a non-combustion scenario, and hope to continue work with the CEC and CPUC to ensure that this scenario is elevated to a core scenario beyond a mere study scenario as proposed. Similarly, the DACAG is pleased that the Joint Agencies included a commitment to include non-energy benefits and social costs in future modeling and planning decisions, and looks forward to collaborating to determine the adequate consideration of these important, and long overlooked, costs and benefits.

Biomethane

Related to SB 100, the DACAG supported the need to include the lifecycle and local impacts (social costs) of dairy biomethane production in the Joint Agencies' cost-effectiveness analyses. Given the Joint Agencies' commitment to do so in future modeling, the DACAG looks forward to continued work with the CEC and CPUC to do so, and in part, based on the (still pending and overdue) evaluation of the dairy biomethane pilot projects authorized by SB 1383.

Building Electrification

At the DACAG's October 16, 2020 meeting, CEC staff presented on key implementation proceedings including Assembly Bill (AB) 3232, SB 49, and SB 1477 as well as development of Load Management and Building Energy Efficiency Standards. The DACAG suggested that the CEC should add regulatory and investment tools to make sure knowledge, skills, and workforce are in place to extend new programs and products in disadvantaged communities and isolated areas. The DACAG believes that there should be a strong focus on outreach to understand impact and how to improve resources to disadvantaged areas. In general, the DACAG asserts that bill savings is critical, but there must be greater specificity regarding what bill savings means. The DACAG also asserts it is important to incorporate non-energy benefits into analysis for building decarbonization.

Workforce Development

The topic of workforce development has been discussed repeatedly by the DACAG with both CEC and CPUC. The DACAG established access to jobs as a foundation of the Equity Framework. The prioritization of workforce development in disadvantaged communities was discussed as part of the CEC's Energy Equity Indicators platform, is included in the CEC's IDEA Initiative, as well as the CPUC's Social Justice Action Plan. As California recovers from the economic impact of COVID-19, the need for workforce development and pipelines from disadvantaged communities to jobs in clean energy technology will be a vital strategy in helping to stabilize local economies in disadvantaged communities across the state.

Assembly Bill 617

DACAG subject matter experts continue to follow the implementation of AB 617 across the state, but the DACAG did not discuss or take action on AB 617 during the 2020-2021 term.

Public Safety Power Shutoffs (PSPS)

The Public Safety Power Shutoff (PSPS) events of 2019 and 2020 were reviewed with the investor-owned utilities at the DACAG's April 16, 2021 meeting, and recommendations were made for how to ensure these wildfire prevention grid outages had reduced impact in disadvantaged communities. Recommendations to reduce impacts included prioritizing investments in solar PV paired with battery storage and other clean forms of back-up power, to reduce use of diesel generators and to improve notification and communication with disadvantaged communities on the scope and duration of PSPS events. Additional recommendations included enhanced oversight of telecom companies and their emergency communications roles and responsibilities during PSPS events, e.g., ensuring 72 hours of back-up power at their infrastructure to ensure critical communications platforms such as 911 remained operable during each PSPS event. In addition, the DACAG recommended research to analyze where grid segmentation can occur to create islanded grid sections in PSPS events where there is no wildfire risk. If more sections of the grid can be kept energized, prioritizing grid segments that serve critical infrastructure (e.g., hospitals, clean air shelters), the social and economic impacts of PSPS events can be reduced.

Telecommunications / Broadband / Digital Divide

In 2020 the DACAG added telecom/broadband to its list of priority topics, to provide input on policy and programs. There is a clear and increasing nexus between telecommunications and energy, in that energy is needed to power communications infrastructure, broadband internet is now a lifeline sector utility crucial for everyone, telecommunications is needed to run energy systems, particularly distributed energy systems in remote areas, and disadvantaged communities are still underserved in terms of internet and wireless affordability and availability, i.e., they lie across the digital divide. Further, in rural disadvantaged communities in PSPS events and other power outages, communications service is unreliable.

The DACAG requested a presentation on telecommunications and broadband planning, proceedings, rulemakings, and other activities, which was then convened for the January 22, 2021 DACAG meeting. Comments from the DACAG included: 1) Broadband should be regulated like a telecommunication service and essential utility, rather than an information service at both the state and federal levels; 2) Revise the Digital Infrastructure and Video Competition Act of 2006 (DIVCA) and other legal authorities to enable that regulation; 3) All new investments in broadband and telecommunications improvements should be prioritized in disadvantaged communities first; and 4) Using a 25 Mbps download/3 Mbps upload standard as the working definition of "served" is entirely insufficient in any context. COVID-19 pandemic conditions resulted in distance learning, e-commerce, remote work, telehealth, and other functionality at the household level. A minimum level of telecommunications service delivery must include those use cases.

COVID-19 Response

At the May 15, 2020 meeting, the DACAG discussed the impacts of the COVID-19 pandemic on disadvantaged communities and on the ways public participation in CPUC and CEC processes would need to be adjusted to accommodate requirements around social distancing and other public health measures. CPUC staff discussed evolving consumer protections to support customers who fall behind on their bills during the pandemic, the need for increased broadband access to accommodate teleworking and online education, and how COVID-19 would impact PSPS policy and event execution. The DACAG urged that the CPUC needs to ensure that customers statewide have reliable, affordable internet access. The DACAG further noted that the CPUC and CEC must ensure that remote access to public participation opportunities is available in language accessible and culturally competent ways.

At the June 19, 2020 meeting, the DACAG received a briefing from the CPUC on emergency consumer protection measures, new bill relief programs, support for more affordable broadband, and other related issues. The DACAG's subject matter experts continue to follow the CPUC's response to the COVID-19 pandemic, including but not limited to the formal proceeding on COVID-19 debt relief (R.21-02-014).

CPUC's Environmental and Social Justice Action Plan (ESJ Action Plan)

At its November 20, 2020 meeting, the DACAG received a briefing on updates to, and the status of, the CPUC's ESJ Action Plan. The DACAG suggested that the CPUC host a virtual workshop to provide ESJ Action Plan updates and to receive feedback from a broader range of stakeholders.

Community Engagement

Over the last year, the DACAG's Community Engagement subject matter experts met with CPUC and CEC staff to provide feedback on best practices for engaging low-income and disadvantaged communities. Members met with staff to discuss AB 841 - School Energy Efficiency Stimulus Program; Solar Thermal; and the Building Initiative for Low-Emission Development (BUILD) Program. One key suggestion for the agencies is to pursue opportunities to fund community-based organizations to conduct capacity building and community engagement efforts that facilitate broader public participation in CPUC and CEC programs and proceedings.

Additionally, at the August 21, 2020 meeting, the DACAG heard presentations from the CEC and the Strategic Growth Council on various renewable energy, storage, and climate resilience demonstration projects in partnership with California Native American tribes.

At the March 19, 2021 meeting, the DACAG heard presentations from PG&E and SCE on their Climate Adaptation Community Engagement Plans. DACAG members provided suggestions to ensure procedural equity and community participation, including the need to support community-based organizations and compensate them appropriately for the time and resources necessary to support and facilitate meaningful engagement.

The DACAG looks forward to continuing the discussion on how to improve agency processes to provide more opportunities for meaningful and diverse community engagement.

APPENDICES

DISADVANTAGED COMMUNITIES ADVISORY GROUP EQUITY FRAMEWORK

The impact of climate change on low-income and disadvantaged communities can exacerbate existing inequities but can also be an opportunity to level the playing field through intentional interventions that address climate impacts on these communities directly.

The Disadvantaged Communities Advisory Group would like the State to adopt an Equity Framework to work in conjunction with the Guiding Principles of the Advisory Group set forth in the Charter of the Disadvantaged Communities Advisory Group. The Equity Framework can be applied across all climate related policies, bills, proceedings, requests for proposals, etc. to ensure that equity is front and center when considering any climate investment/intervention in the State.

This Equity Framework is intended to guide the Advisory Group as it moves forward in discussing and commenting on various proceedings and programs before the CPUC and CEC ensuring that access and adequate resources reach the implementation stage and benefit communities in a meaningful and measurable way. This is the second draft of this document that incorporates all comments made at the August 21 Advisory Group meeting.

DEFINITION OF DISADVANTAGED COMMUNITIES

As defined in the Energy Equity Indicators tool, the Disadvantaged Communities Advisory Group (DAC AG) will adopt as the definition and advocate for equitable programming to reach all of the following communities (including community residents, workers, and businesses):

- CalEnviroScreen, as defined by Cal EPA,
- Tribal Lands,
- Census tracts with area median household income/state median income, less than 80%, and
- Households with median household income less than 80% of Area Median Income (AMI).

FRAMEWORK

1. Health & Safety

Energy policies and programs should be observed through the lens of public health to identify impacts and utilize findings to optimize the health and well-being of California's most vulnerable communities, as well as, advance health interventions related to climate change by educating Disadvantaged Communities about disproportionate health impacts related to climate change and providing ways to value health benefits and impacts, build resiliency, mitigate climate related illnesses, injury and deaths and reduce climate related healthcare costs.

2. Access & Education

Access and Education are key to ensuring that Disadvantaged Communities benefit from clean energy technologies, energy efficiency, and other environmental investments by 1. focusing on special outreach efforts, 2. ensuring that these interventions are applicable and that the communities' interests and needs are represented, and 3. communities receive culturally relevant and sensitive education to prepare for climate resilience. The Advisory Group strives to remove barriers to participation, as identified in the SB 350 Barriers Report and other barriers, through means such as training, funding and support for CBO and educational institutions rooted in disadvantaged communities, ensuring community based businesses are competitive in solicitations, adequate information is disseminated regarding careers and education, and tracking and evaluating progress of such efforts is necessary for these interventions to be successful.

3. Financial Benefits

All investments in clean energy technologies, energy efficiency, and other environmental investments, should benefit all disadvantaged communities directly providing financial benefits, incentives and cost savings while also considering affordability and rate impacts.

4. Economic Development

Climate policies and programs should invest in a clean energy workforce by ensuring California has a trained and ready workforce prepared to improve our infrastructure and built environment as well as bring green technologies to market by: 1. promoting and funding workforce development pathways to high-quality careers in the construction and clean energy industries, including pre-apprenticeship and other training programs, 2. Setting and tracking hiring targets for low-income, disadvantaged, and underrepresented populations (including women, re-entry, etc.) to enter these industries, 3. ensuring that these careers are high-road, with a career-ladder, family-sustaining wages and with benefits, 4. training the next generation of climate leaders and workers for the clean energy economy, and 5. supporting small and diverse business development and contracting.

5. Consumer Protection

Climate related policies and programs should not create incentives for predatory lending or exploitation of communities for financial gain. Programs should have adequate consumer protection measures, disclosures, and accountability measures to ensure that financially vulnerable customers are not taken advantage of or otherwise compromised.

Appendix B – Letter re: Self Generation Incentive Program Equity Resilience Budget

June 24, 2020

To the California Public Utilities Commission,

The Disadvantaged Communities Advisory Group (DACAG) opposes the proposal by the California Energy Storage Alliance (CESA) to siphon $150 million out of the Self-Generation Incentive Program (SGIP) Equity Resiliency Budget to the non-residential Equity Budget.[1] The Commission established the Equity Resiliency Budget to provide critical resilience solutions to vulnerable customers who need it most: those living in regions that are highly impacted by wildfires and days-long power shutoffs. The low- income and medically vulnerable residential customers eligible for the Equity Resiliency Budget are on the front lines of economic injustice, and they must maintain access to energy storage at the scale originally determined by the Commission in Decision 20-02-021, a budget of more than $600 million over five years.[2]

CESA proposes that the $150 million taken from the Equity Resiliency Budget should be used to increase funds to the non-residential Equity Budget, a budget intended to support the market for energy storage serving state and local government agencies, educational institutions, non-profits, and small businesses located in DACs.[3] While the DACAG would not necessarily oppose additional funds injected into to the non-residential Equity Budget, those additional funds should not come at the expense of the Equity Resiliency Budget.

The Equity Resiliency Budget is needed now more than ever before.

In its Motion, CESA cites the widespread economic impact of the shelter-in-place orders necessary to stop the spread of the Covid-19 pandemic, even acknowledging that low-income customers will "suffer…the largest brunt of the economic fallout."[4] DACAG agrees, and adds that economic fallout from Covid-19 measures is likely to exacerbate challenges that low-income families already face, including high energy burdens, housing insecurity, lack of resources to address medical needs, and food insecurity.

However, in the same Motion, CESA seeks to take SGIP funding away from low-income and medically vulnerable households and tribal communities and put those funds into the hands of businesses.[5] This is exactly the wrong action needed at this time; funding for critical resilience solutions should remain accessible to the households that stand to benefit the most.

[1] Motion of the California Energy Storage Alliance to Issue a Ruling that Transfers Funds to the Equity Budget, June 9, 2020; and California Energy Storage Alliance's Petition for Modification of Decisions 20-01-021 and 16-06-055, June 10, 2020

[2] Decision 20-01-021, p.27, January 27, 2020

[3] Decision 17-10-004, p.2, October 12, 2017. DACs are defined in that Decision as census tracts with the top 25% CalEnviroScreen pollution burden scores, plus those census tracts that score within the highest 5% of CalEnviroScreen pollution burden but do not receive an overall CalEnviroScreen score.

[4] CESA Motion, p.3

[5] The Equity Resiliency Budget is available to both residential and non-residential customers. By definition, the non-residential Equity Budget is only available to non-residential customers.

As of this filing in June 2020, the climate is becoming increasingly hot and dry, and the 2020 fire season is upon us. The Equity Resilience Budget must remain at its full funding level of $600+ million to address the wildfire and power shutoff risks facing millions of Californians.

Equity Resiliency Budget customers should be given adequate time to apply for incentives.

The Equity Resilience Budget has only been available to residential customers for eleven weeks,[6] and to all eligible customers for only one month.[7] This is not nearly enough time for these historically underserved customers to learn about the opportunity to gain critical resilience solutions, select a storage provider and apply for incentives. As of this filing, the customized Marketing, Education and Outreach (ME&O) plans for the Equity Resilience Budget are still under consideration and have not yet been approved by the Commission; thus hard-to-reach communities have likely not received meaningful and accessible information about this opportunity. The Commission should provide adequate time for all customers eligible for the Equity Resilience Budget to learn about and to act on this important opportunity to gain energy storage for resilience, without jeopardizing these customers' access to funds.

There is healthy interest and adoption in the Equity Resiliency Budget.

In the brief amount of time that the Equity Resiliency Budget has been open, and even without a dedicated and customized ME&O plan in operation, the initial Equity Resiliency Budget funds have been reserved in all but one investor-owned utility (IOU) territory, and the program has a waitlist.[8] There is already healthy interest and strong adoption in the Equity Resiliency Budget. Customer interest in the Equity Resiliency Budget will only increase as time allows for customers to learn about the opportunity, and the Program Administrators (PAs) can begin implementing their ME&O plans. The Commission should not remove funds from the Equity Resiliency Budget when there is proven market demand.

For these reasons, the DACAG urges the Commission to reject CESA's proposal to remove funds from the Equity Resiliency Budget.

Sincerely,
SB 350 Disadvantaged Communities Advisory Group

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[6] https://www.selfgenca.com/home/program_metrics/, queried June 12, 2020. On June 15, 2020, the Equity Resiliency Budget will have been open for residential customers for 91 days but there was a one month pause from April 3, 2020 to May 1, 2020.

[7] The Non-Residential customers eligible for the Equity Resiliency Budget opened on May 12, 2020.

[8] https://www.selfgenca.com/home/program_metrics/, queried June 12, 2020. SoCal Gas is the only IOU with SGIP Equity Resiliency Budget open with no waitlist.

Appendix C – DACAG Comments on 2020-2023 Investment Plan Update for the Clean Transportation Program

April 16, 2020
Commissioner Patricia Monahan
California Energy Commission
1516 9th Street
Sacramento, CA 95814

Re: Disadvantaged Communities Advisory Group Comments on 2020-2023 Investment Plan Update for the Clean Transportation Program.

Dear Commissioner Monahan and Clean Transportation Staff,

The Disadvantaged Communities Advisory Group (DACAG) appreciates the opportunity to provide its comments on the *2020-2023 Investment Plan Update for the Clean Transportation Program* (CTP). The DACAG was created, pursuant to SB 350, to advise the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC) on how programs can effectively reach and benefit communities disproportionately burdened by pollution and socio-economic challenges, including rural and tribal communities. The DACAG members represent the diverse nature of disadvantaged communities throughout the state, reflecting the different rural and urban, cultural and ethnic, and geographic regions.

The following bullets outline additional input above and beyond our comments on the 2019-2020 investment plan.

• The DACAG members supports the multi-year planning approach in the CTP Update. This approach will aid in ensuring a consistent understanding of goals and objectives to advancing clean transportation programs.

• The DACAG members recommend shifting $20 million from the light-duty category in year 2020-21 to pursue pilots to advance zero-emissions projects in diesel magnets in disadvantaged communities (e.g. railyards and warehouses). This would make the investments in the medium- and heavy-duty category in 2021-2022 $40 million. This shift will continue to allow significant funds to pursue light-duty charging while ramping up additional investments in advancing zero-emissions for larger vehicles in targeted areas that have higher negative impacts on disadvantaged communities.

• The DACAG continues to be concerned about how the CEC defines "benefits to DACs" for projects aimed at advancing biofuels. For many projects that tout local benefits, much of that benefit solely comes from construction jobs benefits. In fact, some of the externalities of biofuel production, including air and water pollution, do not appear to be accounted within the Commission's assessment. The DACAG members believe the $10 million in the alternative fuel production and supply category is better spent on other programs. To the extent the CEC wishes to keep this funding, the DACAG members suggest the focus move to non-biofuel based renewable hydrogen production, and at a minimum, provide, and if necessary revise, its definition of "benefits to DACs."

• The DACAG members recommend that there be continuity of funding for workforce training and development instead of funding every other year. These additional funds could come from the manufacturing funding allocation or the alternative fuels allocation to make sure there is at least $3 million each year for workforce training. Moreover, we recommend exploring how to develop multi-year solicitations to further bolster continuity of funding.

• The DACAG members recommend that the CEC take leadership to explore how to deploy more electric buses with fewer state resources. Options that could be explored are tariffed on-bill financing, utility battery ownership or other strategies that will mean cleaning up more communities in California.

• The DACAG members generally support the Reliable Electric Mobility Infrastructure (REMI) program. The DACAG members recommend that the CEC look at where the needs are and where funds could go furthest in California. The DACAG members also recommend focusing on more rural areas for this expenditure. Moreover, the DACAG members suggest leaving flexibility to give a grant that is double the anticipated amount (up to $1.6 million) for projects that are community driven and developed. This might mean fewer projects, but it will allow the agency to pursue more ambitious and community designed and led projects.

In addition, the DACAG members believe that the following recommendations previously provided during the 2019-2020 Investment Plan update will help to better align the CTP with California's policies around emissions reduction and around addressing specific harms and inequities experienced by California's disadvantaged and low-income communities.

Fund Projects Exclusively In and Benefiting DACs

The DACAG recommends targeting all program funding to disadvantaged communities, defined as:

● Census tracts in the top 25% of CalEnviroScreen scores;
● Tribal lands
● Census tracts with median incomes at or below 80% of area median income or state median income; and
● Households with median incomes at or below 80% of area median income.[1]

This expansion beyond solely the CalEnviroScreen definition of DACs, which the program currently uses, will account for the communities in California that experience the greatest barriers to clean energy and clean transportation access. These are the communities in which the need for clean transportation alternatives is greatest, and where customers for all types of vehicles are most likely to need additional funding sources in order to access cleaner options. In the context of the California transportation sector, including all vehicle classes, the approximately $100m budget for this program is relatively quite small. As such, the CEC should direct its investments toward the communities where the funds will make the biggest difference.

The DACAG recommends that the CEC conduct periodic regional community needs assessments, so that its investment priorities and strategies can be informed by the communities it intends to benefit.

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[1] The DACAG has adopted this definition of "disadvantaged communities" as part of a broader Equity Framework that serves to guide our work. *See* "Disadvantaged Communities Advisory Group 2018 Annual Report," p. 7, available at https://efiling.energy.ca.gov/getdocument.aspx?tn=227473.

Prioritize and Invest in Proper Community Outreach and Engagement

The DACAG urges the CEC to prioritize and invest in proper community outreach and engagement in DACs, for the CTP as well as for other investment programs. Historically, the majority of energy program funds have been allocated to larger, more affluent communities that have the staff capacity and resources to develop project concepts and submit project proposals. Unlike larger cities, most disadvantaged communities (DACs) *do not* have the resources to pay staff to research funding opportunities and develop project proposals, which result in DACs being ultimately left out of CEC investments, and possibly other investment opportunities.

Investing in and prioritizing *proper* outreach to DACs will help to end the decades of disparities between poor and more affluent communities. Community outreach and engagement should be done in partnership with local CBOs that understand community needs, who know how to engage residents and facilitate proper dialogue for residents to meaningfully participate in conversations and decisions about their community needs. This local engagement cannot be done by a statewide administrator. Several of the DACAG members have worked or work directly in DACs and with residents that reside in DACs for many years, which shows the firsthand knowledge of the level of community outreach and engagement needed for successful DAC participation. Finally, ensuring proper DAC community outreach and engagement demonstrates the CEC commitment to advancing DAC living conditions and commitment to equity.

Equitable Distribution of Program Benefits Across Disadvantaged Communities

In addition to focusing on strategic and intentional outreach and education in DACs, especially rural DACs, the DACAG recommends that more CTP investments target rural communities. As discussed above, rural communities often have less local government resources and as such have a hard time pursuing opportunities like the CTP. In particular, unincorporated communities are even further constrained in their access to programs like the CTP, because there is no local government that can pursue these investments on their behalf. The DACAG recommends that the CEC take steps to ensure that the benefits of the CTP are equitably distributed across disadvantaged communities.

Move 100% of Program Funding to Zero Emissions Fuels

The DACAG supports the CEC's move to wind down investment in natural gas. As the state moves away from fossil fuels, continued investment in natural gas technologies only prolongs the problem of stranded natural gas assets.

Similarly, the DACAG continues to be concerned about investments in biofuels. We continue to prefer investments in zero emissions fuels for all categories. Biofuels are at best an expensive bridge to a cleaner future. Given their limited supply and relatively high economic and social cost, the DACAG believes that the CTP and the state's emissions goals overall will be best served by the program investing
in the zero emissions fuels and electrified transit options that are cleaner as well as more feasible and cost-effective in the long term.

Expand Support for High Quality Workforce Development Opportunities

For a zero emissions future, we need not only cleaner technologies and fuels, we also need a workforce who can build and maintain it. The transition to cleaner transportation will create thousands of career-track jobs at a variety of skill levels, including design, manufacturing, maintenance, sales, and more. Workers in disadvantaged communities, as defined above, must have the opportunity to learn the skills needed to become part of the clean transportation revolution. Additionally, a trained workforce across the state, especially in maintenance and repair, is necessary to ensure that the consumer market for clean vehicles continues to grow. Customers are more comfortable buying an electric vehicle if they know they will not have to go too far to get the service and repairs they need.

To this end, the DACAG offers the following recommendations, described in more detail below:
● Increase the budget for workforce development
● Dedicate funds exclusively to programs in DACs and serving DAC residents
● Fund programs with demonstrated success in supporting participants
● Track the progress of program participants after they enter the workforce
● Consider support for programs that engage youth

First, the DACAG recommends that the CEC increase the budget for workforce development. Additionally, aligning with our recommendation to exclusively fund projects in and benefiting DACs, we recommend that the workforce development funds go exclusively to programs located in DACs and serving residents of DACs. Given the scale of the need for a skilled, trained workforce to build and maintain our clean transportation future, even an increased allocation of support from the CTP is a relatively small - though important - contribution. As such, the DACAG recommends that the funds be directed to the communities that need them the most.

Additionally, the DACAG recommends that funding go to programs that have a demonstrated track record of success in recruiting, developing "soft skills," providing wrap-around support services (e.g. individualized plans based on an assessment of a full range of needs, such as child care, transportation, housing, mental health, physical health, financial stability, and educational achievement), and training and placing workers from low-income and disadvantaged communities into good jobs. These features are essential to ensuring that workforce development funding doesn't just provide select skills training, but also positions program participants to secure and succeed in family-supporting, career track jobs. California is home to many community based organizations, community colleges, relevant certification programs, pre-apprenticeship/apprenticeship readiness programs, and apprenticeship programs that provide this kind of essential, comprehensive support.

The DACAG further recommends the CTP establish a system for tracking the progress of funded program participants, to ensure accountability and measure impact and progress. Specifically, the program should track:

● Job quantity: number of workers employed/trained; employment status (part-time/full-time, or percentage of full-time equivalency);
● Job quality: hourly wages, employer-provided benefits for hires, partners and dependents (medical and dental coverage, paid vacation and sick leave, retirement benefits) ;
● Job access: worker demographics, including gender, race/ethnicity, workers with barriers to employment; geographic location (census tract of residency); project subject to project-labor agreement, targeted hiring policies, or community workforce agreement; paid training opportunities; supports for transportation and childcare;
● Job retention: length of time employed, retention rate after 3, 6, 9, 12 months;
● Job classification: occupation, employee classification (employee, independent contractor, trainee, etc.), contractor classification (diverse- owned business, community based organization, etc.); and
● Career paths: number and type of certifications or credentials awarded, number of job placements for trainees/interns, number of trainees enrolled in pre-apprenticeship or state-certified apprenticeship programs; existing workforce and training partnerships with training providers, workforce agencies or community-based organizations

Finally, the DACAG recommends that the CTP consider support and investment in early employment opportunities and career training for low-income and disadvantaged youth to prepare them for clean economy careers, to create a pipeline for the next generation of clean economy workers and to significantly increase the lifetime earning potential and economic mobility of youth.

Increase Transparency Around "Benefiting" Disadvantaged Communities

The DACAG commends the CEC on its commitment to projects in and benefiting DACs. However, it is not clear what criteria CEC or program applicants use to define "benefiting DACs," nor is it clear how project applications are scored against this criteria. The DACAG recommends that the CEC clarify what it means for a project to benefit DACs. Applicants for grants should be able to clearly and transparently articulate direct benefits to DACs and residents, and when an applicant states that their project benefits DACs, information on what benefits the project delivers should be made public. Greater transparency will help the CEC better evaluate and maximize the impact of the CTP on DACs.

Track and Measure Impact in Addition to Investments

The DACAG appreciates the tracking of investments in and benefiting disadvantaged and low income communities, and encourages the CEC to develop a framework for tracking impacts as well. Metrics should include local as well as global impacts. Emissions reductions are the obvious starting point, but the CEC should also track air quality impacts, as those are directly linked to human health outcomes. Additionally, the CEC should strive to quantify and track non-energy benefits like health impacts, local jobs and job quality metrics.

Multi-Jurisdictional Coordination

Many transportation projects that stand to create significant environmental and local health benefits involve multiple agencies with overlapping jurisdictions, at the state, regional, and local levels. Often these projects are the most difficult to advance, given the need for coordination among the many different agencies with a role to play in the project in question. The DACAG submits that the CEC is well positioned to facilitate that kind of coordination, and that doing so will greatly improve the outcomes for multi-jurisdictional projects.

Consider and Prioritize Resiliency

Concerns about resiliency in an increasingly volatile climate are now heightened in California with the advent of Public Safety Power Shutoffs during high fire risk weather. In an emergency, it is critically important that people be able to get to safety, to medical facilities, to their families, etc. Without sacrificing any progress toward zero emissions vehicles, the CEC must prioritize resiliency as it advances the future of transportation. The CEC is well-positioned to do so, but must take intentional steps to align CTP efforts with work at the CEC, CPUC, and elsewhere, to build a more resilient electric grid.

Conclusion

The DACAG appreciates the opportunity to submit these comments to the CEC on its CTP, and looks forward to continued dialogue with the CEC and interested stakeholders on the future of this important clean transportation program.

Sincerely,

- The Disadvantaged Communities Advisory Group

Stanley Greschner – Chair
Angela Islas – Vice Chair
Phoebe Seaton – Secretary
Fred Beihn
Stephanie Chen

Jana Ganion
Roger Lin
Adriano Martinez
Andres Ramirez
Tyrone Roderick Williams

Appendix D – DACAG Comments on SB 100 Joint Agency Report and the Comments regarding SB 100 Joint Agency Report submitted by the Center on Race, Poverty & the Environment and the Central California Asthma Collaborative to the Joint Agencies that DACAG refers to in their SB 100 Comments

August 21, 2020

RE: SB 100 Joint Agency Report, Docket #: 19-SB-100

To the California Energy Commission, Public Utilities Commission and Air Resources Board,

The Disadvantaged Communities Advisory Group (DACAG) has reviewed the comment regarding the SB 100 Joint Agency Report submitted by the Center on Race, Poverty & the Environment and the Central California Asthma Collaborative to the Air Resources Board, Energy and Public Utilities Commissions (Joint Agencies) on June 12, 2020 (Comment).

As SB 100 is a key component of the State's climate and renewables' policy frameworks, the Joint Agencies must prioritize equity in implementing the bill, and adequately address equity in the Joint Agency Report. Our Advisory Group was formed pursuant to SB 350, the Clean Energy and Pollution Reduction Act. The Act requires the Public Utilities and Energy Commissions to address the costs and benefits of energy resources to DACs. We therefore concur with the need for the Joint Agency Report to address non-energy benefits and social costs of energy resources, as described in the Comment. We look forward to working with the Joint Agencies to determine how best to integrate adequate consideration of non-energy benefits and social costs.

The DACAG also agrees that no Joint Agency Report scenario should include combustion. As stated in the Comment, there is no mention of combustion as a zero-carbon option in SB 100 and no support for the continuation of fossil fuel generation plants in the statute's legislative history.

Finally, as stated at the July 2020 DACAG meeting, we request coordination with the Air Resources Board's Environmental Justice Advisory Committee to assist in the equitable implementation of SB 100.

Sincerely,

The Disadvantaged Communities Advisory Group

Stan Greschner, Chair
Angela Islas, Vice Chair
Phoebe Seaton, Secretary
Jana Ganion
Adriano Martinez
Andres Ramirez
Fred L. Beihn
Stephanie Chen
Roger Lin
Tyrone Roderick Williams
Román Partida-López

June 12, 2020

RE: SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future Docket #: 19-SB-100

To the California Energy Commission, Public Utilities Commission and Air Resources Board,

The Central California Asthma Collaborative (CCAC) and the Center on Race, Poverty & the Environment (CRPE) are joined by the Greenlining Institute, GRID Alternatives, Leadership Counsel for Justice and Accountability, Sierra Club California and the California Environmental Justice Alliance, in submitting the following comments on the Senate Bill (SB) 100 joint agency report.

Summary

SB 100 requires the Energy Commission, Public Utilities Commission and the Air Resources Board (Joint Agencies) to complete a joint agency report to the Legislature, by January 1, 2021, evaluating the 100 percent zero-carbon electricity policy. The joint agency report shall include "[a]lternative scenarios in which [this] policy . . . can be achieved and the estimated costs and benefits of each scenario." The Joint Agencies are currently considering eight scenarios, each with different degrees of electrification, biofuels, hydrogen, and combustion of fossil fuels to meet the 100 percent target. None of these scenarios adequately addresses equity. The Joint Agencies must also include an **equity scenario**.

*This equity scenario should **exclude combustion** from the list of potential "zero carbon" sources.*

There is no mention of combustion as a "zero-carbon" option in SB 100 and no support for the continuation of fossil fuel generation plants in the statute's legislative history. Nevertheless, the Joint Agencies propose to classify natural gas with carbon capture and sequestration as a "zero- carbon" option under one currently proposed scenario. This indefinite continuation of combustion sources disproportionately harms disadvantaged communities (DACs). The Joint Agencies should exclude combustion resources from SB 100. At the same time, it is important for the Joint Agencies to ensure a "just transition" for the workforce employed in the energy sector and for workers affected by these changes.

*The equity scenario should also require adequate consideration of **non-energy benefits** and the **social costs** of* *energy resources*.

We refer to social costs as the negative externalities or impacts on society associated with the construction and operation of energy infrastructure and any associated activity, with a specific focus on localized public health impacts. Non-energy benefits (NEBs) represent the benefits or positive impacts on society associated with the construction and operation of energy infrastructure and any associated activity. Currently, the Joint Agencies narrowly focus primarily on financial costs, but exclude many significant social costs and NEBs associated with energy generation that affect health, safety, land use, air quality, water quality, and other impacts to DACs. This focus on the monetary costs of energy generation risks widening environmental and socioeconomic inequalities in California.

At the February 2020 workshop for SB 100, CARB stated that this SB 100 stakeholder process will also significantly inform its 2021 update to its own Climate Change Scoping Plan. Failing to account for social costs and NEBs now will not only contribute to distorted planning and implementation of SB 100, but also exacerbate inequitable climate policy, especially in DACs.

The Joint Agencies should integrate *at least* the following NEBs and social costs into its SB 100 analysis:

Land Use Impacts: the Joint Agencies must consider the environmental and land use impacts of energy development. There are a wide range of localized impacts that vary widely depending on the type of generation, the scale of energy development, and the site under consideration.
Distributed generation offers some significant advantages when it comes to land use impacts, as these installations can take advantage of the existing built environment, lessening the land use impact of energy generation. Further, rooftop solar can eliminate the need for extensive transmission construction, and presents additional non-land-use benefits, such as reducing urban heat island impacts.

Public Health and Air Quality: the Joint Agencies must consider the environmental health impacts of energy generation on the communities where the generation or production takes place. Half of all natural gas power plants in California are located in DACs. Understanding energy generation's localized impacts on communities requires a full lifecycle analysis of any proposed energy resource project and any associated development beyond the energy project itself. For example, the health impacts of biomethane development (using dairy waste feedstock) in communities that house or are in close proximity to industrial dairies goes far beyond the immediate impact of capturing the methane from cow waste.

Water Supply and Quality: the energy-water nexus is a critical juncture among the production of energy, the effect of energy production on the environment, and the dependence of energy production on water resources. The Joint Agencies' analysis of NEBs and social costs must therefore encompass any energy-project impact on water quality or quantity, and any impact of water supply on energy projects.

Economic Impacts: the Joint Agencies must consider the economic impacts and job creation opportunities that inhere in energy development and associated activities. The Joint Agencies should consider the equitable distribution of these NEBs, and in particular, the opportunity for residents of DACs to benefit economically through direct participation in the clean energy industries—both when DAC residents obtain jobs in these sectors, and when clean-energy projects are sited in DACs. This also includes affordability for residents of DACs.

Resiliency: the reality of climate change makes the need for increased resilience clear. The number of weather-related power disruptions is growing, and the US Department of Energy estimates that the economic cost across the U.S. for these outages ranges from \$40 billion to \$75 billion annually. In California specifically, public safety power shut offs now affect millions of customers each year. Different energy sources offer a range of resiliency benefits. The Joint Agencies should consider, in particular, the resiliency benefits of distributed generation and storage technologies, in particular rooftop or community solar.

To consider and evaluate these NEBs and social costs, the Joint Agencies must create ***mechanisms for adequate community engagement****.*

Meaningful engagement with affected DACs will help to identify the full range of social costs and NEBs that the Joint Agency should consider, and assist in determining how to value or quantify those factors. To best account for social costs and NEBs, the Joint Agencies should involve community engagement at every step of the SB 100 implementation process.

This practice advances equity by encompassing several major principles of environmental justice: to let communities speak for themselves; to allow communities to identify which costs and benefits would impact their community the most; and to allow communities to drive their own energy futures. The Joint Agencies should conduct extensive outreach to DACs to inform their consideration of these social costs and benefits. The Joint Agencies should leverage their existing policies to do so, and their existing environmental justice advisory groups, the SB 350 Disadvantaged Communities Advisory Group and the AB 32 Environmental Justice Advisory Committee.

Comment

SB 100 requires the Energy Commission, Public Utilities Commission and the Air Resources Board (Joint Agencies) to complete a joint agency report to the Legislature, by January 1, 2021, evaluating the 100 percent zero-carbon electricity policy. The joint agency report shall include "[a]lternative scenarios in which [this] policy . . . can be achieved and the estimated costs and benefits of each scenario."[1] Currently, the Joint Agencies are considering eight scenarios, each with different degrees of electrification, biofuels, hydrogen, and combustion of fossil fuels to meet the 100 percent target. None of these scenarios adequately addresses equity concerns. The Joint Agencies should, therefore, consider an **equity scenario**.

In order to implement SB 100 equitably, the Joint Agencies must include an equity scenario, whether individually or as a component of each existing scenario. At a minimum, the Joint Agencies should assess an equity scenario that: first, excludes combustion from the list of potential "zero carbon" sources; and second, requires adequate consideration of non-energy benefits (NEBs) and the social costs of energy resources. The Joint Agencies should integrate *at least* the following NEBs and social costs[2] into its SB 100 analysis, as more fully detailed below:

- Land use and localized environmental impacts
- Public health impacts and air quality
- Water quality and supply
- Economic impacts
- Resiliency impacts

Finally, the COVID-19 pandemic has highlighted the significant and disproportionate social costs that impact communities living in high pollution areas. Increasing climate impacts in disadvantaged communities (DACs) also pose several important questions; what are the social costs of sea level rise or continued wildfires? What are the economic benefits of a green energy economy in DACs? Failing to adequately address these social costs and benefits now simply prevents informed decision-making.

I. SB 100 Requires the Joint Agencies to Consider Equity

In September 2018, the legislature passed SB 100 to increase the amount of renewable and zero-carbon energy procurement in California.[3] SB 100's legislative intent establishes the need for equitable implementation.[4] SB 100 must follow its predecessors, SB 1078 and SB 350, and account for energy policy impacts on DACs and public health. Furthermore, as part of the state's climate policy, SB 100 must include a similar environmental justice focus. Finally, it is

[1] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 5 Pub. Util. Code § 454.53, subd.(d)(2)(E).

[2] For the purposes of this comment, social costs represent the negative externalities or negative impacts on society associated with the construction and operation of energy infrastructure and any associated activity. NEBs represent the benefits (positive externalities) or positive impacts on society associated with the construction and operation of energy infrastructure and any associated activity.

[3] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 1.

[4] See Sen. Bill No. 350 (2015–2016 Reg. Sess.) § 1.

imperative for the Joint Agencies to follow their own policies requiring the consideration of environmental justice. In developing SB 100 policy so far, however, there is little evidence that the Joint Agencies adhere to these mandates and policies, requiring the creation of an equity scenario.

A. Renewable Portfolio Standards and Clean Energy Targets Must Consider Equity.

SB 1078, SB 350, and SB 100 call for an increase in renewable energy while accounting for public health and societal impacts.[5] Each bill sets progressively larger renewable portfolio standards (RPS) and clean energy targets, and importantly, each bill maintains public health and equity as guiding considerations.

In 2002, the legislature passed SB 1078, setting the first RPS; it required that 20 percent of retail electricity sales come from renewable resources by 2017.[6] One of the major purposes of this bill was to "improve public health by reducing the burning of fossil fuels."[7] The bill also called for sustainable economic development, new employment opportunities, and reducing reliance on imported fuels.[8] This emphasis on public health and economic and employment considerations signaled an early intent to include social costs of energy production and NEBs, which is vital for addressing equity during decision-making.[9]

In 2015, the legislature enacted SB 350, which set the goal of achieving 50 percent renewable generation by 2030 and emphasized that equity must be part of the transition to renewable energy.[10] In particular, SB 350 required the California Energy Commission to study the barriers to accessing renewable energy faced by low-income customers and DACs.[11] SB 350 explicitly recognized the lack of sufficient information to understand the costs and benefits of solar photovoltaics to low-income customers in disadvantaged areas.[12] In response, the Energy Commission produced the SB 350 Barriers Study, which recommended the consideration of NEBs and social costs of energy resources.

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[5] See Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 5 (Pub. Util. Code § 454.53, subd.(b)(3)) (requiring equity considerations between "other sectors and the electricity sector"); Sen. Bill No. 350 (2015–2016 Reg. Sess.) § 7 (Pub. Resources Code § 25327) (requiring the study of barriers to renewable energy); Sen. Bill No. 1078 (2001– 2002 Reg. Sess.) § 3 (Pub. Util. Code § 399.11) (emphasizing the impact on public health and sustainable economic development).

[6] Sen. Bill No. 1078 (2001–2002 Reg. Sess.) § 3 (Pub. Util. Code § 399.15, subd. (b)(1)).

[7] *Id.*

[8] *Id.*

[9] *See infra* Part II.B.

[10] Sen. Bill No. 350 (2015–2016 Reg. Sess.) (2).

[11] *Id.* § 7 (Pub. Resources Code § 25327).

[12] *Id.* § 7 (Pub. Resources Code § 25327, subd. (a)(1)) ("There is insufficient information available to fully realize the potential of solar photovoltaic energy generation to serve low-income customers, including those in disadvantaged communities.").

Most recently, in 2018 the legislature passed SB 100, with the intent of reaching 100 percent clean energy by 2045.[13] SB 100 is an expansion on the RPS goals set in SB 350 and SB 1078, and continues to emphasize the importance of accounting for public health. SB 100 requires policies to "ensure equity between other sectors and the electricity sector."[14] SB 100 also emphasizes the need to account for public health impacts in DACs.[15]

B. As Part of the State's Climate Policy, SB 100 Must Consider Equity.

SB 100 is an integral part of the state's broader climate policies and emission reduction strategies, seeking to "[m]eet[] the state's climate change goals by reducing emissions of greenhouse gases associated with electrical generation."[16] The state's other climate legislation also emphasizes incorporating social costs and NEBs in the Joint Agencies' cost-benefit analyses. The Legislature has affirmed the need to consider equity in California's climate policy, and therefore, the Joint Agencies must now consider equity in SB 100 implementation.

AB 32 directs the California Air Resources Board (CARB) to achieve 1990 statewide greenhouse gas (GHG) emissions levels by 2020.[17] In planning to realize AB 32's emissions targets, CARB must "evaluate the total potential costs and total potential economic *and noneconomic* benefits . . . for reducing greenhouse gases to California's economy, environment, and public health."[18]

AB 32 and its 2017 update, AB 398 (requiring emissions below 40 percent of 1990 levels of GHGs by 2030) compel CARB to "[c]onsider overall societal benefits, including reductions in other air pollutants, diversification of energy sources, and other benefits to the economy, environment, and public health" when acting to achieve statewide GHG emissions limits.[19,20] AB 398 also charges CARB with designing emissions reduction regulations "in a manner that is equitable [and] seeks to minimize costs and maximize the total benefits to California."[21] Under AB 32 and AB 398, CARB must ensure its GHG reduction strategies "do not disproportionately impact low-income communities."[22,23]

AB 197 further requires CARB to evaluate the state's climate change programs and policies, and to adopt rules and regulations that "consider the social costs of the emissions of greenhouse gases."[24] AB 197 also requires CARB to "protect the state's most impacted and

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[13] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 1, subd. (b).

[14] *Id.* § 5 (Pub. Util. Code § 454.53, subd. (b)(3)).

[15] *Id.* § 2 (Pub. Util. Code § 399.11, subd. (e)(1)).

[16] *Id.*

[17] Assem. Bill No. 32 (2005–2006 Reg. Sess.) § 1 (Health & Saf. Code § 38500 et seq.)

[18] *Id*. § 1 (Former Health & Saf. Code § 38561, subd. (d)) (emphasis added).

[19] *Id*. § 1 (Former Health & Saf. Code § 38562, subd. (b)(6)).

[20] Assem. Bill No. 398 (2017–2018 Reg. Sess.) § 4 (Health & Saf. Code § 38562, subd. (b)(6)).

[21] *Id*. § 4 (Health & Saf. Code § 38562, subd. (b)(1)).

[22] Assem. Bill No. 32 (2005–2006 Reg. Sess.) § 1 (Former Health & Saf. Code § 38562, subd. (b)(2)).

[23] Assem. Bill No. 398 (2017–2018 Reg. Sess.) § 4 (Health & Saf. Code § 38562, subd. (b)(2)).

[24] Assem. Bill No. 197 (2015–2016 Reg. Sess.) § 5 (Health & Saf. Code § 38562.5).

disadvantaged communities" when working towards GHG reductions.[25] Moreover, the legislature is clear:

Continuing to reduce greenhouse gas emissions is critical for the protection of all areas of the state, but especially for the state's most disadvantaged communities, as those communities are affected first, and most frequently, by adverse impacts of climate change, including increased frequency of extreme weather events such as drought, heat, and flooding. The state's most disadvantaged communities are also disproportionately impacted by the deleterious effects of climate change on public health.[26]

Several other State climate policies also require an equity focus. For instance, Executive Order B-30-15 requires all California agencies to "protect the state's most vulnerable populations" in their planning and actions to meet state climate goals.[27]

Collectively, these statutes clearly demonstrate California's commitment to reducing GHG emissions while also preventing local, harmful impacts to DACs. The Joint Agencies must embrace this approach as well when planning and implementing SB 100 within California's larger climate policy agenda. As CARB stated in its 2017 Climate Change Scoping Plan, "California's environmental justice and equity movement is establishing a blueprint for the nation and world."[28] Moreover, as CARB has stated in this implementation, the joint agency report will inform the next Climate Change Scoping Plan.

C. Joint Agency Policies Emphasize the Need to Consider Equity.

Each of the Joint Agencies have also developed policy frameworks that prioritize equity when developing energy policies. The California Energy Commission (CEC) has the Barriers Study from SB 350; the CPUC has an Environmental and Social Justice Action Plan; and CARB has its internal environmental justice policy.

The Warren-Alquist Act requires the consideration of NEBs and social costs during CEC decision-making. "The commission shall include a value for any costs and benefits to the environment, including air quality" when determining the cost effectiveness of energy resources.[29] Environmental harms and air pollution are directly correlated with a wide range of NEBs and social costs, including land use, water quality, resiliency, and community health. Therefore, the CEC must take all of these impacts into consideration when implementing SB 100.

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[25] *Id*.

[26] *Id.* § 1, subd. (c).

[27] Governor's Exec. Order No. B-30-15 (April 29, 2015).

[28] Cal. Air Res. Bd., *California's 2017 Climate Change Scoping Plan*, p. ES6 (November 2017).

[29] Warren-Alquist Act (Pub. Resources Code § 25000.1).

In December 2016, the CEC adopted "Part A of the Low-Income Barriers Study" (Barriers Study).[30] It discusses structural and political difficulties with increasing deployment of clean energy resources in low-income communities, emphasizes the need for quantifying and accounting for NEBs and social costs, and calls for increased public engagement during the transition to clean and renewable energy.

In addition, the Barriers Study determines that including NEBs and social costs in calculations will "place energy efficiency and renewable upgrades in the proper context, one in which infrastructural, environmental, and social benefits are part of the calculus for future energy policy."[31] Including NEBs and social costs can improve cost-benefit ratios up to 1.5 times for single-family households and 3.5 times for multifamily households.[32] Accounting for NEBs and social costs, and engaging affected DACs, will provide for a better informed cost-benefit analysis, especially in communities with poor air quality or outdated infrastructure.

Section 701.1 of the Public Utilities Code mirrors the language of the Warren-Alquist Act, also requiring the CPUC to account for NEBs and social costs. Also, in February 2019, the CPUC adopted the first iteration of its "Environmental and Social Justice Action Plan" (ESJ Plan), which emphasizes the need to increase access to clean energy in low-income communities and expand public participation in those communities.[33] The ESJ Plan echoed similar sentiments to the Barriers Study. In particular, it emphasized the need to "[i]ncrease investment in clean energy resources to benefit ESJ communities, especially to improve local air quality and public health."[34] This includes increasing clean energy programs in these communities, as well as maximizing the benefits from these programs.[35]

In 2001, CARB adopted its "Policies and Actions for Environmental Justice" (EJ Policies).[36] CARB's EJ Policies require the agency to "integrate environmental justice into *all* of [its] programs, policies, and regulations."[37] The EJ Policies also emphasize the need to "assess, consider, and reduce cumulative emissions, exposures, and health risks when developing and

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[30] Cal. Energy Com., *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities Barriers Study* (Dec. 2016) <https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/7bc56e2692769abda31a2aace7b00147/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf>; This report was drafted as part of S.B. 350 (passed in 2015) which set renewable energy goals with the emphasis on equity considerations for low-income communities. *Id.* at p. 1.

[31] *Id.* at p. 59.

[32] *Ibid.*

[33] Cal. Pub. Util. Com., *Environmental and Social Justice Action Plan* (Feb. 21, 2019) <https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/DC/Env%20and%20Social%20Justice%20ActionPlan_%202019-02-21.docx.pdf>.

[34] *Id.* at p. 15. "ESJ Communities" refers to the broader group of communities that face disproportionate environmental burdens and is a broader term than DACs. *Id.* at p. 6.

[35] *Id.* at p. 15.

[36] Cal. Air Resources Bd., *Policies and Actions for Environmental Justice* (Dec. 13, 2001) <https://ww3.arb.ca.gov/ch/programs/ej/ejpolicies.pdf>.

[37] *Id.* at p. 3 (emphasis added).

implementing [CARB's] programs."[38] The assessment of cumulative impacts in cost-benefit analyses is vital for incorporating equity into all SB 100 decision making. For instance, although combustion sources will have to be paired with carbon capture under one of the currently proposed scenarios, the RPS+ scenario,[39] all combustion sources still pose a threat to the health and safety of low-income communities.[40] In addition to the need to address cumulative impact from these combustion sources, this scenario as proposed is further problematic given the lack of literature on carbon capture's cost-effectiveness.[41] Similarly, the potential for fires and hazardous materials leaks at power plants and fuel storage facilities also present continuing risks to nearby communities. However, the Joint Agencies do not currently consider these social costs to DACs and low-income communities.

D. Disparate Environmental Impacts Persist, Requiring the Consideration of Equity.

As the ESJ Plan states, many communities in the state are burdened by "disproportionate impacts from one or more environmental hazards, socio-economic burdens, or both."[42] These are predominantly low-income communities and communities of color.[43] They are "already facing the greatest impacts of climate change"[44] and continue to be excluded from "policy setting or decision-making processes" like those "enacted to control polluting activities."[45]

In 2009, public health experts commented that California's efforts to combat climate change have focused too much on reducing overall GHG emissions, "with little, if any, regard for where the reductions take place and who they might affect."[46] Since then, as detailed above, each of the Joint Agencies have taken steps to consider the impact of its climate policies on

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38 *Id.* at pp. 9–10.

39 SB 100 Joint-agency report overview and analytical approach - Staff presentation (Feb. 24, 2020) at 28.

40 See Cushing, et al., *A Preliminary Environmental Equity Assessment of California's Cap-And-Trade Program* (Sept. 2016) USC Dornsife p. 1–2 <https://dornsife.usc.edu/assets/sites/242/docs/Climate_Equity_Brief_CA_Cap_and_Trade_Sept2016_FINAL2.pdf>.

41 See Plumer, *A Rare Trump-Era Climate Policy Hits an Obstacle: The Tax Man* (Feb. 11, 2020) N.Y. Times <https://www.nytimes.com/2020/02/11/climate/carbon-capture-tax.html> (noting that tax breaks are necessary for making $1 billion carbon capture investments for power plants cost effective).

42 Cal.P.U.C., *Environmental and Social Justice Action Plan*, p. 6 (Feb. 21, 2019).

43 Cal. Environmental Protection Agency (EPA), Office of Environmental Health Hazard Assessment (OEHHA), *CalEnviroScreen Version 3.0* <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30> (2018). Minorities represent 89% of the populations in the 10% most disadvantaged communities across the state. Whites are generally overrepresented in the least disadvantaged areas. *Id*.

44 Shonkoff *et al., Minding the climate gap: environmental health and equity implications of climate change mitigation policies in California*, p. 1 <https://www.liebertpub.com/doi/abs/10.1089/env.2009.0030> (Dec. 2009). 45 Cal. Pub. Util. Com., *Environmental and Social Justice Action Plan*, p. 6 (Feb. 21, 2019) <https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/DC/Env%20and%20Social%20Justice%20ActionPlan_%202019-02-21.docx.pdf>.

46 Shonkoff *et al., Minding the climate gap: environmental health and equity implications of climate change mitigation policies in California*, p. 1 <https://www.liebertpub.com/doi/abs/10.1089/env.2009.0030> (Dec. 2009).

DACs.[47] Despite these measures, however, DACs still suffer the impacts of unequal distribution of burdens and benefits established by California's climate policies. In 2017, despite multiple studies that documented the persisting environmental burdens primarily on communities of color under California's cap-and-trade program,[48,49,50] and the opposition of the environmental justice movement to that program, California still extended cap-and-trade. The cap-and-trade program fails to address the localized social costs of facility pollution, sustaining environmental inequities from "health-damaging co-pollutant emissions" in these communities.[51] This is especially concerning as the largest and most polluting facilities are disproportionately located in low- income communities and communities of color.[52] Other unequal burdens and benefits in California's disadvantaged communities from California's energy policies include increased vulnerability to wildfires (often catalyzed by energy infrastructure),[53,54] and the cumulative effects of social and environmental stressors that negatively impact public health.[55]

As the Joint Agencies chart a plan for California's clean energy future, it is imperative to address these inequities throughout SB 100 planning and implementation.

II. An Equity Scenario Excludes Combustion and Includes Social Costs and NEBs.

In order to meet the equity requirements of SB 100 and state climate change policies, as well as abide by their own environmental justice policies, the Joint Agencies should consider the following equity scenario. First, the Joint Agencies should exclude combustion bridge technologies that allow fossil fuel generation plants to continue operating. Second, the Joint Agencies should integrate NEBs and the social cost of GHG reduction strategies into modeling and subsequent cost benefit analyses.

A. Including Combustion in the Joint Agency Proposal Runs Contrary to the Legislative Intent of SB 100.

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47 See *supra* Part I.A.(iii).

48 *Id*.

49 Cushing *et al.*, *A preliminary environmental equity assessment of California's cap-and-trade program* <https://dornsife.usc.edu/assets/sites/242/docs/Climate_Equity_Brief_CA_Cap_and_Trade_Sept2016_FINAL2.pdf> (September 2016).

50 Cushing *et al.*, *Carbon trading, co-pollutants, and environmental equity: Evidence from California's cap-and-trade program* (2011–2015) <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6038989/> (July 2018).

51 *Id*. at 2.

52 Shonkoff *et al, Minding the climate gap: environmental health and equity implications of climate change mitigation policies in California*, p. 9 <https://www.liebertpub.com/doi/abs/10.1089/env.2009.0030> (December 2009).

53 Davies *et al.*, *The unequal vulnerability of communities of color to wildfire* <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0205825> (Nov. 2, 2018)

54 Gov. Newsom's Strike Force, *Wildfires and Climate Change: California's Energy Future* <https://www.gov.ca.gov/wp-content/uploads/2019/04/Wildfires-and-Climate-Change-California%E2%80%99s- Energy-Future.pdf> (Apr. 12, 2019).

55 Morello-Frosch *et al.*, *Understanding the cumulative impacts of inequalities in environmental health: implications for policy*, p. 879 <https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2011.0153> (May 2011).

SB 100 does not include energy from combustion sources in the definition of renewable resources, and aims to reduce fossil fuel use by increasing "zero-carbon" resources. However, contradicting this plain language, the Joint Agencies still propose to classify natural gas with carbon capture and sequestration as a "zero-carbon" option under the SB 100 RPS+ Scenario.[56] There is no mention of combustion as a "zero-carbon" option in the statute and no support for the continuation of fossil fuel generation plants in the legislative history. This indefinite continuation of combustion sources disproportionately harms DACs, contradicting the Joint Agency policies detailed above.[57]

Moreover, the inclusion of combustion-based "zero-carbon" options is also contrary to SB 100's predecessors, SB 1078 and SB 350. These laws do not allow the use of *any* fossil fuel combustion methods to meet the RPS standard, and only permit the use of "eligible renewable energy resources."[58]

The plain language of SB 100 does not support the inclusion of combustion as a "zero- carbon resource." SB 100 calls for 100 percent procurement from "zero-carbon resources" by 2045. Although the statute does not define what qualifies as "zero-carbon,"[59] the Legislature notes that "[d]isplacing fossil fuel consumption" is a priority when increasing renewable resources.[60] This necessarily implies a phase out of fossil fuel resources, and not retrofitting fossil fuel resources as proposed under the RPS+ Scenario. There is no mention of combustion with carbon capture as a viable source of clean energy in the text of SB 100. There is also no mention of biofuels and "renewable gas" that could power combustion-based power plants as suitable alternatives to clean energy.[61]

In addition, SB 100's legislative history does not support the inclusion of combustion asa "zero-carbon resource." The Senate Committee noted that the term "zero-carbon" resource is purposefully left undefined, but stated that these resources should not be newly built nuclear or hydropower infrastructure and should displace fossil fuel use.[62] The Committee also did not consider fossil fuel plants to be a viable resource for zero-carbon energy.[63] Earlier versions of SB 100 authorized the CPUC to consider a requirement that utilities must procure a certain

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[56] Cal. Energy Com., SB 100 Joint-agency report overview and analytical approach - Staff presentation (Feb. 24, 2020), p. 28.

[57] See also *infra* Part II.B.

[58] Sen. Bill No. 1078 (2001–2002 Reg. Sess.) § 3 (Cal. Pub. Util. Code § 399.12 subd. (a)) (qualifies geothermal and small hydropower plants as eligible sources alongside resources defined in Cal. Pub. Util. Code § 383.5); Sen. Bill No. 350 (2015–2016 Reg. Sess.) § 18 (Cal Pub. Util. Code § 399.12, subd. (e)(2)(A)) (disqualifying combustion of municipal solid waste as a renewable energy resource).

[59] Sen. Bill No. 100 (2017–2018 Reg. Sess.) (2).

[60] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 2 (Pub. Util. Code § 399.11, subd. (b)(1)).

[61] The legislative history mentioned including biofuels as renewable resources but this language never made it into the final bill. See Sen. Com. on Energy, Utilities and Communications, Sen. Bill No. 100 (2017–2018 Reg. Sess.) pp. 6–7 (omitting language).

[62] *Id.* at p. 6.

[63] See *Id.* at p. 5–8 (no mention of fossil fuel generated plants as a viable energy source under the "zero-carbon" definition).

percentage of biogas or "renewable gas."[64] However, these early provisions (ultimately excluded from the law) merely reiterate SB 1440, which is currently being implemented through the CPUC's biomethane proceeding (R.13-02-008). That proceeding considers *whether* to adopt a procurement target for biogas, but it is still uncertain whether California *will* adopt a procurement target.[65]

Allowing for the indefinite continuation of combustion sources contradicts the equity goals of SB 100. The intent of SB 100 and its predecessors is to encourage clean energy development and innovation; to reduce fossil fuel combustion and air pollution; and in so doing, to promote equity.[66] Including combustion resources with carbon capture would slow the need to innovate, and instead would encourage the state's continued reliance on fossil fuel resources. All combustion sources and supporting facilities present significant social costs, pose a threat to the health and safety of the surrounding community, and contribute greatly to reduced air quality.[67] Furthermore, GHG emitting facilities are disproportionately located in DACs.[68] Continuing reliance on combustion fuels in these neighborhoods perpetuates impacts to DAC residents' health and presents only an inefficient and inequitable path.to a clean energy future.

Importantly, we agree with CAISO that operators must have a clear plan for how and when to retire any combustion powered energy sources in order to reach SB 100's goals.[69] The Joint Agencies should exclude combustion resources from SB 100, but at the same time, it is important to ensure a "just transition" for the workforce employed in the energy sector and for workers affected by these changes. Transitioning communities to new technologies, without planning for a just transition, presents negative implications for workers and businesses that rely upon current sources of jobs and energy. A just transition away from combustion power plants would consist of creating more non-fossil fuel related jobs, developing social safety nets for impacted workers, and allocating state or city funds to clean up decommissioned power plants. The CPUC has recently instituted Rulemaking 20-01-007 to examine methods to protect the existing natural gas utility workforce. The Joint Agencies should likewise coordinate to prepare a plan for a just phase out combustion-based sources.

B. To Advance Equity, the Joint Agency Report Must Include Social Costs and NEBs in its Analysis of Costs and Benefits.

In implementing SB 100, the Joint Agencies must evaluate NEBs and social costs in all cost-benefit analyses. SB 100 mandates "[a]n evaluation identifying the nature of any

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64 Sen. Com. on Appropriations, Sen. Bill. No. 100 (2017–2018 Reg. Sess.) p. 2.

65 See Assigned Commissioner's Scoping Memo and Ruling Opening Phase 4 Of Rulemaking 13-02-008 (Nov. 21, 2019) p. 10–11.

66 See Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 2 (Pub. Util. Code § 399.11); *supra* Part I.A.(i).

67 See Cushing, et al., *A Preliminary Environmental Equity Assessment of California's Cap-And-Trade Program* (Sept. 2016) USC Dornisife p. 4 <https://dornsife.usc.edu/assets/sites/242/docs/Climate_Equity_Brief_CA_Cap_and_Trade_Sept2016_FINAL2.pdf> (noting a correlation between GHG emitting facilities and the amount of air pollution).

68 See *id.* at p. 1–2.

69 See Cal. Independent System Operator Corp., CAISO Comments on Modeling Inputs & Assumptions Workshop (Mar. 9, 2020) p. 7.

anticipated financial costs and benefits to electric, gas, and water utilities, including customer rate impacts and benefits."[70] Yet the legislature does not stop at financial costs. SB 100 also directs the Joint Agencies to "[p]revent unreasonable impacts to . . . customer rates and bills . . . taking into *full* consideration the economic *and environmental costs and benefits* of renewable energy and zero-carbon resources."[71]

Omitting social costs and NEBs disregards not only explicit statutory language, but the substantial economic and public health impacts of California's energy choices.[72,73] Without including these costs and benefits, the joint agencies cannot accurately determine the costs and benefits of energy resources and an equitable way forward to a clean energy future.[74] Ignoring these impacts would also fail to consider local effects from energy generation that have significant consequences for many Californians, especially those in DACs. As noted above, agency policies also emphasize the need to include social costs and NEBs during decision- making.[75] Therefore, the Joint Agencies must —through an equity scenario — adopt a holistic, comprehensive definition of cost-effectiveness for SB 100 that fully accounts for the social costs and NEBs of energy resources.

(i) An Equity Scenario Accounts for the Local Impacts and Benefits of Energy Resources.

We refer to social costs as the negative externalities or impacts on society associated with the construction and operation of energy infrastructure and any associated activity, with a specific focus on localized public health impacts. NEBs represent the benefits or positive impacts on society associated with the construction and operation of energy infrastructure and any associated activity.

Currently, the Joint Agencies narrowly focus primarily on financial costs, but exclude several significant social costs and NEBs associated with energy generation that affect health, safety, land use, air quality, water quality, and other impacts to DACs. This limited focus on the monetary costs of energy generation risks widening environmental and socioeconomic inequalities in California. Across different facets of society, "the full costs of pollution are not appreciated, are often not counted, and are not available to rebut one-sided, economically based

[70] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 5 (Pub. Util. Code § 454.53, subd. (d)(2)(C)).

[71] Sen. Bill No. 100 (2017–2018 Reg. Sess.) § 5 (Pub. Util. Code 454.53, subd. (b)(2)) (emphasis added).

[72] Environmental Defense Fund, *The True Cost of Carbon Pollution* (2017) <https://www.edf.org/true-cost-carbon-pollution?utm_source=google&utm_campaign=edf_government_upd_dmt&utm_medium=cpc&utm_id=1518122855&gclid=Cj0KCQjwybD0BRDyARIsACyS8ms5O6q1oDtDtSIbUcYpbgrnFxEMZNL9Q_jnb9NQ3nEuYws-DRIgprYaAjkqEALw_wcB>.

[73] Moore *et al.*, *New science of climate change impacts on agriculture implies higher social cost of carbon* (Nov. 20, 2017) Nature p. 1-9 <https://www.nature.com/articles/s41467-017-01792-x>.

[74] Skumatz, *Non-Energy Benefits/Non-Energy Impacts (NEBs/NEIs) and their Role & Values in Cost-Effectiveness Tests: State of Maryland* (Mar. 31, 2014) Skumatz Economic Research Associates, Inc. (SERA) <https://www.energyefficiencyforall.org/resources/non-energy-benefits-non-energy-impacts-nebs-neis-and-their- role-and-values/>.

[75] *See supra* Part I.A.(ii).

arguments against pollution control."[76] Relying on under-inclusive societal cost models, such as CARB's preliminary estimate from its 2017 Climate Change Scoping Plan,[77] will in turn underestimate a policy's negative impacts and fail to internalize all the costs of the GHG reduction strategy.[78,79,80]

We thank E3 for their work and agree that "societal benefits of the GHG reductions achieved are likely to outweigh" any direct costs from energy resource development, and that in other studies, "the estimated health benefits associated with reducing GHG emissions, and thus improving air quality, have been estimated to exceed these direct costs."[81] Conservative estimates for mortalities avoided by the European Union's emissions reduction policy alone demonstrate benefits that substantially outweigh the policy's costs.[82] An independent study that modeled decarbonizing California's energy system by 2050 found the public health benefits alone are "comparable in value to published 'worst-case' cost estimates for the adoption of low carbon energy in California."[83]

These are just some examples that demonstrate the significant values associated with the societal impacts of California's climate and energy policies. Ignoring effects on natural resources, including clean air and water, public health, and other non-energy factors further distorts cost-benefit analyses and the actions or policies they inform. Accurate, equitable planning and implementation of SB 100 demands inclusion of social costs, NEBs, and their localized impacts to the fullest extent possible.

Integrating these factors into SB 100 analyses is further critical for future agency actions aimed at reducing GHG emissions. At the February 2020 workshop for SB 100, CARB stated that this stakeholder process will significantly inform its 2021 update to its own Climate Change

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[76] Landrigan *et al.*, *The Lancet Commission on pollution and health* (February 2018) The Lancet p. 4 <https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(17)32345-0/fulltext>

[77] See *infra* Part II.B.(ii).

[78] Howard & Sylvan, *The Economic Climate: Establishing Expert Consensus on the Economics of Climate Change* (2015) Institute for Policy Integrity pp. 438–44 <https://www.edf.org/sites/default/files/expertconsensusreport.pdf>

[79] Burke *et al.*, *Opportunities for advances in climate change economics* (2016) Science pp. 292–93 <https://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=1086&context=econ_las_pubs>

[80] Stern, *Economics: Current climate models are grossly misleading* (2016) pp. 407–09 <https://www.nature.com/news/economics-current-climate-models-are-grossly-misleading-1.19416>

[81] Energy and Environmental Economics, Inc. (E3), *Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model* (June 2018) California Energy Commission p.5 <https://www.ethree.com/wp- content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf> The authors of this report, E3, developed and operate the models informing SB 100 planning and implementation for the Joint Agencies. *See supra* Part IV.

[82] Amann *et al.*, *Costs, benefits and economic impacts of the EU clean air strategy and their implications on innovation and competitiveness* (2017) International Institute for Applied Systems Analysis (IIASA) p. 29 <https://ec.europa.eu/environment/air/pdf/clean_air_outlook_economic_impact_report.pdf> The most conservative estimate found the benefits of the EU's clean air policies was worth almost 17 times the costs.

[83] Zapata *et al.*, *Low-carbon energy generates public health savings in California* (2018) Atmospheric Chemistry and Physics pp. 4817–30 <https://www.atmos-chem-phys.net/18/4817/2018/acp-18-4817-2018.pdf>

Scoping Plan.[84,85] Failing to account for social costs and NEBs now will not only contribute to distorted planning and implementation of SB 100, but also exacerbate inequitable climate policy, especially in DACs. Otherwise, California's transition "to a low-carbon future will replicate the mistakes and inequalities of the extractive past and present."[86] Implementing SB 100 through this equitable framework would also benefit all California residents. For example, Pastor *et al.* explain:

All Californians are affected by higher insurance premiums, medical costs and lost productivity due to the many illnesses caused by air pollution, and all stand to benefit from an equitable system that would work toward minimizing these costs as opposed to adding to this growing burden.[87]

Furthermore, it is possible to quantify these societal impacts, and many states have successfully integrated at least some social costs and NEBs into their regulatory analyses. [88,89] The Joint Agencies can also use the CEC's SB 350 Barriers Study, CPUC's ESJ Plan, and CARB's EJ policies as starting points to guide their creation of an equity scenario, and improve upon past efforts that have not adequately considered public health impacts in DACs.

(ii) The Joint Agencies Have Not Adequately Addressed Social Costs.

The Joint Agencies' current attempts to calculate the societal impacts associated with their actions have proven inadequate. For example, CARB is required to "consider the social costs of GHG emissions" for each emission reduction measure and the State's other climate goals more broadly.[90] CARB defines this social cost as "the harm that is avoided by reducing GHGs" using a specific regulatory action,[91] and calculates that cost as the "present discounted value of future damage caused by a 1-metric ton increase in carbon dioxide emissions into the

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84 CARB, Comments from CARB to the California Energy Commission's (CEC's), the California Public Utilities Commission's (CPUC's), the California Air Resources Boards's (CARB's) Workshop on the Senate Bill 100 Joint- Agency Report Modeling Inputs And Assumptions (Mar. 9, 2020).

85 Former Health & Saf. Code, division 25.5, section 38561.

86 Mijin Cha, *A Roadmap to an Equitable Low-Carbon Future: Four Pillars for a Just Transition* (April 2019) The Climate Equity Network p. 3
<https://dornsife.usc.edu/assets/sites/242/docs/JUST_TRANSITION_Report_FINAL_12-19.pdf>

87 Shonkoff *et al, Minding the climate gap: environmental health and equity implications of climate change mitigation policies in California* (December 2009) Environmental Justice p. 2
<https://www.liebertpub.com/doi/abs/10.1089/env.2009.0030>

88 Skumatz, *Non-Energy Benefits/Non-Energy Impacts (NEBs/NEIs) and their Role & Values in Cost-Effectiveness Tests: State of Maryland* (Mar. 31, 2014) Skumatz Economic Research Associates, Inc. (SERA)
<https://www.energyefficiencyforall.org/resources/non-energy-benefits-non-energy-impacts-nebs-neis-and-their- role-and-values/>

89 Kushler *et al.*, *A national survey of state policies and practices for the evaluation of ratepayer-funded energy efficiency programs* (Feb. 16, 2012) American Council for an Energy-Efficient Economy
<https://www.aceee.org/research-report/u122>

90 *Id*. at 1–2, 6

91 *Id*. at 39.

atmosphere in that year."[92] In other words, CARB estimates environmental damages in a certain future year caused by carbon dioxide, then discounts the value of those damages to the current year.[93]

Although this calculation is a fine start for quantifying the effects of GHGs, it fails to capture the vast array of social costs (and NEBs) associated with CARB's actions, many of which would help CARB account for localized impacts, as detailed below in Section III. Certainly, CARB itself admits their social cost of carbon calculation "does not represent the cumulative cost of climate change and air pollution to society" and there are additional costs "associated with changes in co-pollutants [and] the social cost of other GHGs including methane and nitrous oxide," among other impacts.[94] By largely excluding relevant societal impacts, CARB grossly underestimates the social costs associated with their emission reduction measures.[95]

Similarly, the CPUC calculates "non-energy benefits" and "non-energy costs" that are "incurred by participants, utilities, or all of society,"[96] but only in limited scenarios when evaluating the cost-effectiveness of demand-side energy programs.[97] Also, these values largely comprise costs and benefits closely associated with specific energy programs, the utilities and participants, rather than society or the environment. There is one exception: the "electricity environmental adder" can account for "environmental damage from air pollutant emissions from power plants."[98] This adder, however, is an *optional* add-on to demand-side program analyses that, like CARB's social cost of carbon, oversimplifies and omits several other relevant social costs and NEBs.[99]

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[92] The Nat'l Acad. of Sci., Eng'g, and Med., *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide* (2017) The National Academies Press p. 5 <https://www.ourenergypolicy.org/wp-content/uploads/2017/06/24651.pdf>

[93] Cal. Air Res. Bd., *California's 2017 Climate Change Scoping Plan* (November 2017) p. 40 <https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf>.

[94] *Id*. at 39.

[95] ARB acknowledges that "[t]here are additional costs to society outside of the" social cost of carbon calculation used in their Scoping Plan, and that they will "continue engaging with experts to evaluate" more comprehensive approaches. Cal. Air Res. Bd., *California's 2017 Climate Change Scoping Plan*, p. 41 (November 2017) <https://ww3.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf>. The Joint Agencies must take this opportunity to fully develop social cost and NEB accounting for their policies. This is especially important as ARB made clear during the February SB 100 workshop that this rulemaking's methodologies will directly inform ARB's next Scoping Plan.

[96] Cal. Energy Com. and Cal. Pub. Util. Com., *California Standard Practice Manual – Economic Analysis of Demand Side Programs and Projects* (2001) <https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/CPUC_STANDARD_PRACTICE_MANUAL.pdf>.

[97] Cal. Pub. Utils. Com., *Addressing Non-Energy Benefits in the Cost-Effectiveness Framework* (January 2011) p. 4 <https://library.cee1.org/system/files/library/9734/CEE_EvalNEBCostEffect.pdf>.

[98] Cal. Energy Com. and Cal. Pub. Utils. Com., *California Standard Practice Manual – Economic Analysis of Demand Side Programs and Projects* (2001) p. 20 <https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy_-_Electricity_and_Natural_Gas/CPUC_STANDARD_PRACTICE_MANUAL.pdf>.

[99] *Id*.

The Joint Agencies should expand upon CARB and CPUC's accounting for societal impacts in their decision-making. To accomplish this, the Joint Agencies must embrace comprehensive cost-effectiveness analyses that include all relevant social costs and benefits.

III. Equity Requires the Inclusion of Environmental, Public Health, Economic, and Resiliency NEBs and Social Costs.

An understanding of the inherently localized impacts of energy production and development is key to understanding the relative NEBs and social costs of energy sources. These impacts are benefits (for instance, job creation from transmission construction or improved resiliency from distributed generation) or costs (for instance, air pollution from combustion or land use impacts from large scale development). Equity requires analyzing these relative costs and benefits and their localized impacts in determining the SB 100 portfolio.

The following comments do not attempt to analyze the full range of potential localized impacts and benefits. Rather, the following attempts to surface some of the critical NEBs and social costs that, at a minimum, the Joint Agencies must consider in the joint agency report.

A. The Joint Agencies Should Consider Land Use and Localized Environmental NEBs and Social Costs.

The Joint Agencies must consider the environmental and land use impacts of energy development. There are a wide range of localized impacts that vary widely depending on the type of generation, the scale of energy development, and the site under consideration.

There is a dichotomy between the impacts of combustion-based energy sources and renewable energy sources. Wind and solar generation can require upwards of 10 times as much land per unit of power produced compared to combustion based power plants.[100] However, when a full lifecycle analysis of carbon based fuels is conducted, the land use and environmental impacts of carbon based energy sources (including local air and water pollution impacts discussed below) far outweigh the local impacts from renewable energy development.[101]

There is a similar dichotomy between large and small-scale renewable energy infrastructure. While even large scale renewable developments can have far fewer environmental impacts than carbon-based combustion generation facilities, understanding the localized land use and environmental impacts of renewable generation is important, as these projects can require substantial land area.[102] For example, the National Renewable Energy Lab

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[100] Gross, *Renewables, Land Use, and Local Opposition in the United States* (Jan. 2020) Brookings Institute, <https://www.brookings.edu/wp-content/uploads/2020/01/FP_20200113_renewables_land_use_local_opposition_gross.pdf>. [101] Allred, *Ecosystem services lost to oil and gas in North America* (Apr. 24, 2015) Science, <https://science.sciencemag.org/content/348/6233/401.full>.

[102] Hoffakcer, *Land-Sparing Opportunities for Solar Energy Development in Agricultural Landscapes: A Case Study of the Great Central Valley, CA, United States* (Dec. 19, 2017) Environmental Science & Technology, <https://pubs.acs.org/doi/abs/10.1021/acs.est.7b05110>.

found that across all solar technologies, the total area generation-weighted average of land required for solar developments is 3.5 acres/GWh/yr.[103] Site selection and land use regulation concerning utility scale renewable energy development are central to mitigating the potentially negative impacts of these developments and addressing the so-called "energy sprawl."[104] In particular, the environmental and land use impacts of renewable scale development can be reduced if development is guided away from productive agricultural land or environmentally sensitive spaces.[105]

By contrast, distributed generation offers some significant advantages when it comes to land use impacts, as these installations can take advantage of the existing built environment, lessening the land use impact of energy generation.[106] Further, rooftop solar can eliminate the need for extensive (land consumptive) transmission construction, even leaving aside its additional non-land-use benefits, such as reducing urban heat island impacts.[107]

B. The Joint Agencies Should Consider Public Health NEBs and Social Costs.

The Joint Agencies must consider the environmental health impacts of energy generation on the communities where the generation or production takes place. As discussed above, the disproportionate burden of environmental health impacts as a result of energy production on minority and low-income populations is well documented.[108] As an additional example, half of all natural gas power plants in California are located in DACs.[109]

Understanding energy generation's localized impacts on communities requires a full lifecycle analysis of any proposed energy resource project and any associated development beyond the energy project itself. For example, the health impacts of biomethane development (using dairy waste feedstock) in communities that house or are in close proximity to industrial dairies goes far beyond the immediate impact of capturing the methane from cow waste. Even with methane capture technologies in place, dairies remain a leading source of smog-forming

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[103] Ong, *Land-Use Requirements for Solar Power Plants in the United States* (Jun. 2013) National Renewable Energy Laboratory, <https://www.nrel.gov/docs/fy13osti/56290.pdf>.

[104] Pjeczka, *Reducing the land use impact of solar energy – a triple win for climate, agriculture, and biodiversity* (Sept. 14, 2018) Yale Environmental Review, <https://environment-review.yale.edu/reducing-land-use-impact-solar- energy-triple-win-climate-agriculture-and-biodiversity>.

[105] Hoffakcer, *Land-Sparing Opportunities for Solar Energy Development in Agricultural Landscapes: A Case Study of the Great Central Valley, CA, United States* (Dec. 19, 2017) Environmental Science & Technology, <https://pubs.acs.org/doi/abs/10.1021/acs.est.7b05110>.

[106] Seel, *Non-Energy Benefits of Distributed Generation*, Sierra Club, <https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org.creative-archive/files/pdfs/1137-Distributed-Generation-White- Paper_03_low.pdf>.

[107] Hoffakcer, *Land-Sparing Opportunities for Solar Energy Development in Agricultural Landscapes: A Case Study of the Great Central Valley, CA, United States* (Dec. 19, 2017) Environmental Science & Technology, <https://pubs.acs.org/doi/abs/10.1021/acs.est.7b05110>.

[108] See *supra* section I.B.; Mikati, *Disparities in Distribution of Particulate Matter Emission Sources by Race and Poverty Status* (April 1, 2018) American Journal of Public Health , <https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2017.304297>.

[109] Brune, *Building Our Own Bridge* (Feb 28, 2020) Sierra Club, <https://www.sierraclub.org/michael-brune/2020/02/regenerate-california-natural-gas>.

volatile organic compounds and ammonia.[110] Worse yet, where dairies are able to expand production as a result of the income generated from biomethane production, they are likely to increase already significant diesel truck traffic and tail-pipe emissions in rural DACs.[111]

Further, even as the societal costs of expanded biomethane production require enhanced consideration, it is unclear whether biomethane projects are worthwhile even in conventional economic terms, given the significant capital investments required for their realization, and their limited energy-generation potential. The National Renewable Energy Lab estimates that even if the state utilized all of the potential sources of organic waste in California (including landfills, wastewater, animal manure, and other sources of industrial and commercial waste), the resulting supply would still only meet approximately 3 percent of the state's demand for natural gas.[112] Moreover, the state, through its extensive grant programs, and ratepayers, through significant natural gas infrastructure investments, are paying to build dairy digesters and expand the natural gas pipeline network. However, these may prove to be sunk costs that could never yield returns or significantly decarbonize the natural gas network.[113] In their implementation of SB 100, the Joint Agencies must consider both social and conventional costs to make wise decisions regarding the propriety and scale of further biomethane development.

C. The Joint Agencies Should Consider Water Quality and Water Supply NEBs and Social Costs.

The energy-water nexus is a critical juncture among the production of energy, the effect of energy production on the environment, and the dependence of energy production on water resources. The Joint Agencies' analysis of NEBs and social costs must therefore encompass any energy-project impact on water quality or quantity, and any impact of water supply on energy projects. Thus, for example, the Joint Agencies must consider as a social cost of dairy biomethane energy development that industrial dairies are major sources of the nitrate pollution that continue to threaten residential water supplies.[114] Such impacts are particularly significant in local rural DACs.[115]

In the water supply arena, the increasingly severe drought-inducing effects of climate change mean less water may be available in the future. This will greatly impact hydroelectricity

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[110] Hamilton, *The next frontier in California's climate change fight* (Mar. 16, 1016) Fresno Bee, <https://www.fresnobee.com/opinion/readers-opinion/article66466852.html>.

[111] Douglas, *Dairy Digesters: Not A Solution (Oct. 2019) Leadership Counsel for Justice & Accountability*, <https://leadershipcounsel.org/dairy-digesters-not-a-solution/>.

[112] *The Promises and Limits of Biomethane as a Transportation Fuel*, Union of Concerned Scientists, <https://www.ucsusa.org/sites/default/files/attach/2017/05/Promises-and-limits-of-Biomethane-factsheet.pdf>.

[113] Myers, *The Feasibility of Renewable Natural Gas as a Large-Scale, Low Carbon Substitute* (Jun. 2016) Institute of Transportation Studies, University of California, Davis, <https://steps.ucdavis.edu/wp- content/uploads/2017/05/2016-UCD-ITS-RR-16-20.pdf>.

[114] Summary Representative Monitoring Report (Apr. 2019) Central Valley Dairy Representative Monitoring Program, <https://www.waterboards.ca.gov/centralvalley/water_issues/confined_animal_facilities/groundwater_monitoring/srmr_20190419.pdf>.

[115] Douglas, *Dairy Digesters: Not A Solution (Oct. 2019) Leadership Counsel for Justice & Accountability*, <https://leadershipcounsel.org/dairy-digesters-not-a-solution/>.

facilities,[116] but may also affect combustion-based facilities. Already, for example, two gas- fired power plants have notified the CEC that they may face reliability concerns due to a lack of water available for cooling.[117] Any accurate SB 100 analysis must encompass analysis of water quality and water supply impacts and NEBs associated with California's energy choices.

D. The Joint Agencies Should Consider Economic NEBs and Social Costs.

The Joint Agencies must consider the economic impacts and job creation opportunities that inhere in energy development and associated activities. The joint agencies should consider the equitable distribution of these non-energy benefits, and in particular, the opportunity for residents of DACs to benefit economically through direct participation in the clean energy industries—both when DAC members obtain jobs in these sectors, and when clean-energy projects are sited in DACs. This also includes affordability for residents of DACs.

The CEC has determined that investment in clean energy and energy efficiency within DACs "not only helps the neediest achieve the energy bill savings that other Californians enjoy, but such investments also result in substantially larger multipliers for economic development."[118] Distributed generation traditionally has higher upfront per kW costs than utility scale energy development, which benefits from inherent economies of scale and higher capacity factors. However, the economic NEBs of distributed generation are significant, helping to bring the economic and employment benefits of energy generation to the local communities that consume the energy. As the Sierra Club notes, "a portion of the higher costs [for distributed generation] . . . are spent in the local economy, and thus provide a local economic benefit in excess of what would be spent on wholesale, central station renewable generation."[119]

The Joint Agencies' attention to the local economic implications of California's energy development choices is particularly important for DACs. These communities, which have historically borne the brunt of the negative health impacts of past energy development choices, now typically find themselves the last in the queue for receipt of distributed generation technologies, and associated local workforce employment opportunities.[120] In Pacific Gas and

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[116] Bliss, One Way the California Drought Is Contributing to Climate Change (Feb. 16, 2016) CityLab, <https://www.citylab.com/equity/2016/02/how-california-drought-is-contributing-to-climate-change/462951/>. [117] Seel, *Non-Energy Benefits of Distributed Generation*, Sierra Club, <https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org.creative-archive/files/pdfs/1137-Distributed-Generation-White-Paper_03_low.pdfontent.sierraclub.org.creative-archive/files/pdfs/1137-Distributed-Generation-White- Paper_03_low.pdf>.

[118] *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities*, California Energy Commission, <https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/7bc56e2692769abda31a2aace7b00147/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf>.

[119] Seel, *Non-Energy Benefits of Distributed Generation*, Sierra Club, <https://content.sierraclub.org/creative-archive/sites/content.sierraclub.org.creative-archive/files/pdfs/1137-Distributed-Generation-White-Paper_03_low.pdfontent.sierraclub.org.creative-archive/files/pdfs/1137-Distributed-Generation-White-Paper_03_low.pdf>.

[120] Hsu, *Solar Power's Benefits Don't Shine Equally on Everyone* (Apr. 4, 2019) Scientific American, <https://www.scientificamerican.com/article/solar-powers-benefits-dont-shine-equally-on-everyone/>.

Electric Company's service territory, for example, only *0.4 percent* of all rooftop solar belongs to low-income residents who live in DACs.[121]

To their credit, the CEC and the CPUC have made a concerted effort to identify certain barriers to the development and deployment of clean energy in DACs. The Barriers Study represents an important first step in identifying financial barriers, structural barriers, and policy barriers, while also laying out programs that seek to bridge these gaps.[122] It is now incumbent on the Joint Agencies to take the next step during SB 100 implementation, and incorporate the policy findings from the Barriers Study, in particular, the adequate consideration of NEBs and social costs, and leverage other existing state programs, including the California Solar Initiative, Green Tariff Shared Renewables Program, and the Multifamily Affordable Housing Solar Roofs program.

E. The Joint Agencies Should Consider Resiliency NEBs and Social Costs.

Finally, the Joint Agencies should consider the relative NEBs related to the resiliency of energy sources. The reality of climate change makes the need for increased resilience clear. The number of weather-related power disruptions is growing, and the US Department of Energy estimates that the economic cost across the U.S. for these outages ranges from $40 billion to $75 billion annually.[123] In California specifically, public safety power shut offs now affect millions of customers each year.[124]

Different energy sources offer a range of resiliency benefits. The Joint Agencies should consider, in particular, the resiliency benefits of distributed generation and storage technologies, which are threefold. First, these energy sources can reduce outages by reducing grid congestion; second, they can reduce large-scale outages by increasing the diversity of the electricity system's generation portfolio; and third, they can directly benefit customers by providing backup power sources during outages.[125] The most prominent example of distributed generation technologies is

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[121] *CPUC Fact Sheet Expanding Solar in Disadvantaged Communities*, California Public Utilities Commission, <https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/About_Us/Organization/Commissioners/Martha_Guzman_Aceves/Expanding%20Solar%20in%20Disadvantaged%20Communities%20-%20Fact%20Sheet.pdf>.

[122] *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities*, California Energy Commission, <https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/7bc56e2692769abda31a2aace7b00147/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf>.

[123] *Economic Benefits of Increasing Electric Grid Resilience to Weather Outages* (Aug. 2013) President's Council of Economic Advisers and the U.S. Department of Energy's Office of Electricity Delivery and Energy Reliability, <https://www.energy.gov/sites/prod/files/2013/08/f2/Grid%20Resiliency%20Report_FINAL.pdf>.

[124] Wigglesworth, *Major power shut-offs are new reality as California enters peak wildfire season* (Sep. 24, 2019) Los Angeles Times, <https://www.latimes.com/california/story/2019-09-23/red-flag-warnings-get-a-lot-more- perilous-in-california-with-threats-of-mass-power-outages>.

[125] Hansen, *A Review of Solar PV Benefit & Cost Studies* (Sep. 2013) Electricity Innovation Lab at RockyMountain Institute, <https://rmi.org/wp-content/uploads/2017/05/RMI_Document_Repository_Public-Reprts_eLab-DER- Benefit-Cost-Deck_2nd_Edition131015.pdf>.

rooftop or community solar. "[D]istributed [solar] can significantly increase the resiliency of the electricity system."[126]

IV. Current Joint Agency Modeling Fails to Consider Important NEBs and Social Costs.

The Joint Agencies' modeling of future energy resource scenarios currently fails to consider social costs and NEBs that are critical to an adequate SB 100 cost-effectiveness analysis. We appreciate the work done by E3 using the PATHWAYS and RESOLVE models to help the joint agencies implement SB 100. These models, however, still do not sufficiently account for the social costs and NEBs associated with different energy resources and resource mixes choices. Failing to incorporate these critical societal impacts and benefits provides an incomplete picture of the costs and benefits of different energy choices, and will lead to misinformed policy decisions, especially in regard to DACs. At the very least, social costs and NEBs should be added to each RESOLVE scenario's results. The Joint Agencies should explore additional methods to address existing limitations to their modeling, as detailed below. We look forward to further work with the Joint Agencies to determine how these societal costs and benefits may be used as inputs in future modeling.

V. The Joint Agencies Must Create Mechanisms for Adequate Community Engagement in order to Adequately Consider NEBs and Social Costs.

Meaningful engagement with affected DACs will help to identify the full range of social costs and NEBs that the Joint Agency should consider, and may also assist in determining how to value or quantify those factors. To best account for social costs and NEBs, the joint agencies should involve community engagement at every step of the SB 100 implementation process.

This practice advances equity by encompassing several major principles of environmental justice: to let communities speak for themselves; to allow communities to identify which costs and benefits would impact their community the most; and to allow communities to drive their own energy futures.[127] The Joint Agencies should leverage their current public participation practices, and should also take lessons learned from other agencies and contexts, such as the LADWP's 100% Renewable Energy Study advisory group and the CPUC's San Joaquin Valley Proceeding, that have demonstrated successful models for community engagement.

A. The Joint Agencies Should Eliminate Immediate Barriers to Successful Community Engagement and Coordinate their Environmental Justice Advisory Groups.

As a preliminary matter, it is imperative for the Joint Agencies to coordinate outreach efforts, and in particular, eliminate barriers to successful community engagement. For instance, and due to current social distancing protocols, internet access for DACs, and especially hard to reach DACs, is now critical to any successful outreach effort, but "[w]e know

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[126] *Distributed Solar PV for Electricity System Resiliency*, National Renewable Energy Laboratory, <https://www.nrel.gov/docs/fy15osti/62631.pdf>.

[127] Principles of Environmental Justice (Apr. 6, 1996) <https://www.ejnet.org/ej/principles.html>.

telecommunications infrastructure is failing in our state."[128] The CEC and CARB should support the CPUC's efforts to remove this barrier to community engagement.

In addition, each of the Joint Agencies should leverage their own existing advisory groups that serve environmental justice interests. The CPUC and CEC have the SB 350 Disadvantaged Community Advisory Group (DACAG) and CARB has the AB 32 Environmental Justice Advisory Committee (EJAC). Ultimately, California should make every effort to coordinate the discussions of every environmental justice advisory group or committee, but specific to this comment, the Joint Agencies should coordinate the discussions and activities of the DACAG and EJAC related to SB 100 implementation.

B. The Joint Agencies Should Leverage Existing Public Participation Policies.

Each of the joint agencies has express policies or goals that emphasize the need for increased public engagement in decisions regarding their communities. The agencies should leverage these in their SB 100 implementation efforts.

The CEC's Barriers Study states, for example, that there should be funding "for all state programs to collaborate with trusted and qualified community-based organizations in community-centric delivery of clean energy programs, in coordination with local
governments."[129] In particular, the study suggests that community-based organizations should be tasked with communicating and getting feedback from customers as well as developing local clean energy jobs.[130]

In its ESJ Action Plan, the CPUC identifies the express goal of enhancing outreach to ESJ communities and increase public participation.[131] In particular, the CPUC aims to "[c]ontinue integrating efforts with other agencies, such as the California Air Resources Board and the California Energy Commission, to coordinate equity activities across state agencies."[132]

Similarly, CARB's EJ Policy discusses the goal to "strengthen [its] outreach and education efforts in all communities, especially low-income and minority communities, so that all Californians can fully participate in [CARB's] public processes and share in the air quality

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128 CPUC Commissioner Martha Guzman-Aceves, Sensible Regulation Needed for Resilient, Reliable Communications System, CPUC Newsletter (August 2019) <https://www.cpuc.ca.gov/uploadedFiles/CPUC_Website/Content/About_Us/Organization/Divisions/News_and_Outreach_Office/August%202019%20newsletter.pdf>

129 Cal. Energy Com., *Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities Barriers Study* (Dec. 2016) p. 9 <https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/7bc56e2692769abda31a2aace7b00147/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A_Commission_Final_Report.pdf>.

130 *Ibid.*

131 Cal. Pub. Util. Com., Environmental and Social Justice Action Plan (Feb. 21, 2019) pp. 17–18 (Goal 5) <https://www.cpuc.ca.gov/uploadedFiles/CPUCWebsite/Content/UtilitiesIndustries/Energy/EnergyPrograms/Infrastructure/DC/Env%20and%20Social%20Justice%20ActionPlan_%202019-02-21.docx.pdf>.

132 *Id.* at p. 17.

benefits."[133] SB 100 implementation provides an opportunity for the joint agencies to meet their already-aligned and enunciated policies with respect to environmental justice.

C. SB 100 Implementation Should Follow Successful Public Participation Models.

Two successful public participation models are LADWP's 100% Renewable Energy Study Advisory Group and the San Joaquin Valley Affordable Energy Proceeding, Rulemaking 15-03-010 implementing Assembly Bill 2672 (SJV Proceeding). The LADWP advisory group involves a wide group of stakeholders in regional planning, while the SJV Proceeding focuses on a specific affordable energy project in select DACs. Both of these models ensure that the regional shift to clean energy or energy-related project matches, or is even driven by, the needs of the community or area that the relevant agency serves.

(i) Regional Planning: LADWP Advisory Group Model

LADWP's 100% Renewable Energy Study advisory group is an example of effective community involvement on a regional planning level. By creating an advisory group that spans all stakeholder groups,[134] LADWP is prioritizing community input in its planning for the transition to renewable energy. The advisory group includes representatives from school districts, environmental groups, community organizations, and industry.[135]

(ii) Project Specific: CPUC San Joaquin Valley Proceeding

One example of effective project-specific public participation is the CPUC's San Joaquin Valley Proceeding, which emphasized decision-making by the DACs themselves.[136] The SJV Proceeding authorized pilot projects in the San Joaquin Valley to assess the costs and benefits of affordable energy upgrades in select communities. The decision approving the pilot projects calls for "continuous community engagement (including hard-to-reach households) and includes a feedback loop to incorporate lessons-learned and qualitative feedback as projects develop."[137] Community feedback will play an especially important role during the pilot evaluation phase, to determine how the CPUC can factor NEBs into the cost-effectiveness of these projects. This is particularly important because AB 2672—the statute that directed the CPUC to address energy

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[133] *Id.* at p. 4.

[134] L.A. Dept of Water and Power, Comments from the Los Angeles Department of Water and Power (LADWP) to the California Energy Commission's (CEC's), the California Public Utilities Commission's (CPUC's), the California Air Resources Boards's (CARB's) Workshop on the Senate Bill 100 Joint-Agency Report Modeling Inputs And Assumptions (Mar. 9, 2020) p. 7.

[135] L.A. Dept of Water and Power, 100% Renewable Energy Study: Advisory Group <https://www.ladwp.com/ladwp/faces/ladwp/aboutus/a-power/a-p-cleanenergyfuture/a-p-renewableenergystudy?_afrLoop=6088105836731&_afrWindowMode=0&_afrWindowId=null#%40%3F_afrWindowId%3Dnull%26_afrLoop%3D6088105836731%26_afrWindowMode%3D0%26_adf.ctrl-state%3D11q0zen13v_4>. [136] Assem. Bill No. 2672 (2013–2014 Reg. Sess.).

[137] Cal. P.U.C. Ruling No. 18-12-015 (Dec. 13, 2018) p. 12.

access in the San Joaquin Valley by initiating a focused proceeding—aims to improve the "health, safety, and air quality" of the region by providing access to affordable energy.[138]

In the SJV Proceeding, the CPUC also established the Community Energy Navigator (CEN) to work as the liaison between pilot community residents and the CPUC, and the investor owned utilities.[139] The Commission decision approving the pilot projects noted that "the CEN component will be key to the success of the pilot" and should serve each authorized pilot community.[140] The CEN was selected based on criteria that included knowledge about the community and proposed outreach strategies.[141] In particular, the selection process prioritized applicants that included community-based organizations or individuals who are trusted by the community.[142]

The CEN approach to community engagement is preferable to approaches used in other recent CPUC proceedings. For example, when soliciting public comments on the SB 1383 dairy biomethane pilot projects, the CPUC only "solicited input from stakeholders via e-mail on pilot selection criteria" and held two public meetings that were recorded.[143] In marked and problematic contrast to the SJV proceeding, this process primarily involved industry stakeholders, and not the community that will face impacts from the negative externalities of dairy biomethane production.

Learning from these past proceedings, the Joint Agencies should prioritize community input in their SB 100 implementation going forward, especially in hard-to-reach DACs. SB 350 recognized that the Joint Agencies do not yet fully understand the potential for renewables in low-income communities.[144] To take the findings of the Barriers Study to the next level, the Joint Agencies should enhance their understanding and consideration of NEBs and social costs by involving DACs and low-income communities in identification of energy-choice impacts and benefits, and involving these communities in decision-making. This will permit a more accurate cost-benefit analysis of specific energy resources and resource mixes, and will ensure an equitable and just transition from combustion resources to the clean energy future that SB 100 envisions, and that all Californians deserve.

VI. Conclusion

For the foregoing reasons, we request that the Joint Agencies include an equity scenario in the SB 100 Joint Agency Report that excludes combustion and adequately considers the NEBs and social costs detailed in this comment.

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[138] Assem. Bill No. 2672 (2013–2014 Reg. Sess.) § 1, subd. (b).

[139] See Cal. P.U.C. D. 18-12-015 (Dec. 13, 2018) pp. 81–85.

[140] *Id.* at p. 81.

[141] *Id.* at p. 82.

[142] *Ibid.*

[143] Cal. P.U.C. Ruling No. 17-12-004 (Dec. 14, 2017) pp. 18–19 at <http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352373.PDF>.

[144] Sen. Bill No. 1078 (2001–2002 Reg. Sess.) § 7 (Pub. Resources Code § 25327, subd. (a)(1)).

In health,

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Appendix E – DACAG Comments to CEC re: 21-IEPR-01 – 2021 Scoping Order

February 19, 2021
California Energy Commission
Docket Unit, MS-4
VIA EMAIL
docket@energy.ca.gov

RE: 21-IEPR-O1- 2021 Scoping Order

To the California Energy Commission,

The Disadvantaged Communities Advisory Group (DACAG) submits the following comment on the Draft Scoping Order for the 2021 Integrated Energy Policy Report (2021 IEPR). We are pleased that the Draft Scoping Order includes equity in the proposed scope of the IEPR.[1] The DACAG respectfully requests that staff confirm that equity is a guiding principle of the 2021 IEPR, and detail the necessary coordination with other state agencies to determine non-energy benefits and social costs of energy resources. These costs and benefits to DACs include air and water quality, resiliency, affordability, and other factors critical to public health that the Energy Commission must consider within the framework of the 2021 IEPR.[2]

The 2021 IEPR builds upon other efforts to further California's climate policy, including SB 350, the Clean Energy and Pollution Reduction Act. Our Advisory Group was formed pursuant to SB 350. The Act specifically requires the Energy Commission to address the costs and benefits of energy resources to DACs. The DACAG was established to eliminate barriers to renewable resources in DACs. The failure to consider non-energy benefits and social costs of energy resources has proven a significant barrier that the 2021 IEPR now has an opportunity to address. Importantly, "[n]on-energy benefits are often not considered in cost-effectiveness tests, which devalues some of the most important factors that motivate investment in clean energy upgrades, such as family health and safety, comfort, and tenant retention."[3] Consideration of non-energy benefits and social costs of energy resources is critical so that California does not adopt false solutions, and instead considers all aspects to equitably further its climate policy.

The DACAG has previously commented on the Energy Commission's January 2021 Joint Agency Report implementing SB 100. The Joint Agency Report includes the commitment to consider equity in energy resource planning, specifically non-energy benefits and social costs of energy resources in cost-effectiveness evaluations. We understand that the Energy Commission will not continue specific SB 100 analyses in the foreseeable future, leaving the urgent need to continue the Commission's work on critical, yet unaddressed costs and benefits that affect residents of DACs and low income communities.

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1 Notice of Request for Public Comments on the Draft Scoping Order for the 2021 Integrated Energy Policy Report at 4. ("The 2021 IEPR will continue and expand on previous efforts to decarbonize California's energy system while ensuring that the benefits are equitably spread.")

2 *See* Pub. Res. Code sec. 25301(a).

3 Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-income customers and Small Business Contracting Opportunities in Disadvantaged Communities at 3.

Moreover, the Draft Scoping Order details that the Lead Commissioner proposes a "comprehensive approach toward decarbonizing buildings in a *cost-effective and equitable* manner."[4] The DACAG agrees with this proposal and requests that the scope of the 2021 IEPR specifically include significant discussion of how the State will consider non-energy benefits and social costs of energy resources in its energy policy recommendations.

The DACAG looks forward to continuing discussions with Energy Commission staff to determine the costs and benefits of energy resources that affect the public health of DAC and low-income communities, and that the 2021 IEPR must consider.

Sincerely,

The Disadvantaged Communities Advisory Group

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[4] *Id.*