

## **Comment 1 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Mark

Last Name: Wilson

Email Address: markwilson@pacbell.net

Affiliation:

Subject: Energy Efficiency and Demand Reduction

Comment:

I'm surprised to not see much discussion of energy efficiency and demand reduction in the workshop, especially since one of California's greenhouse gas reduction strategies involves a significant expansion of electrification. Energy efficiency and demand reduction approaches and technologies are going to be key in reducing the amount of renewable energy necessary to meet demand, and therefore reducing the high capital costs of the clean energy build-out that were discussed earlier. Energy efficiency in particular has a long history of excellent return on investment while also delivering health, comfort, and economic benefits to California citizens.

I hope future workshops will discuss efforts that CARB plans to make to expand energy efficiency and demand reduction as part of the Scoping Plan.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-11-02 11:12:56

No Duplicates.

## **Comment 2 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Romeo

Last Name: Astronomo

Email Address: [astronomor@kerncounty.com](mailto:astronomor@kerncounty.com)

Affiliation: Kern County Public Health

Subject: renewable energy

Comment:

The work you guys are engaged in is the most important work imaginable. The task is daunting and any insight I can give to help us achieve higher health outcomes I am in favor of: Has the idea of using the California Aqueduct surfaces and the freeway surfaces as usable solar panel surfaces been brought up? It will mitigate the 100F degree commutes in cars on freeways--acting as shade for the commuters. The solar panels will also prevent evaporation of water when used strategically in the CA. aqueduct. All of you must read Bill Gate's new book and further understand the feasibility of not just micro-grids, but many homes' ability to be off of the grid with the use of inexpensive iron and salt batteries. Low energy uranium is also a must and the nuclear option is on the table--so to speak lol. The work you do is noble and humbles me to be able to understand some of it. There is nothing more unjust than having poorer counties like Kern subsidize temperate, affluent regions like Santa Barbara County. Friends have moved out of state because of \$800 utility bills in summer. (newer home too)

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-11-03 14:31:22

No Duplicates.

## Comment 3 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.

First Name: Romeo

Last Name: Astronomo

Email Address: [astronomor@kerncounty.com](mailto:astronomor@kerncounty.com)

Affiliation: Kern County Public Health

Subject: health equity

Comment:

My comments do not represent my organization. They are my opinions and stem from my own thinking.

I have had the privilege of living in Kern County for over 37 years and never had I experienced a summer like last, in which our community received little respite from the excessive heat--(100+F for almost 90 days straight in summer). I'm asking that you guys consider funding an initiative that includes, robust, safe walkways and bikeways stretching across the poorest areas of Bakersfield, Ca. designed to be the primary source of transportation for everyone, especially the working poor, and the disenfranchised. As the proliferation of electric mobility (not EVs, but scooters, electric bikes, and other personal electric mobility devices) become more available and with the coupling of strategic heat mitigating techniques in the built environment, I am confident of the increase in the overall health outcomes these new paths would entail. Low-barrier electric mobility will allow poorer children to enter the work world without much help from missing family members and other mentors. Exercise would mitigate some of the county's obesity problems. Please let me know to whom I could write--so that Kern County can participate meaningfully in this exciting but challenging energy revolution. Solar panels can line these paths as a source of power, shade, and climate control.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-11-03 14:44:27

No Duplicates.

**Comment 4 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Jack

Last Name: Brouwer

Email Address: jb@nfcrc.uci.edu

Affiliation: National Fuel Cell Research Center

Subject: National Fuel Cell Research Center Comments 2022 Scoping Plan Update Electricity Sector  
Comment:

The National Fuel Cell Research Center (NFCRC) submits these comments (attached) on the November 2, 2021 Electricity Sector Technical Workshop Presentations for the 2022 Scoping Plan Update to Achieve Carbon Neutrality by 2045

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/4-sp22-electricity-ws-ViUAZVI8AyADbARq.pdf>

Original File Name: Scoping Plan Electricity Workshop Comments NFCRC 11\_10\_21.pdf

Date and Time Comment Was Submitted: 2021-11-10 14:53:55

No Duplicates.

**Comment 5 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Muriel

Last Name: Strand

Email Address: ecoengr@comcast.net

Affiliation:

Subject: comments on 2022 scoping plan electricity sector workshop

Comment:

please see attached.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/5-sp22-electricity-ws-VCdVMFQ6UXIAbwVr.pdf>

Original File Name: scoping plan elec sector final format.pdf

Date and Time Comment Was Submitted: 2021-11-18 11:50:51

No Duplicates.

## Comment 6 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.

First Name: david

Last Name: bezanson

Email Address: bezanpsy3506@hotmail.com

Affiliation:

Subject: Electricity Sector Workshop - Scoping Plan 2022

Comment:

<https://docs.google.com/document/d/1Yu7p574QcXz85M0U4sYL4lsNFOyCT2rjAyPji5ridII/edit>  
View the Google link above for references.

CARB  
ELECTRICITY SECTOR WORKSHOP : SCOPING PLAN 2022  
NOVEMBER 2021

Submitted by David Bezanson, Ph.D., CA voter

Thank you for presenting yet another informative workshop re. The Scoping Plan. This sector is the most important to prioritize because our grid will power the electrification of other sectors including industry, transportation, SORE, and buildings . The sum of this electrification, which displaces primarily fossil fuel energy, will decrease GHG and toxic/criteria co-pollutant emissions in CA by well over 50%. Please keep the pace of renewable generation well ahead of the pace of electrification of other sectors. In the absence of such pacing, electrification will be powered by about 40% dirty electricity in the near term.

Throughout this document, renewable energy excludes sources that spew GHGs or toxics in Scope 2 or Scope 3. Nuclear reactors, e.g., emit water vapor and ionizing radiation throughout their operating phase. Vapor is a GHG and radiation is toxic in any amount of exposure (see Linear No Threshold model). The lifecycle carbon intensity of reactors is significantly higher than that of renewables, , , . Biofuels, dirty H2, biogas, and biomass energy entail GHG and toxic/criteria pollutants in at least one Scope.

Both utilities and CCAs are publicly-owned in different ways. To distinguish the two, the acronym SOU (shareholder-owned utilities) is to be used for the former while POU (publicly-owned utilities) is to be used for the latter.

Some recommendations herein require collaboration with other agencies or the Legislature. Please take the lead to decarbonize the electricity sector promptly. Use 2 year interim targets for each policy.

### TIMELINE TO DECARBONIZE GRID ELECTRICITY

Set a goal of powering the grid with 100% renewables by 2035. Set interim targets every two years to increase the percent of renewable electricity by at least 7% while decreasing the percent of dirty electricity (biomass and fossil) by at least 7%.

### DEMAND ATTENUATION

Accelerate the timeline for meeting efficiency goals including replacement of NG appliances and baseboard heating with more efficient electric (especially heat pumps) and establishing more stringent insulation standards for new buildings as well as

retrofits of existing buildings .

Establish higher surcharges on the highest tiers of electricity and NG usage. Create 5 tiers The highest tier rate should be at least triple that of the lowest tier. Rates for each tier of NG should be at least double the rate for electricity, to internalize externalities of fossil energy (NG). Provide partial rebates to households in the federal poverty range.

One way to decrease emissions and usage of electricity is to retard economic growth to zero or less. At some point this may be necessary to solve climate change. In the near future it would help to decrease the growth rate to 1% and transition from an infinite growth paradigm to a sustainability paradigm. Using voluntary educational and financial incentives, the population of CA should be stabilized at its present level or less. These economic and population stabilization goals are two of the many proven policies that are necessary if one adheres to the precautionary principle of managing the climate crisis.

#### COST OF ELECTRICITY

One of the objectives of the federal and CA government is to decrease the cost/kW of electricity. Failure to internalize externalized social costs of fossil fuel energy into fossil fuel prices drives up electricity rates . Policies to internalize costs are needed and some examples follow.

Establish a higher fossil fuel production tax (The current tax is far lower than the tax rate in other states.)

Increase sales taxes on all fossil fuels (diesel, gasoline, oil, propane, NG, LNG, etc.) and bio-energy

Raise the floor price of allowances at Cap & Trade auctions to the cost of C removal (currently \$150 - \$600 per MT), sunset free allowances by 2023, and discontinue handing out free allowances.

Create a Clean Electricity Performance Plan akin to the one that was deleted from the federal reconciliation bill (Build Back Better). SOUs and POUs that generate/procure at least 5% more renewable energy than in the prior year would receive an incentive while those failing to meet it would be penalized. This will scale up renewable energy, driving down the price.

Rapidly phase out the use of reactors and of biomass electricity. The former has a cost per kW that is 4 to 5 times higher than that of renewables while the latter has a cost per kW that is about 50% higher than that of renewables. Each is heavily subsidized.

#### BENEFIT : COST ANALYSIS

Public statements from CEC, CARB, and CPUC indicate that the cost of a rapid transition to renewables is higher than a transition that reaches neutrality by 2045. This is true if the gross investment in renewables is the sole metric. However, research indicates that the maximum net benefit : cost ratio is achieved by a rapid transition. Energy and non-energy benefits include public health and consequent increases in productivity, increased net job growth in the energy sector, increased income tax revenue, increased GDP, decreased cost of electricity, EJ, avoidance of fossil fuel "shortages" and price spikes, deceleration of climate change, more food security, and a more sustainable economy. Because the fossil fuel industry has a rate of occupational injuries that exceeds that of most construction sectors, Workers' Compensation claims would subside. In addition, the influence of the fossil fuel industry upon climate legislation would diminish. There is probably

a massive economic value of this curtailed influence and research is needed to quantify such , , , . , , , , , ..

Define EJ zones and toxic hot spots on the scale of miles instead of meters. Urban areas that are up to 100 miles downwind from toxic and criteria pollutant sources may be showered with some of these toxics. Some of these, e.g., PM, may remain airborne for a week. This is critical when performing cost : benefit analyses.

Another model for evaluating policies to further the transition from current BAU to C neutral is Return on Investment. This would examine the costs of achieving various kinds of returns and the sustainability of returns.

In 2018, 8.7 million people suffered premature mortality from fossil fuel industry emissions. A 2021 study estimated 10.2 million , . (Note that the studies calculated mortality only from PM. Combustion of FF emits about one dozen toxics. These two studies did not estimate mortality from the other toxic co-pollutants.) Estimates of the number of annual premature deaths from fossil fuel PM in the US range from 335,000 and 350,000. Using 340,000 and dividing this by the population of the US in 2018 (327 million) equals 0.1%. The CA population in 2018 was 39 million. 0.1% of 39 million is 39,000. The value of a statistical life in the US is \$10,000,000 (8, 9,10). 39,000 times ten million is \$ 390 billion , , .

#### CLEAN FIRM 24/7 SOURCES

The source to scale ahead of all others in geothermal. CA has extensive geothermal potential. The co-development of geothermal energy and lithium extraction from the same regions is being studied by The Lithium Valley Commission of the CEC. Co-develop geothermal generation in nearby states with natural geothermal resources and increase imports to displace fossil energy imports.

The second priority is to scale the most cost-effective forms of storage to increase the capacity factor of renewables. Commercially-available options include various battery technologies, renewable electrolytic H2, and hydro.

The third priority is to replace stationary fossil fuel generators with renewable electrolytic H2 fuel cell generators .

Due to cost, a fourth priority - tidal - is to be studied every two or three years by reviewing cost : benefit research. Expedite development when the cost : benefit ratio is near that of other renewables.

#### RELIABLE GRANULARITY 24/7 and ACROSS SEASONS

Build excess renewable generation capacity. Use it to store energy for use when demand exceeds supply. An example is salt caverns for renewable electrolytic H2. See SB 67, introduced in 2021 and destined to be a 2-year bill for 2022 for policy guidelines. Bill Text - SB-67 Clean energy: California 24/7 Clean Energy Standard Program.

Scale smart grids and microgrids interfaced with community and rooftop solar, to improve granularity and resilience of DRE

Incentivize installation of PV solar panels over parking lots, freeways, driveways, canals, and floatation atop reservoirs. This form of DER has multiple benefits including improved grid resilience. Fast track offshore wind turbine energy .

#### CARBON CAPTURE ENGINEERING

Smokestack carbon capture is a cost-prohibitive, unproven technology that increases energy prices (e.g., of NG and electricity). Research that examines the complete lifecycle of

emissions and finds net capture has not been published. It does not decrease toxic or criteria co-pollutants. By extending the number of years of reliance upon fossil fuel energy, it increases cumulative toxic and criteria co-pollutants emitted over the years. See the link below for guidelines on using carbon capture technologies and references to the literature.

CARBON CAPTURE DECISION TREE - Google Docs

Instead of using smokestack carbon capture on fossil fuel power plants, these plants should be replaced by renewable energy/storage plants. This has a superior cost : benefit profile than adding smokestack capture to fossil fuel power plants.

#### NATURAL GAS

Do not use a mix of RNG and NG for residential buildings, due to health hazards. Do not use a mix of H2 and fossil NG in any pipelines. To achieve our climate and emissions objectives, the use of all forms of NG needs to be swiftly phased out. We have ample renewable and storage resources to retire NG. Replace the use of NG in buildings with electricity, for which we have a distribution network. Retire NG power plants by 2030.

#### HYDROGEN , ,

Permit the generation and sale only of renewable electrolytic H2 in CA effective 2023. If other H2 generation technologies are invented that are combustion-free and have a comparable lifecycle carbon intensity, permit the generation and sale of such when each becomes commercially feasible.

Construct new dedicated renewable H2 pipelines only in industrial zones outside of residential areas. Do not use blends of NG and H2 in existing NG pipelines. Even sections of NG pipelines that are currently leak-free are unsuitable because H2 molecules are much smaller than CH4 molecules and H2 will leak, especially when transported under typical pressures used for NG. Leakage of each gas is inefficient, toxic, and presents risk of fire and explosion.

Develop programs for conversion of metals and concrete manufacture to renewable electrolytic H2 powered or 100% renewable electricity-powered. These are commercially available and are further decarbonized by efficient electric arc furnaces for steel and cement substitutes that require lower energy input for concrete manufacture.

#### IMPORTED ELECTRICITY

Import only renewable energy. Upgrade our high-voltage transmission line network connecting CA to other Western states and B.C. These upgrades will enable us to profit from exporting electricity. It will also improve 24/7 reliability of electricity supplies in networked states including CA.

#### CONCLUSION

Target 2035 as the year to achieve powering our grid with 100% combustion-free and toxin-free renewable electricity. Establish aggressive interim targets every two years, especially during the initial 8 years . Use modular design principles to accelerate scaling. Clean energy is favored by over 80% of voters nationwide .

See the graph near the end of this 3 minute video on net zero. Please make plans to achieve the lowest emissions trajectory .

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/6-sp22-electricity-ws-BmNTOQdjBzcFdwBy.pdf>

Original File Name: electricitySectorCARB2022.pdf

Date and Time Comment Was Submitted: 2021-11-18 14:42:20

No Duplicates.

**Comment 7 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Tiffany

Last Name: Titus

Email Address: ttitus@burbankca.gov

Affiliation:

Subject: BWP Scoping Plan Comments on Electricity Sector Workshop

Comment:

Attached please find Burbank Water and Power's Comments on the Electricity Sector Workshop for the Scoping Plan process.

Thank you

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/7-sp22-electricity-ws-UWBTZAY2UzlWYIRI.pdf>

Original File Name: 111921 BWP Scoping Plan Electricity Sector Comment Letter.pdf

Date and Time Comment Was Submitted: 2021-11-19 08:34:05

No Duplicates.

**Comment 8 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Brady

Last Name: Van Engelen

Email Address: brady.vanengelen@bloomenergy.com

Affiliation: Bloom Energy

Subject: Bloom Energy Comments - Electricity Sector Technical Workshop

Comment:

Please find attached Bloom Energy's comments regarding the November 2, 2021 Electricity Sector Technical Workshop Presentations for the 2022 Scoping Plan to achieve 2045 carbon neutrality targets.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/8-sp22-electricity-ws-UjBXPVwyAj4Aa1IN.pdf>

Original File Name: Bloom Energy Scoping Plan Comments 11.19.21.pdf

Date and Time Comment Was Submitted: 2021-11-19 09:28:23

No Duplicates.

**Comment 9 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Sophie

Last Name: Ellinghouse

Email Address: [sellinghouse@wspa.org](mailto:sellinghouse@wspa.org)

Affiliation: WSPA

Subject: WSPA Comments on 11/2 Electricity Sector Workshop

Comment:

Attached are comments from the Western States Petroleum Association regarding the 2022 Scoping Plan Update, specifically the electricity sector workshop.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/9-sp22-electricity-ws-WwQHdlEjVHcLbFcI.pdf>

Original File Name: [WSPA] Comment Letter Electricity Workshop 11-02-21.pdf

Date and Time Comment Was Submitted: 2021-11-19 10:17:27

No Duplicates.

**Comment 10 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Erin

Last Name: Rodriguez

Email Address: erodriguez@ucsusa.org

Affiliation:

Subject: sign-on letter

Comment:

Good afternoon,

Please find the attached letter from organizations asking for 30 MMT to be set as the upper bound when CARB establishes an updated GHG emissions range for the state's electric sector as part of the 2022 Scoping Plan Update.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/11-sp22-electricity-ws-VDFWPlUxUXBRMFQt.pdf>

Original File Name: energysector\_scopingplan.pdf

Date and Time Comment Was Submitted: 2021-11-19 11:49:06

No Duplicates.

**Comment 11 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Katharine

Last Name: Larson

Email Address: [klarson@scppa.org](mailto:klarson@scppa.org)

Affiliation:

Subject: SCPPA Comments on Nov. 2 Electricity Sector Workshop

Comment:

Please see SCPPA's attached comments on the Nov. 2 workshop on the electricity sector.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/12-sp22-electricity-ws-UzVVOgBvV2UGbABf.pdf>

Original File Name: FINAL SCPPA Comments on Electricity Sector Workshop 11-2-21.pdf

Date and Time Comment Was Submitted: 2021-11-19 12:54:41

No Duplicates.

**Comment 12 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Miles

Last Name: Heller

Email Address: [hellermt@airproducts.com](mailto:hellermt@airproducts.com)

Affiliation: Air Products

Subject: 2022 Scoping Plan Electricity Workshop Comments

Comment:

Please find enclosed our comments for the electricity technical workshop

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/13-sp22-electricity-ws-VjcCbV0uBQkLfQV3.pdf>

Original File Name: Air Products Comments November 2021 Scoping Plan electricity technical workshop final.pdf

Date and Time Comment Was Submitted: 2021-11-19 14:16:20

No Duplicates.

**Comment 13 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Susie

Last Name: Berlin

Email Address: [berlin@susieberlinlaw.com](mailto:berlin@susieberlinlaw.com)

Affiliation: Northern California Power Agency

Subject: NCPA Scoping Plan Electricity Sector Workshop Comments

Comment:

Northern California Power Agency Comments on 2022 Scoping Plan  
Update - Electricity Sector Workshop

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/14-sp22-electricity-ws-WjRUMQBxBDYLUGBj.pdf>

Original File Name: NCPA comments re SP electricity workshop (final 11-19-21).pdf

Date and Time Comment Was Submitted: 2021-11-19 15:24:06

No Duplicates.

**Comment 14 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Ana

Last Name: Garza-Beutz

Email Address: agarza-beutz@sdge.com

Affiliation:

Subject: SDG&E and SoCalGas Joint Comments on Nov 2 Electric Sector Workshop

Comment:

SDG&E and SoCalGas Joint Comments on the Nov 2, 2021 Electric Sector Workshop

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/15-sp22-electricity-ws-VSYFZ1A2WG4EXQdm.pdf>

Original File Name: SDGE and SoCalGas Scoping Plan Electric Scenario Nov 2021 Workshop Comments.pdf

Date and Time Comment Was Submitted: 2021-11-19 15:43:00

No Duplicates.

**Comment 15 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Fariya

Last Name: Ali

Email Address: fariya.ali@pge.com

Affiliation: Pacific Gas & Electric

Subject: PG&E Comments on Electricity Sector Technical Workshop

Comment:

See attached.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/16-sp22-electricity-ws-BnZWNwNnAg4EYQVq.pdf>

Original File Name: PGE Comments\_Nov 2021 SPU Electric Workshop\_11-19-21.pdf

Date and Time Comment Was Submitted: 2021-11-19 15:49:31

No Duplicates.

**Comment 16 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Mikhael

Last Name: Skvarla

Email Address: mikhael\_skvarla@gualcogroup.com

Affiliation: TGG, Inc. on behalf of CCEEB

Subject: CCEEB Scenarios Comments

Comment:

Please see attached. Thank you!

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/17-sp22-electricity-ws-AmFdOFA0VmBSNIAP.pdf>

Original File Name: CCEEB - Scoping Plan Scenarios 11.19.2021.pdf

Date and Time Comment Was Submitted: 2021-11-19 16:02:46

No Duplicates.

**Comment 17 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Sara

Last Name: Fitzsimon Nelson

Email Address: sfitzsimon-nelson@californiahydrogen.org

Affiliation:

Subject: CHBC Scoping Plan Draft Scenario Inputs Technical Workshop

Comment:

CHBC Scoping Plan Draft Scenario Inputs Technical Workshop

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/18-sp22-electricity-ws-AWJTNAFyADEFXAd0.pdf>

Original File Name: CARB Scoping Plan - Scenario Inputs Technical Workshop FINAL.pdf

Date and Time Comment Was Submitted: 2021-11-19 16:03:40

No Duplicates.

**Comment 18 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Julia

Last Name: Souder Prochnik

Email Address: julia@jasenergies.com

Affiliation: julia@storeenergyca.org

Subject: LDESAC comments 11-19-21

Comment:

Thank you!

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/19-sp22-electricity-ws-VTIUNGZiVHQAZwFi.docx>

Original File Name: LDESAC CARB 11-19-21.docx

Date and Time Comment Was Submitted: 2021-11-19 16:25:07

No Duplicates.

## Comment 19 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.

First Name: Claire

Last Name: Broome

Email Address: cvbroome@gmail.com

Affiliation: 350 Bay Area

Subject: Assure information available to optimize Distributed Energy Resources

Comment:

350 Bay Area appreciates the insightful and broad-ranging presentations and discussions during the November 2nd Electricity Sector Technical Workshop. A strategic approach to the electricity sector is a foundational necessity for meeting California clean energy targets as rapidly as possible.

DER need to be optimized in system modeling:

The CEC in their workshop presentation acknowledged that demand flexibility is a potentially large resource for savings in the California energy sector. Current modeling approaches such as RESOLVE do not distinguish between utility solar on the transmission grid and on the distribution grid, limiting the ability to realize the savings from demand flexibility and to accurately assess future transmission needs. (Behind the meter PV resources are modeled at a pre-determined amount.) Modeling should be able to optimize and select wholesale distributed generation and hybrid generation and storage facilities. A recent study from Vibrant Clean Energy indicates that optimizing DER could save California 120 billion dollars compared to a clean energy scenario which does not accelerate distribution grid generation and storage.

In addition to supporting demand flexibility, these DER can be useful for resiliency; they also provide land use value, substituting the built environment and brownfields for the disruption of utility scale solar and additional transmission.

Recommendation: CEC and CPUC should incorporate wholesale distributed generation and hybrid generation and storage facilities in their energy system modeling. If this is not possible with RESOLVE, California should do parallel analyses with a model such as WIS:dom that can optimize DER.

Affordability as a component of equity:

Numerous workshop presenters recognized the importance of transportation electrification and building electrification for reducing emissions and stressed that affordable electricity is important for these initiatives.

A CPUC White Paper on Utility Costs and Affordability of the Grid of the Future, February 16, 2021 forecast electric rates over the next decade in order to understand the impact of different programs and components of the rate base on affordability, equity, and the climate crisis. Factors identified as likely to increase electricity rates included rapidly rising costs for transmission and distribution infra-structure, as well as anticipated increases for wildfire mitigation.

The White Paper is particularly informative because it looks at affordability in the context of TOTAL household energy costs each month, including electricity, methane gas, and gasoline. Analyses which focus solely on California's high (and increasing)

electricity rates are deficient because they do not include the substantial potential benefits of electrification for low-income households in decreasing the proportion of income which must go to paying for total energy costs each month, a highly regressive burden. As the White Paper notes, managed transportation and building electrification could save a household with above average energy use in a hot climate zone over one hundred dollars a month in total energy costs. (Figure 38 p 77) That modeling result suggests that priority policy solutions should focus on lowering the barriers to participation in managed transportation and building electrification to allow lower and middle income households and communities to realize these savings.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-11-19 16:29:58

No Duplicates.

**Comment 20 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Ignacio

Last Name: Fernandez

Email Address: ignacio.m.fernandez@sce.com

Affiliation: Southern California Edison

Subject: SCE comments on AB 32 2022 Scoping Plan Update Electricity Sector Technical Workshop  
Comment:

Dear Sir/Madam,

Please find attached Southern California Edison's comments on AB 32 2022 Scoping Plan Update Electricity Sector Technical Workshop that took place on November 2, 2021.

Best regards

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/21-sp22-electricity-ws-WyhTNIUxWVUCZwFu.pdf>

Original File Name: SCE\_comments\_CARB\_SPU\_ESTW\_20211119.pdf

Date and Time Comment Was Submitted: 2021-11-19 16:46:26

No Duplicates.

**Comment 21 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Danielle

Last Name: Osborn Mills

Email Address: danielle@renewableenergystrategies.com

Affiliation: American Clean Power - California

Subject: American Clean Power - California Comments on Electricity Sector Technical Workshop  
Comment:

Attached please find comments of American Clean Power - California.

Please contact me if you have any trouble accessing the document.

Many thanks,  
Danielle Osborn Mills  
916-320-7584

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/22-sp22-electricity-ws-B2ZTNlQlBwsGYwBh.pdf>

Original File Name: ACP\_CA Scoping Plan Comments on Electricity Sector Technical Workshop -combined 11.19.21.pdf

Date and Time Comment Was Submitted: 2021-11-19 17:22:54

No Duplicates.

**Comment 22 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Ignacio

Last Name: Fernandez

Email Address: ignacio.m.fernandez@sce.com

Affiliation: Joint Utilities Group (JUG)

Subject: JUG comments on AB 32 2022 Scoping Plan Update Electricity Sector Technical Workshop  
Comment:

Dear Sir/Madam,

Please find attached the Joint Utilities Group (JUG)'s comments on AB 32 2022 Scoping Plan Update Electricity Sector Technical Workshop that took place on November 2, 2021.

Best regards

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/23-sp22-electricity-ws-B21TIARiVVkEcQd3.pdf>

Original File Name: JUG\_SPU\_ESTW\_20211119.pdf

Date and Time Comment Was Submitted: 2021-11-19 17:05:38

No Duplicates.

**Comment 23 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Sophie  
Last Name: Ellinghouse  
Email Address: sellinghouse@wspa.org  
Affiliation: WSPA

Subject: Comments  
Comment:

See attached.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/24-sp22-electricity-ws-BVpQIVEjBCdQNwNc.pdf>

Original File Name: [WSPA] Comment Letter Electricity Workshop 11-02-21.pdf

Date and Time Comment Was Submitted: 2021-11-24 08:13:41

No Duplicates.

**Comment 24 for 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) - 1st Workshop.**

First Name: Claire

Last Name: Dougherty

Email Address: Claire@dgardiner.com

Affiliation: Renewable Thermal Collaborative

Subject: Renewable Thermal Collaborative Comments

Comment:

See attached.

Attachment: <https://ww2.arb.ca.gov/sites/default/files/BARCU/barcu-attach/25-sp22-electricity-ws-VSddL1U3Aw9RNgJw.docx>

Original File Name: RTC\_ARB Letter\_11.30.docx

Date and Time Comment Was Submitted: 2021-11-30 09:33:06

No Duplicates.

**There are no comments posted to 2022 Scoping Plan Update - Electricity Sector Technical Workshop (sp22-electricity-ws) that were presented during the Workshop at this time.**