

## **Comment 1 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Brian  
Last Name: Kolodji  
Email Address: bkolodji@sbcglobal.net  
Affiliation: Kolodji Corporation

Subject: Oxy-combustion inclusion as a viable renewable/sustainable solution for Option 1 2035 goal  
Comment:

Hello CARB Staff and webinar attendees:

Thank God for this morning and for this urgent and timely excellent Public Workshop Webinar on the 2022 Scoping Plan Update-Scenario Inputs Technical Workshop.

Kolodji Corp is a California Company owned by Brian Kolodji, and implements and offers carbon management technologies, including an announcement on Black Swan, LLC patented pending Membrane Direct Air Capture for oxy-combustion. Oxy-combustion technologies are not included in the current options presented by CARB at this webinar today. This is especially clear in the omission of renewable and sustainable natural gas or biogas oxy-combustion technologies that assist greatly with the transition from and the need to reduce natural gas consumption by up to 70% while raising the temperature of combustion. To emphasize the facts about technology available and proven for decades, I invite CARB and the audience to Google "Process Heating Tip" and look at USDOE's Tip No. 3 (US DOE/ HO-102005-2178, September 2005.) Kolodji Corporation was awarded the keynote presentation (see attached- it was the first paper in a five day conference) at the 2021 American Institute of Chemical Engineer's Spring National meeting where the heating value and combustion temperature for a typical sanitation district anaerobic digester generated biogas was raised equivalent to natural gas, using Direct Air Capture (for oxygen, CO2, and water) Technology pre-combustion. This technology assists with transition of existing natural gas power plant infrastructure and can be used to reduce natural gas consumption quickly, as it is plug and play and low cost (especially in saving on natural gas operating costs and new technologies driving down the capital costs.) This is a request to bring Oxy-combustion technology into play as it will allow these alternative/ option 1 scenarios with more aggressive 2035 time lines able to be achieved.

Again, thank God and CARB, for this webinar with hopes it leads to advancement toward the urgent solutions needed to reverse global climate impacts.

Regards,

Brian Kolodji, PE

Owner/ CEO, Kolodji Corp/ Black Swan, LLC  
Energy Carbon Management/ Intellectual Property

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Website: K-O2.com/ Email: bkolodji@sbcglobal.net  
5612 Segovia Way, Bakersfield, CA 93306

2016/2018/2019/2020 OSHA PSM/ Gas Util Session Chair; 2021 Keynote-  
American Inst. of Chemical Engineers

"...Peace be with you..."  
AIChE 2021 Kolodji 04192021FF 06042021  
.pdf  
2.1MB

Attachment: [www.arb.ca.gov/lists/com-attach/1-sp22-inputs-ws-VTQAbwBiBzwKaVUK.pdf](http://www.arb.ca.gov/lists/com-attach/1-sp22-inputs-ws-VTQAbwBiBzwKaVUK.pdf)

Original File Name: AIChE 2021 Kolodji 04192021FF 06042021.pdf

Date and Time Comment Was Submitted: 2021-09-30 12:13:41

No Duplicates.

## **Comment 2 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Brian  
Last Name: Kolodji  
Email Address: bkolodji@sbcglobal.net  
Affiliation: Kolodji Corporation

Subject: Biogas as under-utilized fuel and Crop Carbon Enrichment (CCE) for CO2 use/capture  
Comment:

Dear CARB Staff:

Again, thank God for this CARB webinar, as it will take copious prayers for California, the nation, and the world to achieve the aggressive carbon management goals needed to reverse global climate trends of great concern. As the president of Kolodji Corp, a leading California based energy carbon management firm, I wish to provide further written comments to CARB on technologies needed to further accelerate aggressive alternative 1 goals.

First, I wish to re-emphasize the comments by many public commenters that biogas is a significantly under utilized nature based, renewable, and sustainable fuel. Biogas is most easily retrofitted into existing natural gas fired infrastructure, especially with oxy-combustion, and is the most "green" from a life cycle basis, allowing for acceleration towards the 2035 alternative 1 goals. This technology can also be implemented in the transportation sector. The mention by a CARB presenter that the electric grid needs to be tripled seems light, as ZEVs, especially those relying on electricity, will more than quadruple the electric grid based on current energy equivalence with gasoline driven vehicles. (It needs to be emphasized apples for apples and for transparency in these slides CARB is presenting that the tripling of the energy grid is very likely based on reduced vehicle miles.)

I further emphasize utilizing crop carbon enrichment for a use of CO2 in flue gas (a major social justice enabler in that the CO2 in flue gas is used to make food and water), I attach a recent (September 2021) presentation by the Kolodji Corp at the International Congress on Sustainability Science and Engineering (ICOSSE as sponsored by the American Institute of Chemical Engineers and as co-chaired by the California Energy Commission's Silvia Palma Rojas) emphasizing the scalability advantages of this technology as well, as it is the only technology capable of absorbing the world's 50 Billion Tons per year of CO2 needed to be removed (by the way, 10% or 30 million metric tons of California's over 300 million metric tons by 2035 is not be enough to achieve neutrality, let alone adequate carbon management.)

Regards,

Brian Kolodji, PE

Owner/ CEO, Kolodji Corp/ Black Swan, LLC  
Energy Carbon Management/ Intellectual Property

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2016/2018/2019/2020 OSHA PSM/ Gas Util Session Chair; 2021 Keynote-  
American Inst. of Chemical Engineers

"...Peace be with you..."  
2021AChEICOSSESustainability Kolodji 09112021F  
.pdf  
259.3kB

Attachment: [www.arb.ca.gov/lists/com-attach/2-sp22-inputs-ws-ADJSZFdkUzFQNwFo.pdf](http://www.arb.ca.gov/lists/com-attach/2-sp22-inputs-ws-ADJSZFdkUzFQNwFo.pdf)

Original File Name: 2021AChEICOSSESustainability Kolodji 09112021F.pdf

Date and Time Comment Was Submitted: 2021-09-30 12:20:12

No Duplicates.

## **Comment 3 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Gordon

Last Name: Jefferson

Email Address: trainperson@roadrunner.com

Affiliation: Hydrogen Fuel Cell Trains Association

Subject: Scoping Plan- Freight and Passenger Rail Sector

Comment:

The Hydrogen Fuel Cell Trains Association appreciates your request for our contribution to the CARB scoping scenario plan modeling for the Freight and Passenger Rail portion. We understand that this scoping only pertains to the State of California.

Your organization has outlined four input assumptions to meet California Executive Order N-79-20. Clearly, we favor Alternative 1, but we would also like to propose a more aggressive alternative for the Freight and Passenger Rail sector. Not only are new affordable hydrogen fuel cell powered train sets available now (see attachment), the technology to convert an existing diesel locomotive to a hydrogen fuel cell powered locomotive is also available.

(<https://cleantechnica.com/2021/03/25/all-eyes-on-4-million-diesel-killing-hydrogen-locomotive-in-california/>)

(<https://www.globalrailwayreview.com/news/121400/severn-valley-railway-convert-locomotive-hydrogen/>)

We see that Alternative 1 for the Truck ZEV sector has a stipulation that, by 2035, only zero emission freight trucks will be allowed on California's roads. Because, as mentioned above, a diesel locomotive, using the same frame, can be converted to a hydrogen fuel cell powered locomotive, we propose that not only should all new passenger and other locomotive sales be ZEV by 2035, but that only ZEV line haul and commuter locomotives should be allowed on California tracks by 2035. This would match up with the Truck requirement.

Please feel free to use us a resource and contact us with any questions or documentation that you may require.

Attachment: [www.arb.ca.gov/lists/com-attach/4-sp22-inputs-ws-U2FXYYVJhUjAEMwY2.pdf](http://www.arb.ca.gov/lists/com-attach/4-sp22-inputs-ws-U2FXYYVJhUjAEMwY2.pdf)

Original File Name: 20211004 HFC Train Projects in the works.pdf

Date and Time Comment Was Submitted: 2021-10-04 19:25:59

No Duplicates.

**Comment 4 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Susan  
Last Name: Penner  
Email Address: susanpennerbybay@gmail.com  
Affiliation:

Subject: Comments on Scenarios  
Comment:

I'm a voter and activist. I support scenarios that move us to carbon neutral by 2035, the sooner the better. I support Alternative 1, to phase out all petroleum refining. Thanks!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-05 08:02:29

No Duplicates.

**Comment 5 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Ross  
Last Name: Bullard  
Email Address: appyutoo@aol.com  
Affiliation: Retired

Subject: All electric house hold appliances by 2030  
Comment:

I feel having only electric house hold and commercial appliances available by 2030 is NOT realistic or possible. 2035 or 2040 sounds more reasonable to me for the switch over to occur. We need to phase out all fracked gasses and crude oil as soon as possible and put an end to all new drilling or pipe line permits in California Now!!!!

Drilling/oil companies must either cap and seal all unused wells in California or be forced to pay the state to do it for them!

California needs to get as many gas and diesel cars and trucks off the road as soon as possible. California must become and remain the leader in production, of electric cars and trucks and all things that use alternative, renewable energy.

Just a few thoughts and observations. Thank you for reading.

Ross Bullard  
Boulder Creek, Ca. 95006

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 10:01:03

No Duplicates.

## **Comment 6 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Julia  
Last Name: Manis  
Email Address: juliamanis26@yahoo.com  
Affiliation:

Subject: Carbon Neutrality ASAP  
Comment:

To Whom it May Concern,

We must divest completely from fossil fuels as fast as possible. There have been too many scientific reports about the dangers of climate change to ignore them. We must listen to the science. And we must act like we are in a climate emergency. Because we are.

Today I am asking you to completely divest from: Oil, Natural Gas, and Coal. And move towards: Carbon Neutrality and Renewable energy.

One of the major ways that we can protect against extreme climate change is to curb our emissions. The most effective way to do that? Move away from fossil fuels and exchange them for renewable energy sources. Natural gas has been used as an alternative to coal, but it is not an acceptable alternative. As we have seen, natural gas has all sorts of negative impacts on the earth -- including environmental damage as well as health endangerment. The only acceptable alternatives are solar and wind power.

We must also completely divest from oil. As we saw on October 3rd, there was a major oil spill off the coast of Orange County. It was quite destructive to marine life and coastal communities. It is only a matter of time before other oil rigs experience spills. Quite often, the rigs are old and are more prone to oil spills. Therefore, we must move away from oil as soon as we can.

California is often a leader in environmentally friendly actions. It is essential that we lead the transition away from fossil fuels and towards carbon neutrality. Do this as soon as possible. Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 10:33:27

No Duplicates.



**Comment 7 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Janice  
Last Name: Pardoe  
Email Address: jrp44074@gmail.com  
Affiliation:

Subject: Please propose aggressive targets for carbon neutrality  
Comment:

Please support targets for carbon neutrality that are very aggressive: we've waited too long to be able to stay within our comfort levels now. Good targets include a complete phaseout of fossil fuel combustion and no reliance on engineered carbon removal, 100% electric residential and commercial building appliance sales by 2030, and an aggressive sector GHG target of 23 million metric tons of CO2 equivalent by 2030.

Whatever we can do to achieve carbon neutrality and slow carbon change, we must do.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 13:19:40

No Duplicates.

**Comment 8 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Jorge  
Last Name: De Cecco  
Email Address: bndass@yahoo.com  
Affiliation:

Subject: Proposals for carbon neutral scenarios have to be "aggressive"  
Comment:

I am supporting the most "aggressive" climate targets. I am also requesting that the CARB Scoping Plan timeline be extended in order to give the Environmental Justice Advisory Committee (EJAC) sufficient time to provide meaningful input on the complex scenario and modeling information.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 13:48:51

No Duplicates.

**Comment 9 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Catherine

Last Name: Ronan

Email Address: cmronan@gmail.com

Affiliation:

Subject: 2022 Scoping Plan Update-Scenario Inputs Technical Workshop

Comment:

It is within our power to achieve carbon neutrality by 2035 with a complete phaseout of fossil fuel combustion and no reliance on engineered carbon removal. Think how much better our world will be once we reach that goal. It will be costly to reach carbon neutrality but, once we do, we will enjoy the benefit of a healthier and sustainable and lower cost energy economy. At the same time we will be contributing to slowing the rate of climate change.

Achieving this scenario will require all-electric residential and commercial building appliance sales, ending sales of gasoline powered vehicles, and aggressive GHG goals.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 13:55:27

No Duplicates.

## **Comment 10 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Sam

Last Name: Butler

Email Address: samjbutler@sbcglobal.net

Affiliation:

Subject: 2022 Scoping Plan

Comment:

As a resident of Los Angeles, I want to express my support for a rapid phase out of fossil fuels and the accelerated goal of carbon neutrality by 2035. This is critical if we are to have any hope of achieving the Paris Climate Agreement and maintain a temperature increase at or below 1.5 degrees.

Thank you for considering my comment.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-10 22:08:31

No Duplicates.

**Comment 11 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Renee

Last Name: Pinel

Email Address: reneep@healthyplants.org

Affiliation: Western Plant Health Association

Subject: CARB 2022 Scoping Plan

Comment:

Please accept our comments on the ongoing development of the 2022 Scoping Plan and CARB consideration of Natural and Working Lands contributions to mitigate climate change and reach carbon neutrality.

Attachment: [www.arb.ca.gov/lists/com-attach/12-sp22-inputs-ws-WjlUM1wvV2YLUgQ2.pdf](http://www.arb.ca.gov/lists/com-attach/12-sp22-inputs-ws-WjlUM1wvV2YLUgQ2.pdf)

Original File Name: CARB 2022 Scoping Plan Comments.pdf

Date and Time Comment Was Submitted: 2021-10-17 12:18:52

No Duplicates.

**Comment 12 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Cathy  
Last Name: Chandler-Klein  
Email Address: cathyck@sbcglobal.net  
Affiliation:

Subject: 2022 scoping plan  
Comment:

I strongly support Alternative 1 for all sectors as it is the plan that moves us forward with the greatest speed. Since this is a dire emergency, it seems imperative that we act with the strongest mediation. It is too late to stop climate change but if we do everything possible, we may be able to deter some of the worst consequences. Therefore, I support Alternative 1.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-17 19:17:30

No Duplicates.

**Comment 13 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Randy  
Last Name: Carrico  
Email Address: randycarrico@gmail.com  
Affiliation: 350 Humboldt (CA)

Subject: Proposed Pathways  
Comment:

Dear siirs: I encourage you to explore Alternative #1 for emissions reduction.  
Thank you.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-17 19:21:23

No Duplicates.

**Comment 14 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Emily  
Last Name: Siegel  
Email Address: hannahsenesch@yahoo.com  
Affiliation:

Subject: Support for Alternative 1 Carbon Neutral by 2035  
Comment:

As a Californian who is very concerned about the climate crisis, I urge you to support Alternative 1 Carbon Neutral by 2035. It is critical that we take immediate and effective action to become carbon neutral as soon as possible. Alternative 1 is the choice that is most likely to make a difference.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-17 19:19:40

No Duplicates.



## **Comment 15 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Daniel  
Last Name: Chandler  
Email Address: dwchandler@gmail.com  
Affiliation:

Subject: Comments on 2022 Scoping Plan Update - Scenario Inputs Technical Workshop  
Comment:

Dear Chairperson Liane Randolph,  
Thank you for the opportunity to comment on additional Scoping Plan alternatives for 2022.

In general the extent of the consequences of climate change that we are experiencing already makes it clear that we have to accelerate change in every sector. So I believe the Carbon Neutral by 2035 is worth setting as our goal. That is 14 years from now. It is difficult to imagine the severity of climate change in 14 years. And even if we achieve carbon neutrality by then things will get worse for 25 to 30 years. We don't really have a choice do we?

Specifically, on phasing out oil and gas extraction we need to set a limit. The sooner the better, so 2035 if not earlier. The IEA has said that there is already more than enough oil and gas and coal under production to take us past the 1.5C threshold. CCS will be necessary but it should not offset or permit the continuation of refineries.

The same reasoning applies to electricity generation. We need to be all renewables by 2030 so that the changes to electrify transportation and housing will actually move us toward our goal.

In residential housing, appliance in existing buildings should be all electric when new by 2030 and all electric by retrofit except in a relatively few big ticket items where it makes more sense to replace with electric at end of life.

On cement and steel I don't think the options provided are sufficient. We may need to use carbon capture and sequestration, but I believe that technological changes in production will obviate most of this need.

Low carbon fuels should not exist after 2035. Biomass is not carbon neutral in the short term and probably will not be in the long run. In addition, biomass waste should be used for alternatives that sequester carbon rather than combusting it.

In a similar way, only electrolytic hydrogen made from solar or wind should be used in creating hydrogen. This is an area of great research activity and should be encouraged by CA. Other forms of hydrogen generation should not be supported in any way by the state as ultimately those sources of hydrogen (e.g., hydrogen created from biomass) will be producing greenhouse gas emissions.

For non-combustion methane production, Option B is necessary. Ultimately the number of cattle in the world must be reduced drastically, especially CAFOs. But in the meantime there is no realistic alternative to digesters for all large farms and large landfills. A large increase in funding for AMMP is also required.

HFC options are not appropriate. By 2025-2027 there will be options

available for refrigeration, air conditioning, and refrigerated transportation with GWP of 15 or less. These should be required on a time table that gives manufacturers a change to provide options to the market. The biggest problem is the existing bank of HFCs. Especially for supermarkets the state will need to massively increase incentives in order to have the stores with GWP of 1450 to 4000 switch to natural refrigerants. These stores are too low margin to pay for the change themselves and since systems are almost never replaced in entirety (just piecemeal as components burn out), we will get nowhere if we wait for "end of life" replacement. This is one area where CARB should increase ambition quite radically, including setting a goal of reducing HFCs from the 2013 level by 85% in 2030 and 95% by 2035.

Carbon removal from the aid does not seem to be a technology that CA can set realistic goals for at this point in time.

These same comments are in the attached PDF.

Respectfully,  
Daniel Chandler, Ph.D.

Attachment: [www.arb.ca.gov/lists/com-attach/16-sp22-inputs-ws-UCNUNwFjBDgAaAlt.pdf](http://www.arb.ca.gov/lists/com-attach/16-sp22-inputs-ws-UCNUNwFjBDgAaAlt.pdf)

Original File Name: Second Scoping Plan Comments to CARB Technical Scenarios.pdf

Date and Time Comment Was Submitted: 2021-10-17 19:16:55

No Duplicates.

## **Comment 16 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Laura  
Last Name: Simpson  
Email Address: laura.simpson24@yahoo.com  
Affiliation:

Subject: Proposed PATHWAYS Scenario Modeling Assumptions  
Comment:

The climate crisis is here now and it is killing us now and every year the toll will increase. If we were to cease all carbon emissions today the world will continue to warm for another 30 years because of the long lag time. We need to choose the alternative but most quickly reduces greenhouse gases.

There are a number of tipping points that we need to avoid. The oceans are warming, the ice is melting. As oceans warm methane can be released in massive amounts. As the Arctic warms the permafrost will release massive amounts of carbon, more than we have put into the air through all of the industrial revolution.

These tipping points will take it beyond our ability to mitigate or adapt. Failure to act as aggressively as possible may result in our extinction. Why take a chance on less than the most aggressive position.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-18 13:56:25

No Duplicates.

**Comment 17 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Ana  
Last Name: Garza-Beutz  
Email Address: agarza-beutz@sdge.com  
Affiliation: SDG&E

Subject: SDG&E Comments on Sep 30 Scenario Inputs Workshop  
Comment:

SDG&E Comments on Sep 30 Scenario Inputs Workshop - See attachment

Attachment: [www.arb.ca.gov/lists/com-attach/18-sp22-inputs-ws-VyRRM1w6BzEKUwIw.pdf](http://www.arb.ca.gov/lists/com-attach/18-sp22-inputs-ws-VyRRM1w6BzEKUwIw.pdf)

Original File Name: SDGE 2022 Scoping Plan Scenario Inputs Workshop Comments Final.pdf

Date and Time Comment Was Submitted: 2021-10-18 17:07:33

No Duplicates.

**Comment 18 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Charles

Last Name: Sharpe

Email Address: chipsharpe@icloud.com

Affiliation:

Subject: Energy-use emissions reduction

Comment:

Thank you organizing our presently conceivable options into planning alternatives. Choices are stark and challenging but necessary in light of the urgency of present threats to our health and our survival.

I see three sectors for which Alternative 2 seems the wisest, feasible course of action: GWP emissions; Non-combustion methane; and Stone/Clay/Glass/Cement.

In every other sector, we must choose Alternative #1. Some of these goals are so challenging that they strain our imagination as we scope out that pathway. All the more reason for immediate action.

I am grateful for the progress that is already underway and is helping us, leading us, nudging us into these essential transitions.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-19 08:48:01

No Duplicates.

## **Comment 19 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Nancy  
Last Name: Ihara  
Email Address: nancyihara@gmail.com  
Affiliation: n/a

Subject: 2022 Scoping Plan Update  
Comment:

Because of the need to cut greenhouse gases as soon as we possible can I support the more ambitious targets found, in general, in the first of the alternatives proposed in all the sectors.

Additional comments I would like to make are:

1. Regarding oil and gas extraction, these should be phased out sooner than 2035. The extraction of these fuels is incredibly damaging to our environment and the health of California's residents, especially as we know, those with lower incomes and people of color.
2. I think it is unwise to rely on carbon capture and sequestration. These technologies by and large have not been proven to be successful and detract from the more important goals of developing clean renewable energy sources.
- 3 The use of biomass for combustion should be rapidly phased out. It should not be considered renewable.
4. Because of their contribution of massive amounts of greenhouse gases, CARB should focus on reducing HFC's, to 85% of 2013 levels by 2030, and 95% of 2013 levels by 2035.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-19 12:52:30

No Duplicates.

**Comment 20 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: John  
Last Name: Schaefer  
Email Address: jcschaef@igc.org  
Affiliation: 350.org

Subject: CARB can be a climate hero by charging a higher fee on GHG Pollution  
Comment:

Please see attachment, now as a doc file.  
J

Attachment: [www.arb.ca.gov/lists/com-attach/22-sp22-inputs-ws-VDVWNFAnU2kCZwRh.docx](http://www.arb.ca.gov/lists/com-attach/22-sp22-inputs-ws-VDVWNFAnU2kCZwRh.docx)

Original File Name: advice to CARB.docx

Date and Time Comment Was Submitted: 2021-10-19 16:02:45

No Duplicates.

## **Comment 21 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Joshua

Last Name: Kehoe

Email Address: kehoej1@gmail.com

Affiliation:

Subject: Full electrification considerations.

Comment:

Dear CARB personnel,

I greatly appreciate the opportunity to leave comments on the AB 32 Climate Change Scoping Plan.

I applaud the efforts to reduce GHG emissions and achieve carbon neutrality in California. I do have concerns about the push towards mass-electrification, however. Although an admirable goal, barring some major technological advancements, I fail to foresee how full electrification would be brought to realization without also implementing drastic measures to reduce energy use in the state. Replacing combustible energy sources will require other energy sources to produce all this electricity. Wind and solar will not be adequate for this. I can only imagine the massive and variable power loads placed on the electrical grid under certain circumstances such as:

- 1) Daily commuters charge their vehicles upon returning home in the evening. This afternoon/early evening time frame will coincide with
- 2) increased air conditioning or heater use, depending on the season, also due to people returning home. Solar will not be functioning at large capacity in the evening, so there will need to be massive storage solutions to collect solar energy that has been converted to electricity during the day. That is assuming the day was not cloudy. Solar and wind also do not provide reliable baseload capabilities and we will therefore need adequate nuclear capabilities, once again barring an unknown technological breakthrough.

Regarding transportation emissions, reducing vehicle miles will be a good start. Light-duty vehicle electrification appears achievable aside from the caveats I mention above regarding strain on the electrical grid if large numbers of people choose to recharge simultaneously. Heavy duty vehicles, both on and off-road will likely be much more difficult to electrify, namely long-haul trucking and locomotives. Widespread electrification or fuel cell use in aviation might very well never be viable on a large-scale due to low energy density of batteries and non-carbon fuels that could be used in a fuel cell. The alternative to petroleum-based fuels that are available currently would be biomass-based fuels such as renewable diesel or the growing sustainable aviation fuel interest. I am sure you are aware of the great amount of research currently underway to increase the efficiency and reduce the carbon intensity associated with production of these fuels. Trying to eliminate "combustible" forms of energy misses the point, in my opinion, as the goal should instead be to utilize the most efficient non-petroleum source of energy for any given situation that requires energy input. Utilizing only electricity as the energy source under every circumstance requiring energy will lead to inefficiencies in energy use in total. And once again doesn't address what form of energy is going to be converted into electrical energy to begin with. Electricity is not a magical form of energy but instead just another form of energy acquired through



conversion of another energy source, be it turbines powered by nuclear-power derived steam energy, conversion of the sun's photons into electricity within a PV solar panel, or the electrical impulses of our own nervous system generated by chemical energy production achieved by the consumption of various food sources combined with inhaled oxygen.

In the end, if we want to decrease environmental impacts to our planet through human activity, we need to either use less energy per capita, or have less "per capita", meaning fewer people consuming energy on this planet. This issue, of course, is not directly relevant to AB 32, but in summary, really is the overarching issue facing our planet.

Thank you for your time and providing this forum for me to express my opinions.

Sincerely,  
Josh Kehoe

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-19 15:44:26

No Duplicates.

**Comment 22 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Muriel  
Last Name: Strand  
Email Address: ecoengr@comcast.net  
Affiliation:

Subject: comments on scenarios & inputs  
Comment:

please see attached

Attachment: [www.arb.ca.gov/lists/com-attach/24-sp22-inputs-ws-UTJWP10xU20DYARq.pdf](http://www.arb.ca.gov/lists/com-attach/24-sp22-inputs-ws-UTJWP10xU20DYARq.pdf)

Original File Name: comments 2nd scoping scenario workshop.pdf

Date and Time Comment Was Submitted: 2021-10-20 17:30:30

No Duplicates.

## **Comment 23 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Martha

Last Name: Walden

Email Address: marthawalden@suddenlink.net

Affiliation:

Subject: 2022 scoping plan update

Comment:

Thank you for this opportunity. I want to limit my comments to those categories I feel most informed about. In general I would like to encourage the sooner the better for all categories. The urgency is unequivocal. I don't quite understand why Alternatives 3 and 4 are even on the table.

Oil and gas extraction: Alternative 1. Target the dirtiest fuels for the most immediate and severest cuts. Phase out natural gas the most gradually under condition of extremely heightened vigilance towards orphan wells and fugitive methane emissions. Drillers and frackers have absolutely no excuse for methane pollution.

Electricity generation: Alternative 1. As for Alternative 2, biomass should have no place on the RPS. Burning it emits as much carbon as coal, plus it's very bad for the air.

"Low carbon" fuels: Alternative 1. Low carbon fuels are fuels of last resort and hopefully will not be needed after 2035. Biomass is not a low carbon fuel. In only very specific and small-scale applications is it appropriate and only in conjunction with pyrolysis and perhaps bio-energy carbon capture and sequestration.

Hydrogen production seems to hold much promise but makes sense only when produced by solar or wind energy.

Non-combustion methane production: Alternative 2 modified to include a large increase in funding for AMMP.. Ultimately the number of cattle in the world must be reduced drastically, especially CAFOs. But in the meantime there is no realistic alternative to digesters for all large farms and large landfills. Also, oil and gas fugitive emissions should be reduced at least 75% by 2030. They have the capacity to do that. Only the political will is missing.

High GWP emissions: None of the alternatives reflect the urgency of the situation and the availability of low GWP refrigerants. The existing bank of HFCs in California equals 60% of its annual GHG emissions. Phasing them out will be a huge challenge that can't be handled by the private sector--especially supermarkets, which are the worse offenders when it comes to leakage. A big increase in incentives will be necessary. Drop-in HFOs could be a big help, but the natural refrigerants should be the goal. We also need more programs for rural areas assuring that appliances are treated correctly at end of life. Someone should also look into the way Underwriters' Laboratory is staffed almost entirely by chemical industry representatives. Their codes are unnecessarily hindering adoption of natural alternatives to HFCs. CARB should increase the reduction goal to 85% by 2030.

I believe we must set 2035 as the goal for carbon neutrality. Everything points to a catastrophe already well on the way, but if we do everything in our power for the next fourteen years, we may

yet have a chance.

Thank you.

Martha Walden

Environmental Journalist

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-20 20:05:44

No Duplicates.

**Comment 24 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Tiffany, BWP

Last Name: Titus

Email Address: ttitus@burbankca.gov

Affiliation: Burbank Water and Power

Subject: Burbank Water and Power Comments on the September 30th, 2021 workshop on the 2022 Scoping Comment:

Burbank Water and Power Comments on the September 30th, 2021 workshop on the 2022 Scoping Plan Scenario Inputs.

Attachment: [www.arb.ca.gov/lists/com-attach/26-sp22-inputs-ws-VGVWYAMwWDpRZQg5.pdf](http://www.arb.ca.gov/lists/com-attach/26-sp22-inputs-ws-VGVWYAMwWDpRZQg5.pdf)

Original File Name: 102121 Scoping Plan Comment Letter - BWP.pdf

Date and Time Comment Was Submitted: 2021-10-21 16:08:53

No Duplicates.

## **Comment 25 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Patrick  
Last Name: Carr  
Email Address: nedlud432@gmail.com  
Affiliation:

Subject: 2022 Scoping Plan Update Scenario Inputs Technical Workshop  
Comment:

Thank you for the opportunity to provide these comments.

I strongly support action to mitigate the climate crisis that we face as rapidly as is technologically and socially feasible, and emphasizing rapid shifts away from fossil fuels and existing HFC refrigerants.

I am generally in support of the options in Alternative A. I do believe that it is necessary for California to terminate oil and gas drilling in the state. We must set a date for this, and to begin that process we need to halt the approval of new operations as soon as possible. Additional drilling adds to the large GHG quantities that will continue to be added to the atmosphere, with the economic and environmental externalities being borne most by those who aren't yet alive or of age to weigh in on these questions.

I am concerned that CARB must develop incentives to reduce the escape of additional refrigerants. Many supermarkets operate at a low profit margin. Entire refrigerating systems are often not replaced at one time, in favor of a piecemeal approach as elements of the system break down, so this reduces the effectiveness of "end of life" replacement requirements.

At the same time, CARB must be sensitive to the particular challenges faced by many inner-city grocers. These may be among the only food resources in areas that are increasingly being recognized as "food deserts." These resources need to be protected, and providing financial incentives and education in low-CO2e options may be a way to accomplish that while promoting the removal of HFCs. I am concerned that CARB should generally increase activities to accelerate the removal of HFCs from all areas of use.

I am highly skeptical that large-scale CCS operations will contribute to the resolution of the climate crisis. The scientific reviews that I have seen indicate that the costs are impractically high and that the level of utilization that would be required to significantly reduce the risks we face will almost certainly not be feasible. Counting on this technology would be a huge error for us.

Thanks again for working toward California's leadership role in ameliorating the climate crisis!

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-21 15:51:08

No Duplicates.

**Comment 26 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steve  
Last Name: Kloos  
Email Address: steven.kloos@aquahydrex.com  
Affiliation: AquaHydrex

Subject: AquaHydrex Comments on 9/30 Scenario Inputs Technical Workshop  
Comment:

Please find our comment letter attached.

Attachment: [www.arb.ca.gov/lists/com-attach/28-sp22-inputs-ws-VjcAd1ImWWtXOQB5.pdf](http://www.arb.ca.gov/lists/com-attach/28-sp22-inputs-ws-VjcAd1ImWWtXOQB5.pdf)

Original File Name: AquaHydrex Comments on Scoping Plan Scenario Assumptions - 10.21.21.pdf

Date and Time Comment Was Submitted: 2021-10-21 17:45:38

No Duplicates.



**Comment 27 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Jenifer  
Last Name: Pace  
Email Address: 1jeniferpac@gmail.com  
Affiliation:

Subject: 2022 Scoping Plan - CARB  
Comment:

In order to truly address our climate crisis & prevent even worse environmental disasters, we need the most robust strategies possible from CARB, and we need them now. Make 2030-35 or earlier, target goals. We clearly can not afford to wait longer. The speed of response now has substantial impact on the future. De-carbonize each sector. To comment on some of the draft scenarios:

\*Complete the phase-out of oil & gas extraction by 2035 or earlier.

\*New residential & commercial building - all electric appliances by 2026.

\*Electrify transportation - 100% of light & heavy-duty sales by 2030.

\*Electricity - 100% renewable by 2030.

Thank you for your request.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-21 18:28:43

No Duplicates.

**Comment 28 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Myles  
Last Name: Culhane  
Email Address: myles\_culhane@oxy.com  
Affiliation: Oxy Low Carbon Ventures

Subject: Comments to the Scenario Inputs Technical Workshop  
Comment:

OLCV appreciates that opportunity to provide the attached comments and additional information.

Attachment: [www.arb.ca.gov/lists/com-attach/30-sp22-inputs-ws-AGMGYVMgBDUHXlA9.zip](http://www.arb.ca.gov/lists/com-attach/30-sp22-inputs-ws-AGMGYVMgBDUHXlA9.zip)

Original File Name: CARB Modeling Scenarios Inputs Technical Workshop (102121).zip

Date and Time Comment Was Submitted: 2021-10-21 23:29:19

No Duplicates.

**Comment 29 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Myles  
Last Name: Culhane  
Email Address: myles\_culhane@oxy.com  
Affiliation: Oxy Low Carbon Ventures

Subject: Comments to the Scenario Inputs Technical Workshop  
Comment:

Please see Oxy Low Carbon Ventures attached comments to the  
Scenario Inputs Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/31-sp22-inputs-ws-WzhcO1QnUWBXDIM+.pdf](http://www.arb.ca.gov/lists/com-attach/31-sp22-inputs-ws-WzhcO1QnUWBXDIM+.pdf)

Original File Name: CARB Modeling Scenarios Inputs Technical Workshop (102121).pdf

Date and Time Comment Was Submitted: 2021-10-21 23:39:37

No Duplicates.

**Comment 30 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steven  
Last Name: Douglas  
Email Address: sdouglas@autosinnovate.org  
Affiliation: Alliance for Automotive Innovation

Subject: 2022 Scoping Plan Update  
Comment:

Please see attached.

Best regards,  
Steve Douglas  
Vice President, Energy & Environment  
Alliance for Automotive Innovation

Attachment: [www.arb.ca.gov/lists/com-attach/32-sp22-inputs-ws-UjdWKFMmUC0FXFc0.pdf](http://www.arb.ca.gov/lists/com-attach/32-sp22-inputs-ws-UjdWKFMmUC0FXFc0.pdf)

Original File Name: Ext. Comm. - Letter - 2021 - 22-Oct-2021 CARB Scoping Plan.pdf

Date and Time Comment Was Submitted: 2021-10-22 05:09:02

No Duplicates.

**Comment 31 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Richard

Last Name: Grow

Email Address: grow.r@att.net

Affiliation: US EPA Retired

Subject: Comments on 2022 Scoping Plan - Scenario Inputs Technical Workshop

Comment:

Please accept and consider the attached comments. Thank you.

Attachment: [www.arb.ca.gov/lists/com-attach/33-sp22-inputs-ws-UCNQNVY4VHdQPwJs.docx](http://www.arb.ca.gov/lists/com-attach/33-sp22-inputs-ws-UCNQNVY4VHdQPwJs.docx)

Original File Name: Scoping Plan Comments RG 10\_22\_2021.docx

Date and Time Comment Was Submitted: 2021-10-22 07:46:19

No Duplicates.

**Comment 32 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Pete

Last Name: Montgomery

Email Address: pete@pmontgomeryconsulting.com

Affiliation: California Carbon Capture Coalition

Subject: California Carbon Capture Coalition Scenario Inputs Workshop Comments  
Comment:

Attached please find comments from the California Carbon Capture Coalition for the Scenario Inputs Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/34-sp22-inputs-ws-B2RXMFw+WWsKflc1.pdf](http://www.arb.ca.gov/lists/com-attach/34-sp22-inputs-ws-B2RXMFw+WWsKflc1.pdf)

Original File Name: CACarbonCaptureCoalitionScopingPlan10.22.21.pdf

Date and Time Comment Was Submitted: 2021-10-22 10:19:58

No Duplicates.

## **Comment 33 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Lee  
Last Name: Dedini  
Email Address: dedinilee@gmail.com  
Affiliation: 350 Humboldt

Subject: 2022 Scoping Plan update  
Comment:

Dear Chairperson Liane Randolph,

Everyone thanks you for the opportunity to comment on the scoping plan alternatives for 2022.

I may not be around in ten years, but my grandchildren will be. So CARB needs to be stronger than the the Alternatives 1 through 4. At the least, Alternative 1 should be chosen, except for methane production, then Alternative 2 in necessary. Alternative 1 should include some research on CDR instead of simply rejecting it.

The challenge for CARB, is that there is a window of time to accelerate changes by 2030 in every sector. Each of the past Scoping Plans have included a list of policies centered around regulations, incentives, and carbon pricing to help the State achieve its GHG targets. Any economist will agree that carbon pricing is the most effective way to reduce GHG emissions, so the Cap and Trade price needs to be as high as the damages that climate change has caused in California. Even Iceland and Ireland has double the price of the \$17 in California.

We need all renewable electricity generation by 2030. In residential housing, appliances should be all electric when new by 2030.

Biomass is not carbon neutral and the waste should be used for alternatives that sequester carbon rather than for combusting.

In five years there will be HFC options available for refrigeration and air conditioning with GWP of less than 15. These should be required by manufacturers on a time table. There should be incentives for stores to replace entire older systems.

Thank you for considering.

Respectfully,  
Lee Dedini  
Bayside, CA.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 10:29:59

No Duplicates.

**Comment 34 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Leeor  
Last Name: Alpern  
Email Address: lalpern@worldenergy.net  
Affiliation: World Energy

Subject: World Energy Comments on the Scenario Inputs Technical Workshop  
Comment:

Please see the attached for World Energy's comments. Thank you.

Attachment: [www.arb.ca.gov/lists/com-attach/36-sp22-inputs-ws-USZXPIlhWGcHZQhX.pdf](http://www.arb.ca.gov/lists/com-attach/36-sp22-inputs-ws-USZXPIlhWGcHZQhX.pdf)

Original File Name: World Energy CARB Scoping Plan Comment Letter 10-22-21.pdf

Date and Time Comment Was Submitted: 2021-10-22 10:33:42

No Duplicates.



**Comment 35 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Julia

Last Name: Levin

Email Address: jlevin@bioenergyca.org

Affiliation: Bioenergy Association of California

Subject: BAC Comments on Scenario Inputs

Comment:

BAC's Comments on the Draft Scenario Inputs

Attachment: [www.arb.ca.gov/lists/com-attach/37-sp22-inputs-ws-UDJXMANhUl4CZwFu.pdf](http://www.arb.ca.gov/lists/com-attach/37-sp22-inputs-ws-UDJXMANhUl4CZwFu.pdf)

Original File Name: BAC Comments on Draft Scenario Inputs.pdf

Date and Time Comment Was Submitted: 2021-10-22 11:43:59

No Duplicates.

## **Comment 36 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Graham

Last Name: Noyes

Email Address: graham@noyeslawcorp.com

Affiliation: Noyes Law Corporation

Subject: Sustainable Aviation Fuel Producer Group Comments RE: Aviation Scenarios

Comment:

The attached comment letter is submitted on behalf of the sustainable aviation fuel (SAF) producer group. The SAF Producer Group is composed of some of the world's leading companies producing SAF or developing SAF production facilities including Alder Fuels, Fulcrum BioEnergy, Gevo, LanzaJet, Red Rock Biofuels, Velocys, and World Energy. Many of these companies participated in the last major Low Carbon Fuel Standard (LCFS) rulemaking and supported the inclusion of alternative jet fuel (AJF)<sup>1</sup> in the LCFS on an opt-in basis. The SAF Producer Group would like to commend the California Air Resources Board (CARB) for CARB's decision in that rulemaking to integrate AJF uplifted in California into the LCFS effective January 1, 2018. CARB's policy leadership regarding SAF has firmly established California as the leading SAF state in the country from both a supply and demand standpoint and has placed California in the top tier of locations globally supporting the expansion of SAF.

We appreciate the opportunity to provide comments to the 2022 Scoping Plan pertaining to the aviation sector and of major import to the SAF industry.

If there are any issues with the filing of this comment, or if further information is requested, please contact me.

Best Regards,

Graham

Graham Noyes  
Noyes Law Corporation  
401 Spring Street, Suite 205  
Nevada City, CA 95959  
[www.fuelandcarbonlaw.com](http://www.fuelandcarbonlaw.com)  
(530)264-7157 Direct  
[graham@noyeslawcorp.com](mailto:graham@noyeslawcorp.com)  
<https://www.linkedin.com/in/grahamnoyes>  
@Graham Noyes

Attachment: [www.arb.ca.gov/lists/com-attach/38-sp22-inputs-ws-BWtROwZkUFwAdQRl.pdf](http://www.arb.ca.gov/lists/com-attach/38-sp22-inputs-ws-BWtROwZkUFwAdQRl.pdf)

Original File Name: NLC SAF LTR TO CARB Scoping Plan 22 Oct 2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 12:14:39

No Duplicates.

**Comment 37 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Brian  
Last Name: McDonald  
Email Address: bcmcdonald@marathonpetroleum.com  
Affiliation:

Subject: 2022 Scoping Plan Update - MPC comments  
Comment:

MPC comments to the 2022 Scoping Plan Update - Scenario Inputs  
Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/39-sp22-inputs-ws-Uj9XIVw+VloAdQlq.pdf](http://www.arb.ca.gov/lists/com-attach/39-sp22-inputs-ws-Uj9XIVw+VloAdQlq.pdf)

Original File Name: MPC\_Scoping Plan Workshop Comments.pdf

Date and Time Comment Was Submitted: 2021-10-22 12:54:59

No Duplicates.

## **Comment 38 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Timothy  
Last Name: Murphy  
Email Address: tim.murphy@calbuilders.org  
Affiliation: California Builders Alliance

Subject: Alternative 4  
Comment:

The California Builders Alliance (CBA) is a construction advocacy group representing the commercial construction industry in California. Representing a consortium of regional Builders Exchanges, CBA advocates on behalf of more than 7,500 construction-related companies in California.

We appreciate the opportunity to provide our comment on scenarios presented in the September 30th workshop.

The built environment requires the utmost flexibility with alternatives in order to ensure construction of homes, apartments, hospitals, schools and commercial development can continue.

Construction on most every scale requires the use of heavy machinery for land preparation or building erection. In order to ensure necessary development and infrastructure can be performed, allowances must be granted for fossil fuel construction equipment as no alternative is widely accessible. With limited (or no) alternatives in the marketplace for non-fossil fuel equipment, to levy an alternative that does not make allowances would decimate economic development, drive construction to states with more lenient standards and further impact housing affordability. Additionally, certain construction material processes require time to implement carbon capture sequestration at scale in order to keep material supply prices stable throughout the industry.

We would recommend Alternative 4, as it offers the most flexibility to meet Construction industry needs for materials, heavy equipment utilization and fleet electrification. Alternative 4 also provides a reasonable timeframe to decarbonize commercial building and allowing for end of life replacement to dictate going all-electric.

Thank you for your consideration.

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 12:13:49

No Duplicates.

**Comment 39 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Katharine

Last Name: Larson

Email Address: klarson@scppa.org

Affiliation:

Subject: Joint POU Comments on 9/30 Scenario Inputs Workshop

Comment:

Please find attached the Joint POU comments on the September 30  
Scenario Inputs Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/41-sp22-inputs-ws-WjAAaQNrAj9XJQRb.pdf](http://www.arb.ca.gov/lists/com-attach/41-sp22-inputs-ws-WjAAaQNrAj9XJQRb.pdf)

Original File Name: Joint POU 9.30 Scoping Plan Scenarios Workshop FINAL.pdf

Date and Time Comment Was Submitted: 2021-10-22 13:03:41

No Duplicates.

**Comment 40 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Jim

Last Name: Lites

Email Address: jlites@calstrat.com

Affiliation: California Airports Council

Subject: CAC Comments on 2022 Scoping Plan Update

Comment:

Attached are comments from the California Airports Council on the 2022 Scoping Plan Update. The CAC appreciates the alternative pathways shared but would like to express strong dissent towards the idea of phasing out aviation activity. Please see comments for further details.

Attachment: [www.arb.ca.gov/lists/com-attach/42-sp22-inputs-ws-BWYBZlc1Aw8HYgNs.pdf](http://www.arb.ca.gov/lists/com-attach/42-sp22-inputs-ws-BWYBZlc1Aw8HYgNs.pdf)

Original File Name: CAC Comments on Scoping Plan Update 10.22.21.pdf

Date and Time Comment Was Submitted: 2021-10-22 13:34:10

No Duplicates.

**Comment 41 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Neil  
Last Name: Koehler  
Email Address: neil.koehler@kbe-llc.com  
Affiliation: Renewable Fuels Association

Subject: RFA comments on 2022 Scoping Plan Workshop  
Comment:

Attached are comments from the Renewable Fuels Association  
following the 2022 Scoping Plan Workshop held September 30, 2021

Attachment: [www.arb.ca.gov/lists/com-attach/43-sp22-inputs-ws-BXdXNwFhU18DdgRn.zip](http://www.arb.ca.gov/lists/com-attach/43-sp22-inputs-ws-BXdXNwFhU18DdgRn.zip)

Original File Name: RFA Scoping Plan comments-10-22-21.zip

Date and Time Comment Was Submitted: 2021-10-22 13:39:05

No Duplicates.

## **Comment 42 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: John  
Last Name: Blue  
Email Address: blue@ieta.org  
Affiliation: IETA

Subject: 30 September 2021 Scoping Plan Scenarios Inputs Workshop  
Comment:

22 October 2021

IETA COMMENTS ON CARB SCENARIO INPUTS TECHNICAL WORKSHOP  
(2022 SCOPING PLAN UPDATE)

The International Emissions Trading Association (IETA) welcomes this opportunity to submit feedback to the California Air Resources Board (CARB) on the 30 September 2021 workshop "2022 Scoping Plan Update - Scenario Inputs Technical Workshop."

As the leading international business voice on climate markets and finance, IETA's non-profit organization represents over 190 companies, including many facing climate risks and opportunities across California. IETA's market expertise is regularly called upon to inform market-based policies that deliver measurable greenhouse gas reductions and removals, address economic competitiveness concerns and balance economic efficiencies with social equity and co-benefits. Our mission is to support broad and functional carbon markets, guided by the principles of efficient, low-cost, measurable climate outcomes while ensuring environmental integrity.

As stated in prior comment letters (8 July 2021 and 2 September 2021), IETA recommends that CARB's 2022 Scoping Plan explicitly model a cap-and-trade scenario with caps declining to net zero by 2045. This scenario, further outlined in IETA's 2020 Paper "Achieving Carbon Neutrality in California," would center cap-and-trade as the "workhorse" measure and strategy for achieving most of the abatement required to achieve carbon neutrality in California. As this paper indicates, a flexible Cap-and-Trade program that includes the use of net emissions through offsets, carbon removal and sequestration can provide the most cost-effective abatement--a factor that should be guiding the decision-making on the scenarios and the Scoping Plan more generally. If CARB does not consider cap-and-trade to be this cornerstone measure, it relegates the state to choosing from a suite of second-best, less efficient options. This would unnecessarily increase California consumer costs and ultimately lower the probability of measurably achieving carbon neutrality. Continued reliance on alternative direct policies would also forego opportunities that higher allowance prices afford, including more revenue for the State to spend on addressing the climate challenge while protecting its disadvantaged communities.

At the 30 September workshop, CARB staff presented four proposed modeling scenarios: two that achieve carbon neutrality by 2035 and two that achieve carbon neutrality by 2045. IETA believes that the modeled scenarios must include feasible pathways to carbon neutrality, adhere to existing science, and be cost effective. The existing body of work that CARB is relying on as a policy and technical foundation for the Scoping Plan Update show that reaching Carbon Neutrality by 2045 would be challenging but technically



feasible.\* However, the proposed Scoping Plan Scenario alternatives that show carbon neutrality by 2035 do not appear to be technically feasible and cost effective. In addition to being highly prescriptive, these scenarios would likely result in significant economic impacts and emissions leakage. In particular, the exclusion of CCS as an option is especially concerning as it contradicts the known science and takes a potentially powerful option off the table for offsetting emissions from hard to decarbonize sectors.

While IETA recognizes the urgency of climate action, the most recent studies and assessments indicate that pursuing carbon neutrality by 2045--powered in large measure through market-based reductions--provides the greatest opportunity for success at the lowest cost.

We look forward to close and frequent engagement with CARB staff and other stakeholders over the coming months. Please direct comments or questions to IETA's West Coast Representative, John Blue (blue@ieta.org).

\*This includes the 2021 SB 100 Joint Agency Report, Achieving 100 Percent Clean Electricity in California: An Initial Assessment; the AB 74 Carbon Neutrality Studies: Driving California's Transportation Emissions to Zero; and, Enhancing Equity While Eliminating Emissions in California's Supply of Transportation Fuels.

Attachment: [www.arb.ca.gov/lists/com-attach/44-sp22-inputs-ws-AGlRMgF0V2UHXgVm.pdf](http://www.arb.ca.gov/lists/com-attach/44-sp22-inputs-ws-AGlRMgF0V2UHXgVm.pdf)

Original File Name: IETA comments-CARB Scenarios Workshop-30Sep.pdf

Date and Time Comment Was Submitted: 2021-10-22 13:46:37

No Duplicates.

**Comment 43 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Nick

Last Name: Connell

Email Address: nconnell@ghcoalition.org

Affiliation: Green Hydrogen Coalition

Subject: Comments on CARB's 2022 Scoping Plan

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/45-sp22-inputs-ws-WzxSPFU3BAhQNQVq.pdf](http://www.arb.ca.gov/lists/com-attach/45-sp22-inputs-ws-WzxSPFU3BAhQNQVq.pdf)

Original File Name: GHC Comments.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:05:53

No Duplicates.

**Comment 44 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Michael

Last Name: Walz

Email Address: michael.walz@poet.com

Affiliation:

Subject: POET Comments to 9/30 Workshop on Scoping Plan Update  
Comment:

Please find attached POET's comments to the Scoping Plan Update workshop held on September 30, 2021.

Attachment: [www.arb.ca.gov/lists/com-attach/46-sp22-inputs-ws-W2pXYVxzUzJQZFd5.pdf](http://www.arb.ca.gov/lists/com-attach/46-sp22-inputs-ws-W2pXYVxzUzJQZFd5.pdf)

Original File Name: 10.22.2021 POET\_Scoping Plan Scenarios Update.docx.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:53:25

No Duplicates.

**Comment 45 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Helen  
Last Name: Walter-Terrinoni  
Email Address: hwalter-terriononi@ahrinet.org  
Affiliation: AHRI

Subject: AHRI Comments on CARB 2022 Scoping Plan Update  
Comment:

Please see attached comments

Attachment: [www.arb.ca.gov/lists/com-attach/47-sp22-inputs-ws-UDEGaFIhUGoFXAFi.pdf](http://www.arb.ca.gov/lists/com-attach/47-sp22-inputs-ws-UDEGaFIhUGoFXAFi.pdf)

Original File Name: ahri comments - carb 2022 scoping plan update\_Oct 22 2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:55:17

No Duplicates.

**Comment 46 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Tim  
Last Name: Pohle  
Email Address: tpohle@airlines.org  
Affiliation:

Subject: Airlines for America Comments on the 2022 Scoping Plan Update -- Draft Scenario Inputs  
Comment:

Attached, please find the comments of Airlines for America  
Airlines(r) on the 2022 Scoping Plan Update -- Draft Scenario  
Inputs.

Attachment: [www.arb.ca.gov/lists/com-attach/48-sp22-inputs-ws-UDZTPAZpVWcBawhX.pdf](http://www.arb.ca.gov/lists/com-attach/48-sp22-inputs-ws-UDZTPAZpVWcBawhX.pdf)

Original File Name: FINAL A4A Comments on CARB 2022 Scoping Plan Update -- Draft Scenarios- filed 10-22-2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:55:01

No Duplicates.

**Comment 47 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Cathy  
Last Name: Widener  
Email Address: cathy.widener@flysfo.com  
Affiliation:

Subject: CARB 2022 Scoping Plan Update  
Comment:

Please see attachment letter from SFO Airport Director Ivar Satero in response to the CARB 2022 Scoping Plan Update.

Attachment: [www.arb.ca.gov/lists/com-attach/49-sp22-inputs-ws-BXZcPFM9U18LYQdz.pdf](http://www.arb.ca.gov/lists/com-attach/49-sp22-inputs-ws-BXZcPFM9U18LYQdz.pdf)

Original File Name: SFO Ltr - CARB 2022 Scoping Plan Update - Scenario 1\_10-22-21.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:54:49

No Duplicates.

**Comment 48 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Brian

Last Name: Nowicki

Email Address: bnowicki@biologicaldiversity.org

Affiliation: Center for Biological Diversity

Subject: Center for Biological Diversity letter w/ attachments

Comment:

The Center for Biological Diversity comments on the analysis of scenarios in the development of the 2022 Scoping Plan Update.

Attachment: [www.arb.ca.gov/lists/com-attach/50-sp22-inputs-ws-VWdVY1tVjUKPgEz.pdf](http://www.arb.ca.gov/lists/com-attach/50-sp22-inputs-ws-VWdVY1tVjUKPgEz.pdf)

Original File Name: 211022 CBD comments Scoping Plan Scenarios workshop SUBMITTED.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:07:14

No Duplicates.

**Comment 49 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Julia

Last Name: May

Email Address: [julia@cbeocal.org](mailto:julia@cbeocal.org)

Affiliation: Communities for a Better Environ. (CBE)

Subject: CBE Initial Scoping Scenar. Comments - Refins Drilling Transp  
Comment:

California cannot address the alarming climate disaster, nor the public health disasters of smog and toxics, without requiring the phaseout of oil extraction, oil refining, and the combustion of fossil transportation fuels -- these sectors collectively emit more than half the state's greenhouse gases ("GHGs"), as well as smog precursors and toxics. SEE ATTACHED CBE COMMENTS.

Attachment: [www.arb.ca.gov/lists/com-attach/51-sp22-inputs-ws-VzRWMgRgUV1WOQBu.pdf](http://www.arb.ca.gov/lists/com-attach/51-sp22-inputs-ws-VzRWMgRgUV1WOQBu.pdf)

Original File Name: CBE Initial Scoping Scenario Comments 10.22.21.pdf

Date and Time Comment Was Submitted: 2021-10-22 14:59:36

No Duplicates.



**Comment 50 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: George  
Last Name: Peridas  
Email Address: peridas1@llnl.gov  
Affiliation: LLNL

Subject: Joint comments on Scoping Plan Scenario Inputs Technical Workshop  
Comment:

Dear Ms. Sahota, please find attached joint comments on the California Air Resources Board's Scoping Plan Scenario Inputs Technical Workshop of Sep30, 2021.

Attachment: [www.arb.ca.gov/lists/com-attach/52-sp22-inputs-ws-VzRUM1wvAzJRCFUm.pdf](http://www.arb.ca.gov/lists/com-attach/52-sp22-inputs-ws-VzRUM1wvAzJRCFUm.pdf)

Original File Name: CARB Scenario Inputs Workshop (Scoping Plan) Joint Comments\_30Sep2021\_FINAL.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:15:27

No Duplicates.

**Comment 51 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Brian  
Last Name: Nowicki  
Email Address: bnowicki@biologicaldiversity.org  
Affiliation: Center for Biological Diversity

Subject: Center for Biological Diversity letter w/ attachments  
Comment:

Center for Biological Diversity letter w/ attachments

Attachment: [www.arb.ca.gov/lists/com-attach/53-sp22-inputs-ws-BTdSZV1tVjVSZgU3.pdf](http://www.arb.ca.gov/lists/com-attach/53-sp22-inputs-ws-BTdSZV1tVjVSZgU3.pdf)

Original File Name: 211022 CBD comments Scoping Plan Scenarios workshop SUBMITTED.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:20:59

No Duplicates.

**Comment 52 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Joshua  
Last Name: Greene  
Email Address: jcgreene@aosmith.com  
Affiliation: A. O. Smith Corporation

Subject: A. O. Smith Comments - 2022 Scoping Plan Update Workshop on 9/30/2021  
Comment:

Attached is A. O. Smith's comments to the Scoping Plan Update Workshop that was held on September 30, 2021.

Attachment: [www.arb.ca.gov/lists/com-attach/54-sp22-inputs-ws-BzYBNwAvBGUKPld5.pdf](http://www.arb.ca.gov/lists/com-attach/54-sp22-inputs-ws-BzYBNwAvBGUKPld5.pdf)

Original File Name: 10.22.2021 AOS Comments to Scenarios Workshop.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:27:37

No Duplicates.

**Comment 53 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steven  
Last Name: Smith  
Email Address: steven.d.smith@p66.com  
Affiliation: Phillips 66

Subject: Phillips 66 Comments - 2022 Scoping Plan Update - Scenario Inputs Technical Workshop  
Comment:

Attached are Phillips 66 comments on the 2022 Scoping Plan Update -  
Draft Scenario Inputs Technical Workshop on Sept. 30, 2021.

Attachment: [www.arb.ca.gov/lists/com-attach/55-sp22-inputs-ws-USEGaAdvU2wAagNq.pdf](http://www.arb.ca.gov/lists/com-attach/55-sp22-inputs-ws-USEGaAdvU2wAagNq.pdf)

Original File Name: Phillips 66 10-22-2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:33:13

No Duplicates.

**Comment 54 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Peter

Last Name: Reinhardt

Email Address: peter@charmindustrial.com

Affiliation: Charm Industrial

Subject: Charm Industrial -- Comments on 9/30/2021 Scenario Concepts Technical Workshop  
Comment:

Attached, please find Charm's comments to the Scoping Plan Update workshop held on September 30, 2021.

Attachment: [www.arb.ca.gov/lists/com-attach/56-sp22-inputs-ws-VGUFM11yUjMDN1N9.pdf](http://www.arb.ca.gov/lists/com-attach/56-sp22-inputs-ws-VGUFM11yUjMDN1N9.pdf)

Original File Name: 10.22.2021 Charm\_Scoping Plan Update Workshop 9-30-2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:30:37

No Duplicates.

**Comment 55 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Dani

Last Name: Diele

Email Address: dani@agcouncil.org

Affiliation: Agricultural Council of California

Subject: Ag Council Scenario Inputs Comments

Comment:

Please see the attached comments.

Attachment: [www.arb.ca.gov/lists/com-attach/57-sp22-inputs-ws-B2ZVNFw+ADwDcAFv.pdf](http://www.arb.ca.gov/lists/com-attach/57-sp22-inputs-ws-B2ZVNFw+ADwDcAFv.pdf)

Original File Name: AgCouncilComments\_ScopingPlanScenarios \_ Oct2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:41:34

No Duplicates.

**Comment 56 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steven  
Last Name: Smith  
Email Address: steven.d.smith@p66.com  
Affiliation: Phillips 66

Subject: Phillips 66 Comments - Scoping Plan Scenario Inputs Technical Workshop  
Comment:

Attached are Phillips 66 comments on the Scoping Plan Scenario Inputs Technical Workshop. Please advise if the attachment does not transmit.

Attachment: [www.arb.ca.gov/lists/com-attach/58-sp22-inputs-ws-USFQPIQ8BzgEblQ9.pdf](http://www.arb.ca.gov/lists/com-attach/58-sp22-inputs-ws-USFQPIQ8BzgEblQ9.pdf)

Original File Name: Phillips 66 10-22-2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:43:34

No Duplicates.

**Comment 57 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Sean  
Last Name: Wallentine  
Email Address: sean@cipa.org  
Affiliation:

Subject: CIPA Comment Letter - 2022 Scoping Plan  
Comment:

Attached is the comment letter from the California Independent Petroleum Association related to the 2022 Scoping Plan's Scenario Concepts Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/59-sp22-inputs-ws-VTYAb1IjWGpWDwFy.pdf](http://www.arb.ca.gov/lists/com-attach/59-sp22-inputs-ws-VTYAb1IjWGpWDwFy.pdf)

Original File Name: CIPA SP Scenarios Workshop Commentsct 22 2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:53:30

No Duplicates.



**Comment 58 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Lauren

Last Name: Cullum

Email Address: lauren.cullum@sierraclub.org

Affiliation: Sierra Club California

Subject: Sierra Club California Comments on Scoping Plan - Scenario Inputs Technical Workshop  
Comment:

Sierra Club California thanks CARB for the opportunity to provide these written comments on the 2022 Scoping Plan - Scenario Inputs Technical Workshop that took place on September 30th.

Attachment: [www.arb.ca.gov/lists/com-attach/60-sp22-inputs-ws-ViVdMlYyVndRJVlz.pdf](http://www.arb.ca.gov/lists/com-attach/60-sp22-inputs-ws-ViVdMlYyVndRJVlz.pdf)

Original File Name: Sierra Club California Comments on Scoping Plan - Scenario Inputs Technical Workshop.pdf

Date and Time Comment Was Submitted: 2021-10-22 15:54:34

No Duplicates.

**Comment 59 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: david

Last Name: bezanson

Email Address: bezanpsy3506@hotmail.com

Affiliation: SCOPING PLAN 2022 Workshop Sept. 30

Subject: SCOPING PLAN 2022 Workshop

Comment:

See attached pdf.

Attachment: [www.arb.ca.gov/lists/com-attach/61-sp22-inputs-ws-WyhRNFA+VXZVOgdp.pdf](http://www.arb.ca.gov/lists/com-attach/61-sp22-inputs-ws-WyhRNFA+VXZVOgdp.pdf)

Original File Name: SCOPINGplan22Oct^.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:03:06

No Duplicates.

**Comment 60 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Miles  
Last Name: Heller  
Email Address: hellermt@airproducts.com  
Affiliation: Air Products

Subject: September 30, 2022 Scenarios Workshop Comments  
Comment:

Thank you for the opportunity to comment. Please find our comments for this workshop attached.

Attachment: [www.arb.ca.gov/lists/com-attach/62-sp22-inputs-ws-VTRWOVUmU18CdFAi.pdf](http://www.arb.ca.gov/lists/com-attach/62-sp22-inputs-ws-VTRWOVUmU18CdFAi.pdf)

Original File Name: Air Products Comments September 30 Scoping Plan scenarios workshop final.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:02:39

No Duplicates.

**Comment 61 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steven

Last Name: Brink

Email Address: [steveb@calforests.org](mailto:steveb@calforests.org)

Affiliation: California Forestry Association

Subject: 2022 Scoping Plan Update - Scenario Inputs Technical Workshop

Comment:

Calforests comments are attached.

Attachment: [www.arb.ca.gov/lists/com-attach/63-sp22-inputs-ws-ADJVYlZmB2RVYVNH.docx](http://www.arb.ca.gov/lists/com-attach/63-sp22-inputs-ws-ADJVYlZmB2RVYVNH.docx)

Original File Name: 211022\_CFA\_\_Comments\_on\_CARB\_Sept. 30 Scoping Plan Draft Scenarios.docx

Date and Time Comment Was Submitted: 2021-10-22 16:18:15

No Duplicates.

**Comment 62 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Steven

Last Name: Brink

Email Address: [steveb@calforests.org](mailto:steveb@calforests.org)

Affiliation: California Forestry Association

Subject: 2022 Scoping Plan Update - Scenario Inputs Technical Workshop

Comment:

Calforests comments are attached.

Attachment: [www.arb.ca.gov/lists/com-attach/64-sp22-inputs-ws-V2VVY1tUTJRZQQ2.docx](http://www.arb.ca.gov/lists/com-attach/64-sp22-inputs-ws-V2VVY1tUTJRZQQ2.docx)

Original File Name: 211022\_CFA\_\_Comments\_on\_CARB\_Sept. 30 Scoping Plan Draft Scenarios.docx

Date and Time Comment Was Submitted: 2021-10-22 16:18:15

No Duplicates.

**Comment 63 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Julee

Last Name: Malinowski Ball

Email Address: julee@ppallc.com

Affiliation:

Subject: CBEA Comments on 2022 Scoping Plan Update--Scenario Inputs Technical Workshop  
Comment:

Attached please find comments from the California Biomass Energy Alliance regarding 2022 Scoping Plan Update - Scenario Inputs Technical Workshop.

Attachment: [www.arb.ca.gov/lists/com-attach/65-sp22-inputs-ws-BWYCZlUxUWNQCQFi.pdf](http://www.arb.ca.gov/lists/com-attach/65-sp22-inputs-ws-BWYCZlUxUWNQCQFi.pdf)

Original File Name: CBEA Comments Scoping Plan Update 10-22-2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:16:34

No Duplicates.

**Comment 64 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

This comment was posted then deleted because it was unrelated to the Workshop item or it was a duplicate.

**Comment 65 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-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 Scenario Inputs Technical Workshop  
Comment:

Dear Sir/Madam,

Please find attached Southern California Edison's comments on AB 32 2022 Scoping Plan Update Scenario Inputs Technical Workshop that took place on September 30, 2021.

Best regards

Attachment: [www.arb.ca.gov/lists/com-attach/67-sp22-inputs-ws-AXJdOFM3AAwLblM8.pdf](http://www.arb.ca.gov/lists/com-attach/67-sp22-inputs-ws-AXJdOFM3AAwLblM8.pdf)

Original File Name: SCE\_comments\_CARB\_SPU\_FirstScenarioInputs\_20211022.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:25:58

No Duplicates.



**Comment 66 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Roger  
Last Name: Lin  
Email Address: roger@caleja.org  
Affiliation: CEJA

Subject: California Environmental Justice Alliance Scenario Inputs Technical Workshop Comment  
Comment:

Please see attached comment.

Attachment: [www.arb.ca.gov/lists/com-attach/68-sp22-inputs-ws-WzhdPII5AjACW1Qx.pdf](http://www.arb.ca.gov/lists/com-attach/68-sp22-inputs-ws-WzhdPII5AjACW1Qx.pdf)

Original File Name: CEJA et al Scoping Plan Comment 5 102221.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:27:30

No Duplicates.

**Comment 67 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Michelle

Last Name: Orrock

Email Address: michelle.orrock@bp.com

Affiliation: bp America

Subject: Public Workshop: 2022 Scoping Plan Update - Scenario Inputs Technical Workshop  
Comment:

Please see attached for our letter of support - thank you!

Attachment: [www.arb.ca.gov/lists/com-attach/69-sp22-inputs-ws-VDJdMgRrUWMDaVMM.pdf](http://www.arb.ca.gov/lists/com-attach/69-sp22-inputs-ws-VDJdMgRrUWMDaVMM.pdf)

Original File Name: FINAL bp comments CARB Scenario Models 10.22.2021.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:29:03

No Duplicates.

**Comment 68 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Sam

Last Name: Wade

Email Address: sam@rngcoalition.com

Affiliation:

Subject: RNG Coalition Comments on Scenario Inputs

Comment:

Please see our attached comments.

Attachment: [www.arb.ca.gov/lists/com-attach/70-sp22-inputs-ws-UGJUY1NjA2ADN1Jg.pdf](http://www.arb.ca.gov/lists/com-attach/70-sp22-inputs-ws-UGJUY1NjA2ADN1Jg.pdf)

Original File Name: 211022 CARB 2022 GHG Scoping Plan - Draft Scenario Inputs - RNG Coalition Comments.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:46:55

No Duplicates.

**Comment 69 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Robert

Last Name: Jackson

Email Address: robert.jackson@yosemiteclean.com

Affiliation: Vice President, Yosemite Clean Energy

Subject: Promoting Carbon Negative Fuels through Gasification of Wood Waste  
Comment:

See file attached.

Attachment: [www.arb.ca.gov/lists/com-attach/71-sp22-inputs-ws-UTJXMFMgVmcFXFU2.docx](http://www.arb.ca.gov/lists/com-attach/71-sp22-inputs-ws-UTJXMFMgVmcFXFU2.docx)

Original File Name: CARB Comment Submission.10.22.21.docx

Date and Time Comment Was Submitted: 2021-10-22 16:01:31

No Duplicates.

**Comment 70 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Ryan

Last Name: McCarthy

Email Address: ryan@weidemangroup.com

Affiliation: Weideman Group

Subject: Organics diversion assumptions in Scoping Plan scenarios

Comment:

Please find attached a coalition comment letter regarding organics diversion assumptions in the Scoping Plan scenarios.

Attachment: [www.arb.ca.gov/lists/com-attach/72-sp22-inputs-ws-VyRWMwBuWHtVOLM9.pdf](http://www.arb.ca.gov/lists/com-attach/72-sp22-inputs-ws-VyRWMwBuWHtVOLM9.pdf)

Original File Name: Scoping Plan scenarios\_organics diversion assumptions.pdf

Date and Time Comment Was Submitted: 2021-10-22 16:34:58

No Duplicates.

**Comment 71 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Pierson  
Last Name: Stoecklein  
Email Address: Pierson.Stoecklein@mainspringenergy.com  
Affiliation: Mainspring Energy, Inc.

Subject: Mainspring Energy, Inc. Comments on 9/30 2022 Scoping Plan Update Workshop  
Comment:

Dear Ms. Sahota,

Please find attached Mainspring Energy, Inc.'s Comments on the 9/30 2022 Scoping Plan Update Workshop. Thank you.

Kind regards,  
Pierson Stoecklein  
Head of Policy and Regulatory Counsel

Attachment: [www.arb.ca.gov/lists/com-attach/73-sp22-inputs-ws-WmhTZAEyB2YGMVdn.pdf](http://www.arb.ca.gov/lists/com-attach/73-sp22-inputs-ws-WmhTZAEyB2YGMVdn.pdf)

Original File Name: 212210 Mainspring Cmts on 9-30 ARB 2022 Scoping Plan Update WS (00559780xBA8E1).pdf

Date and Time Comment Was Submitted: 2021-10-22 16:52:32

No Duplicates.

**Comment 72 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Emma  
Last Name: Goldsmith  
Email Address: egoldsmith@stancog.org  
Affiliation: StanCOG

Subject: Scenario Inputs Technical Workshop Comments  
Comment:

Thank you for providing us with an opportunity to comment on the Scenario Inputs Technical Workshop. We have attached our comments.

Attachment: [www.arb.ca.gov/lists/com-attach/74-sp22-inputs-ws-B2EAb10yU2EAalUK.docx](http://www.arb.ca.gov/lists/com-attach/74-sp22-inputs-ws-B2EAb10yU2EAalUK.docx)

Original File Name: Final Scenario Inputs Technical Workshop Comments-102221-StanCOG.docx

Date and Time Comment Was Submitted: 2021-10-22 17:32:14

No Duplicates.

**Comment 73 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

This comment was posted then deleted because it was unrelated to the Workshop item or it was a duplicate.



**Comment 74 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Danielle  
Last Name: Osborn Mills  
Email Address: danielle@renewableenergystrategies.com  
Affiliation:

Subject: American Clean Power - California 2022 Scoping Plan Update Comments  
Comment:

Please see attached comments. Thank you!

Attachment: [www.arb.ca.gov/lists/com-attach/76-sp22-inputs-ws-VDVVMFukVStSNwNi.pdf](http://www.arb.ca.gov/lists/com-attach/76-sp22-inputs-ws-VDVVMFukVStSNwNi.pdf)

Original File Name: ACP-California 2022 Scoping Plan Update Comments 211022 (00559784xBA8E1).pdf

Date and Time Comment Was Submitted: 2021-10-22 17:44:24

No Duplicates.

**Comment 75 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Emma  
Last Name: Goldsmith  
Email Address: egoldsmith@stancog.org  
Affiliation: StanCOG

Subject: Scenario Inputs Technical Workshop Comments  
Comment:

Thank you for providing us with an opportunity to comment on the  
Scenario Inputs Technical Workshop. We have attached our comments.

Attachment: [www.arb.ca.gov/lists/com-attach/77-sp22-inputs-ws-BmBXOFM8U2EGbAlW.docx](http://www.arb.ca.gov/lists/com-attach/77-sp22-inputs-ws-BmBXOFM8U2EGbAlW.docx)

Original File Name: Final Scenario Inputs Technical Workshop Comments-102221-StanCOG.docx

Date and Time Comment Was Submitted: 2021-10-22 17:39:38

No Duplicates.

## **Comment 76 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Cynthia  
Last Name: Mahoney  
Email Address: cam8ross@comcast.net  
Affiliation: Clinical Assoc Prof, Stanford (ret)

Subject: 2022 Scoping Plan Update - Health Concerns, Phases and Carbon Capture and Storage  
Comment:

Thank you for the opportunity to comment on the SB 32 update scenarios. These comments come from the perspective of physicians who are active in climate and health spheres. Health and equity are guiding principles for our work. Any scenarios must weigh the health benefits of action, the health risks of actions not taken or displaced, as well as direct or indirect health harms of actions.

First and foremost, as the American Lung Association has said so clearly "any scenarios in the Scoping Plan must rely on "direct near-term emission reduction strategies that cut harmful pollution". Strategies must prioritize "ramping down of all combustion sources as quickly as possible , with the goal of exceeding the 2030 statutory standards and achieving carbon neutrality as quickly as rapidly as possible." We agree entirely.

Unfortunately, the current scenarios do not meet those parameters.

Scenario 1 is implausible, while scenarios 2,3 and 4 include Carbon Capture and Storage. Carbon Capture and Storage raises many significant health concerns which are covered below. These serious health concerns mean that we need scenarios that do not rely on CCS. It is possible to achieve our emission goals without relying on CCS. Such scenarios should be developed.

Reliance on non-direct emissions reductions.

The time frame of action of any strategies must be carefully considered, not just their possible future contributions. Emissions reductions must be frontloaded to have the most benefit, and to allow some margin to increase goals and targets as the science is likely to demand. That means that any solutions that are out of phase with needed emissions reductions must not be relied on in the scoping plan, but rather seen as areas for future research, innovation or deployment. We cannot kick the emissions can down the road. We cannot have a hamburger today, with the promise that we will pay for it Tuesday (reference to Wimpy and Popeye). This includes not just CCS, but also Nature based offsets such as growing forests, whose time for sequestration is measured in decades, and whose viability is threatened by the drought and heat of climate change itself. Nature based offsets are not as secure as had been expected - as we have seen already this summer with wildfires burning carbon offsets in the North. Even nature based soil sequestration is at risk, as heat and drought threaten to aridify large areas of California. In addition, offsets may serve to allow continued pollution - especially in already overburdened communities, who would benefit much more from direct emissions reductions - both for their health and their pocketbooks.

## Health concerns related to Carbon Capture and Storage

It is especially disturbing to see consideration of Carbon Capture and Storage in these scenarios that are focused on the near term for the next 5 years. Technologies like CCS and DAC, which may hold promise for the future, but which have thus far failed to meet the scale or scope of the problem, must not be relied on. Where the objective is to remove and sequester CO2 at scale, the technology and safety are not established.

Some would argue that CCS or more likely Direct Air Capture technologies may become necessary at some time in the future. It is too early to say whether that will be necessary and whether it will be possible - it is not at all clear that the technology can scale adequately. Nonetheless, CCS and its variations should NOT have any consideration in a scoping plan addressed at the next decade, and certainly not for the next 5 years. It is clear that spending resources on CCS diverts funding from proven technology that we know has tremendous co-benefits for health, especially in communities currently suffering disproportionate burdens.

Reliance on CCS threatens to lock in fossil fuel use and infrastructure now for some hoped for future benefit which is entirely uncertain. Rather the majority of CCS is used to enhance oil extraction, further harming surrounding communities and the climate.

CCS perversely worsens the pollution burden on already impacted communities. Studies have shown that running CCS equipment actually requires power plants to burn more fuel - and release more pollutants. Attempts to limit increased pollution burden with after the fact monitoring and penalties are in no way adequate. Monitoring is often inadequate, does not prevent the actual pollution and health harms, and penalties are often no disincentive - rather they are seen just as a cost of doing business.

CCS can threaten water supplies as well - an issue of special concern here in CA as we experience what is widely expected to be a megadrought of many years duration. CCS increases demand for water at the plant - by a substantial 50-90%. Its injection underground leads to water contamination by acidifying the water and promoting leaching of arsenic, uranium, radium, cadmium, chromium, copper, lead, mercury and selenium into the water at levels that exceed federal drinking water standards.

The direct health hazards associated with CO2 pipelines must also be considered. CO2 is an asphyxiant. Its transport under high pressure is risky - with high likelihood of leaks.

Finally, for CCS to be a benefit, it must be capable of safely sequestering CO2 for hundreds of years, yet our ability to evaluate long term storage is completely inadequate.

For reference and specific citations I would refer you to the references in the report from the Science and Environmental Health Network

&#8203;<https://www.sehn.org/sehn/2021/9/14/the-low-down-on-carbon-capture-and-storage>

and the paper by Professor Mark Jacobson

<https://web.stanford.edu/group/efmh/jacobson/Articles/Other/19-CCS-DAC.pdf>

In conclusion, we would like to see a scenario which is plausible, does not rely on future sequestration, and does not include Carbon Capture and Storage. Such a scenario is possible, and should be developed.

Thank you for your consideration of these comments.

Sincerely,

Cynthia Mahoney MD  
Clinical Assoc Prof, Stanford, (ret)

Wendy Ring MD, MPH

Jeffrey Mann, MD

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 17:59:24

No Duplicates.

**Comment 77 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Fariya

Last Name: Ali

Email Address: fariya.ali@pge.com

Affiliation: Joint Utilities Group (JUG)

Subject: JUG Comments on 9/30/21 Draft Scenarios Workshop

Comment:

See attached

Attachment: [www.arb.ca.gov/lists/com-attach/79-sp22-inputs-ws-AWtXJFA2Aw8AZQBv.pdf](http://www.arb.ca.gov/lists/com-attach/79-sp22-inputs-ws-AWtXJFA2Aw8AZQBv.pdf)

Original File Name: JUG Comments\_SPU 2021.10.22.pdf

Date and Time Comment Was Submitted: 2021-10-22 18:10:48

No Duplicates.

**Comment 78 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Fariya

Last Name: Ali

Email Address: fariya.ali@pge.com

Affiliation: Pacific Gas & Electric (PG&E)

Subject: PG&E comments on 9/30/21 Draft Scenarios Workshop

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/80-sp22-inputs-ws-WipQMvYyBwtVMAZp.pdf](http://www.arb.ca.gov/lists/com-attach/80-sp22-inputs-ws-WipQMvYyBwtVMAZp.pdf)

Original File Name: PGE Comments\_Sept 2021 Scenarios Workshop\_10-22-21.pdf

Date and Time Comment Was Submitted: 2021-10-22 18:47:06

No Duplicates.

**Comment 79 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Nicole

Last Name: Rice

Email Address: nicolerice@cngvc.org

Affiliation: California Natural Gas Vehicle Coalition

Subject: CNGVC Comment Letter on Scenario Inputs Workshop

Comment:

The proposed modeling assumptions support CNGVC's long-standing position that California's transition to cleaner transportation has been years in the making and is built on renewable biofuels. True commercialization of the medium- and heavy-duty zero emission product is still years away and could remain stalled until advancements, adequate infrastructure and power supply become available and supply chain delays are resolved. Therefore, it is imperative that CARB model a Scoping Plan strategy that includes renewable fuels in the heavy-duty sector to achieve greater GHG emission reductions today as well as in the future. We offer these comments to support and guide that work. RNG-fueled low NOx trucks are immediately available, cost-effective and achieve immediate, significant reductions in short-lived climate and criteria pollutants. This technology, created with significant support from CARB, is in use today and can be easily deployed at scale to provide a 1-to-1 replacement for the current higher-emitting diesel fleet.

Attachment: [www.arb.ca.gov/lists/com-attach/81-sp22-inputs-ws-UTJUPFA2UndWM1AP.pdf](http://www.arb.ca.gov/lists/com-attach/81-sp22-inputs-ws-UTJUPFA2UndWM1AP.pdf)

Original File Name: CNGVC Comment Letter on Sept 30th Scoping Plan Draft Scenario Inputs Workshop 102221.pdf

Date and Time Comment Was Submitted: 2021-10-22 19:51:06

No Duplicates.



## Comment 80 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.

First Name: Jack  
Last Name: Fleck  
Email Address: jack@350BayArea.org  
Affiliation: 350 Bay Area

Subject: Comments/questions on Scoping Plan/Mobile Source Strategy  
Comment:

Dear CARB,

The questions below are intended to show that the 2020 Mobile Source Strategy will not be able to achieve California's SB 32 requirement of 40% GHG reduction by 2030. The more aggressive assumptions of Alternative 1 in the Proposed PATHWAYS Scenario Modeling Assumptions--in particular phasing out the sale of ICEVs by 2030 or sooner--are required to comply with SB 32.

As you know, transportation is responsible for about half of GHG emissions in California. The Scoping Plan relies on CARB's Mobile Source Strategy to achieve the required emission reductions from the Transportation sector.

I have three questions for CARB to address in the Mobile Source Strategy, which make it seem unlikely that the Scoping Plan can achieve California's goal of 40% GHG reduction by 2030. They pertain to Figure 13 in the MSS.

(1) Figure 13 shows a decrease in GHGs/mile for ICE vehicles from about 255 to 210 g/mi (estimated and rounded). This is an improvement of 18%  $[(255-210)/255]$ . How do you propose to achieve this reduction?

I see footnote 91 on page 85, which links to Vision Scenario Planning, which has a link to passenger vehicles. But this link is broken, so I am unable to see how this 18% was achieved. However, the calculation below suggests that the 18% is overstated.

Page 93 states that there will be a 2% improvement in fuel efficiency for new vehicles after 2026. Even if that occurred every year from 2021 - 2030, that would mean that new cars would have 22% better fuel efficiency by 2030. This means that the average new car over that 10 year period would have 11% better fuel efficiency. Assuming a 15 year car life, 85% of the cars would still be at the 2020 level of fuel efficiency. Therefore, the improvement from fuel efficiency would only be for 15% of the new vehicles  $\times 11\% = 1.65\%$  improvement. In fact, that 7% improvement would actually be closer to the 5% range if the efficiency improvement is from 2026-2030 as stated on pg. 93.

If there are also some improvements in the carbon intensity or increases in the percentage of ethanol for most cars, or likewise for biofuels for the small number of light duty vehicles which are diesel, that could lower the grams per mile by another 2% or so. This estimated reduction is low since the MSS does not anticipate major changes in the amount of ethanol in California's fuel.

This estimated reduction is only 9%, so I don't see how Figure 13 can be predicting 18% improvement in GHGs per mile for ICE vehicles. Could you please explain?

(2) I'm also trying to reconcile Figure 13 with Figures 15 & 17 in the MSS.

I'm estimating that Figure 17 shows a reduction of GHGs from light duty vehicles of about 41%-- $[(110-65)/110]$ .

Figure 15 shows 24 million vehicles in 2020 and 28 million in 2030, including 6 million BEVs and 2 million PHEVs.

Figure 13 suggests a different result than Figure 17, i.e. 23% reduction of GHGs from LDVs, as calculated below:

2020 total emissions: (assuming 13,000 miles per vehicle--source FHWA--341 billion VMT in California / DMV 26 million vehicles in CA = 13,115 miles)  
23.3 million ICE vehicles x 13,000 miles per vehicle x 255 g/mi = 77 million metric tons (MMT), plus about 1 MMT from EVs and BEVs for a total of 78 MMT. (note that 78 MMT is well below the actual emissions from LDVs since the 255 g/mi understates actual emissions; but this does not affect the overall calculation here)

2030 total emissions:  
6 million BEVs x 40 g/mi x 13,000 miles per veh = 3.1 MMT  
2 million PHEVs x 90 g/mi x 13,000 miles per veh = 2.3 MMT  
20 million ICEVs x 210 g/mi x 13,000 miles per veh = 54.6 MMT  
Total = 60 MMT

Calculated reduction =  $(78 - 60/78) = 23\%$

We can adjust this for projected VMT reductions. The MSS assumes 15% total (not per capita) VMT reduction by 2050. Assuming straight line reduction, this would be 5% reduction by 2030. Using CARB's number of vehicles--24 million x 13,000 miles = 312 billion vehicle miles. A 5% reduction would result in 296 billion vehicle miles. For 2030, with 28 million cars on the road this would mean reducing the miles traveled per light duty vehicle to  $296/28 = 10,600$  miles, i.e., a reduction of  $(13,000 - 10,600/13,000) = 18\%$  per vehicle.

This VMT adjustment gives:

2030 total emissions:  
6 million BEVs x 40 g/mi x 10,600 miles/veh = 2.5 MMT  
2 million PHEVs x 90 g/mi x 10,600 miles/veh = 1.9 MMT  
20 million ICEVs x 210 g/mi x 10,600 miles/veh = 44.5 MMT  
Total = 48.9 MMT

Calculated reduction with 18% VMT reduction (5% reduction from 2020 level)

$= (78 - 48.9)/78 = 37\%$

I.e. Figure 13, even when adjusted for very aggressive VMT reductions, suggests 37% GHG reduction, not 41% as shown in Figure 17. Arguably this discrepancy could be significantly greater than 4%, given the magnitude of predicted VMT reductions.

(3) As noted in question 2, the MSS is suggesting that very substantial VMT reductions will take place in spite of a substantial increase in the number of vehicles from 24 to 28 million vehicles. How does the MSS reconcile the reduction of VMT with the increase in vehicles?

To reiterate my questions:

1. How do you propose to achieve 18% improvement in fuel efficiency for ICE vehicles by 2030?
2. How do you propose to achieve 41% GHG reduction from light duty vehicles? Assuming 8 million EVs and 5% VMT reduction--this appears to result in 36% GHG reduction using Figure 13.
3. How does CARB propose to achieve VMT reductions of 18%, given

the growth in vehicles from 24 million to 28 million?

Thank you for your important work on the Scoping Plan and Mobile Source Strategy!

Sincerely,

Jack Lucero Fleck  
PE, 350 Bay Area Transportation team

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 19:39:06

No Duplicates.

**Comment 81 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Jim

Last Name: Stewart, PhD

Email Address: drjimstewart@gmail.com

Affiliation:

Subject: Increase Methane GWP value to prioritize methane reductions

Comment:

The IPCC has prioritized methane reductions as the lowest cost, most effective way to make the most reduction in the 2050 global temperature, yet the CARB scoping plan has not prioritized methane reductions.

One of the things CARB could do is to value methane at its 20-year value, which is the approximate life of this Scoping Plan. A value of 82 would properly value them and thus automatically prioritize methane reductions as the IPCC has requested.

Thanks,

Jim Stewart, PhD

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 20:36:20

No Duplicates.

**Comment 82 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Janet

Last Name: Cox

Email Address: janet@350siliconvalley.org

Affiliation: 350 Silicon Valley

Subject: Comments on the 2022 Scoping Plan Update Scenario Inputs Technical Workshop  
Comment:

Thank you for the opportunity to comment. 350 Silicon Valley's comments and suggestions are in the attached document.

Attachment: [www.arb.ca.gov/lists/com-attach/84-sp22-inputs-ws-AGNcNQBsBDoBYII8.pdf](http://www.arb.ca.gov/lists/com-attach/84-sp22-inputs-ws-AGNcNQBsBDoBYII8.pdf)

Original File Name: Comments-CARB\_Scenarios.pdf

Date and Time Comment Was Submitted: 2021-10-22 20:51:28

No Duplicates.

**Comment 83 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Cindy  
Last Name: Parsons  
Email Address: cindy.parsons@ladwp.com  
Affiliation: LADWP

Subject: LADWP comments on 2022 Scoping Plan Update, Sept 30 workshop  
Comment:

See attached comments.

Attachment: [www.arb.ca.gov/lists/com-attach/85-sp22-inputs-ws-Uj4CZVUwBCAAdlUK.pdf](http://www.arb.ca.gov/lists/com-attach/85-sp22-inputs-ws-Uj4CZVUwBCAAdlUK.pdf)

Original File Name: LADWP Comments on 2022 Scoping Plan Update, Sept 30 workshop (10.22.21)-corrected.pdf

Date and Time Comment Was Submitted: 2021-10-22 21:04:35

No Duplicates.

**Comment 84 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Michael  
Last Name: Boccadoro  
Email Address: mboccadoro@westcoastadvisors.com  
Affiliation: Dairy Cares

Subject: Dairy Cares 2022 Scoping Plan Comments - Scenarios Workshop  
Comment:

Dear Ms. Sahota,

Please find attached the comments of Dairy Cares on the 9/30/21 Workshop on the 2022 Scoping Plan Update, Scenarios and Inputs.

Sincerely,  
Michael Boccadoro  
Dairy Cares

Attachment: [www.arb.ca.gov/lists/com-attach/86-sp22-inputs-ws-W2kBNlZmUjEDNwk7.pdf](http://www.arb.ca.gov/lists/com-attach/86-sp22-inputs-ws-W2kBNlZmUjEDNwk7.pdf)

Original File Name: 211022\_Dairy Cares 2022 Scoping Plan Comments\_VFIN (00559790xBA8E1).pdf

Date and Time Comment Was Submitted: 2021-10-22 21:54:49

No Duplicates.

## **Comment 85 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Wendy

Last Name: Ring

Email Address: wring123@gmail.com

Affiliation: Climate 911

Subject: Comment on Scoping Scenario Input 9-30 Workshop

Comment:

Please see attached comments from a group of physicians. As an individual I would like to reiterate my comments from previous workshops about the need to broaden the health modeling of scenarios. Modeling should include the substantial health benefits of physical activity by using CDPH's Integrated Transport and Health Impact Model. Modeling should also include adverse health impacts like groundwater contamination and worsening air pollution from encouraging the expansion of CAFO dairies with biodigester subsidies, and increases in direct and upstream fossil fuel emissions from carbon capture. Health modeling should add weight when impacts, positive and negative, affect vulnerable populations, since baseline health, resistance to disease, ability to shelter oneself from harmful exposures, and access to health care all influence health outcomes. Inequity itself is a powerful social determinant of health. Whether measures perpetuate, aggravate, or alleviate inequity should be part of health modeling. Thank you.

Attachment: [www.arb.ca.gov/lists/com-attach/87-sp22-inputs-ws-WyhQNFwCVjZSZgBf.docx](http://www.arb.ca.gov/lists/com-attach/87-sp22-inputs-ws-WyhQNFwCVjZSZgBf.docx)

Original File Name: SB 32 Scenario Input Comments .docx

Date and Time Comment Was Submitted: 2021-10-22 21:12:23

No Duplicates.



## **Comment 86 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Thomas

Last Name: Conlon

Email Address: tconlon@geopraxis.com

Affiliation: GeoPraxis

Subject: CARB should replace CH4 GWP-100 metric to better fit CA near-term goals

Comment:

CARB should end the practice of continuing to use a single GWP-100 metric for all CH4 emissions as if they were: 1) physically the same (in their Global Warming Potential), and 2) consistent over the policy-defined time period of concern.

Instead, CARB should develop a "multi-basket" or new metric approach (e.g., Combined-GTP or GWP\*) which takes California's near-term (2030, 2035, 2040, 2045, and 2050) policy goals into account, and also more accurately accounts for the physical differences between CH4-fossil and CH4-nonfossil (including NO2) emissions, as outlined in IPCC AR6 WG I Section 7.6.1.4, Table 7.15, and Box 3, Physical considerations in emission-metric choice, p.1740/3949 of PDF).

Most Respectfully Submitted,

- Tom Conlon, GeoPraxis

Attachment:

Original File Name:

Date and Time Comment Was Submitted: 2021-10-22 23:27:12

No Duplicates.

**Comment 87 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Tom  
Last Name: Phillips  
Email Address: tjp835@gmail.com  
Affiliation: Healthy Building Research

Subject: Health, Equity, and Energy Efficiency comments  
Comment:

see attachment

Attachment: [www.arb.ca.gov/lists/com-attach/89-sp22-inputs-ws-AWBSNgFfUTFXYwJd.pdf](http://www.arb.ca.gov/lists/com-attach/89-sp22-inputs-ws-AWBSNgFfUTFXYwJd.pdf)

Original File Name: AB 32 Scoping Plan scenario comments Healthy Bldg Research 10-22-21.pdf

Date and Time Comment Was Submitted: 2021-10-22 23:43:18

No Duplicates.

**Comment 88 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Sarah  
Last Name: Deslauriers  
Email Address: sdeslauriers@carollo.com  
Affiliation: CASA

Subject: Comments  
Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/90-sp22-inputs-ws-UjFQNwFzADICWwRn.pdf](http://www.arb.ca.gov/lists/com-attach/90-sp22-inputs-ws-UjFQNwFzADICWwRn.pdf)

Original File Name: CASA Comments on 2022 Scoping Plan Scenarios 102221.pdf

Date and Time Comment Was Submitted: 2021-10-25 08:16:08

No Duplicates.

**Comment 89 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: William

Last Name: Barrett

Email Address: [william.barrett@lung.org](mailto:william.barrett@lung.org)

Affiliation: American Lung Association in California

Subject: Health and Medical comments on Scoping Plan scenario workshop

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/91-sp22-inputs-ws-AmoAYwBgBToFd1Q8.pdf](http://www.arb.ca.gov/lists/com-attach/91-sp22-inputs-ws-AmoAYwBgBToFd1Q8.pdf)

Original File Name: Health\_Comments\_Scoping Plan workshop 10.22.21.pdf

Date and Time Comment Was Submitted: 2021-10-25 08:19:23

No Duplicates.

**Comment 90 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: John  
Last Name: O'Donnell  
Email Address: john@rondo.energy  
Affiliation: Rondo Energy

Subject: Comments  
Comment:

See attached

Attachment: [www.arb.ca.gov/lists/com-attach/92-sp22-inputs-ws-VjBXOARrUmABawBf.pdf](http://www.arb.ca.gov/lists/com-attach/92-sp22-inputs-ws-VjBXOARrUmABawBf.pdf)

Original File Name: Final Rondo SP Scenario Comments 10-22-21.pdf

Date and Time Comment Was Submitted: 2021-10-25 08:23:01

No Duplicates.

**Comment 91 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Mark  
Last Name: Nechodom  
Email Address: mnechodom@wspa.org  
Affiliation: WSPA

Subject: WSPA Comment Letter on Sept 30 Scoping Plan Workshop  
Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/93-sp22-inputs-ws-AnUBdF0sWGoEXQFi.pdf](http://www.arb.ca.gov/lists/com-attach/93-sp22-inputs-ws-AnUBdF0sWGoEXQFi.pdf)

Original File Name: WSPA Comment Letter on Sept 30th SP workshop FINAL 20211026.pdf

Date and Time Comment Was Submitted: 2021-10-26 15:53:02

No Duplicates.

**Comment 92 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Sigmund  
Last Name: Gronich  
Email Address: sigmundgronich@aol.com  
Affiliation:

Subject: Comments  
Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/94-sp22-inputs-ws-VDdROFI+WWdQMwRq.pdf](http://www.arb.ca.gov/lists/com-attach/94-sp22-inputs-ws-VDdROFI+WWdQMwRq.pdf)

Original File Name: comments.pdf

Date and Time Comment Was Submitted: 2021-11-08 08:15:12

No Duplicates.

**Comment 93 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Kami

Last Name: Peer

Email Address: kami.peer@nextgenpolicy.org

Affiliation: NextGen California

Subject: Comments

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/95-sp22-inputs-ws-VjhdPFEzUmBSCwdk.pdf](http://www.arb.ca.gov/lists/com-attach/95-sp22-inputs-ws-VjhdPFEzUmBSCwdk.pdf)

Original File Name: NGCA Comment Ltr\_2022 Scoping Plan \_VMT Reduction.pdf

Date and Time Comment Was Submitted: 2021-11-17 08:14:32

No Duplicates.



**Comment 94 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

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

Subject: Comments  
Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/96-sp22-inputs-ws-VwhUJVwuV3RXMFMM.pdf](http://www.arb.ca.gov/lists/com-attach/96-sp22-inputs-ws-VwhUJVwuV3RXMFMM.pdf)

Original File Name: [WSPA] Comment Letter Scoping Plan Workshop 10-29-2021.pdf

Date and Time Comment Was Submitted: 2021-11-24 08:17:17

No Duplicates.

**Comment 95 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Mikhael

Last Name: Skvarla

Email Address: Mikhael\_Skvarla@gualcogroup.com

Affiliation: CCEEB

Subject: Comments

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/97-sp22-inputs-ws-UjEHYl05BTNQNfcl.pdf](http://www.arb.ca.gov/lists/com-attach/97-sp22-inputs-ws-UjEHYl05BTNQNfcl.pdf)

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

Date and Time Comment Was Submitted: 2021-11-24 09:13:21

No Duplicates.

**Comment 96 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Connie

Last Name: Cho

Email Address: ccho@cbeval.org

Affiliation: CBE

Subject: Comments

Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/98-sp22-inputs-ws-UTJWMlcAg4HcgVm.pdf](http://www.arb.ca.gov/lists/com-attach/98-sp22-inputs-ws-UTJWMlcAg4HcgVm.pdf)

Original File Name: CBE Scoping Plan Draft Scenario Assumptions Letter - Part II (1).pdf

Date and Time Comment Was Submitted: 2021-11-24 09:19:50

No Duplicates.

**Comment 97 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Matthew  
Last Name: Langholtz  
Email Address: langholtzmf@ornl.gov  
Affiliation:

Subject: Comments  
Comment:

See attached.

Attachment: [www.arb.ca.gov/lists/com-attach/99-sp22-inputs-ws-AWIFbAFtAfwKaQJs.zip](http://www.arb.ca.gov/lists/com-attach/99-sp22-inputs-ws-AWIFbAFtAfwKaQJs.zip)

Original File Name: comments.zip

Date and Time Comment Was Submitted: 2021-11-29 14:12:45

No Duplicates.

**Comment 98 for 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (sp22-inputs-ws) - 1st Workshop.**

First Name: Kyle  
Last Name: Heiskala  
Email Address: kyleh@environmentalhealth.org  
Affiliation:

Subject: EHC Comments  
Comment:

See attachment.

Attachment: [www.arb.ca.gov/lists/com-attach/100-sp22-inputs-ws-UGEGMgcoBGdQZwIs.pdf](http://www.arb.ca.gov/lists/com-attach/100-sp22-inputs-ws-UGEGMgcoBGdQZwIs.pdf)

Original File Name: 12.01.21\_EHC\_comment\_transportation\_2022CARBScopingPlan-signed.pdf

Date and Time Comment Was Submitted: 2021-12-01 09:55:48

No Duplicates.

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