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## JOINT LEGISLATIVE COMMITTEE ON CLIMATE CHANGE POLICIES ASSEMBLYMEMBER AL MURATSUCHI, CHAIR

### Informational Hearing: “Annual Update on Statewide Trends of Greenhouse Gas Emissions and an Overview of the 2022 Scoping Plan”

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## OUTCOMES REPORT

### OVERVIEW

The Joint Legislative Committee on Climate Change Policies held a hearing on August 17, 2021. At the hearing, the Committee received information from the California Air Resources Board on: 1) statewide trends of greenhouse gas emissions, 2) status of the 2022 scoping plan update, 3) progress on the 2030 emission reduction goal, and 4) the state’s plan to achieve net-zero emissions as soon as possible. The Committee also heard from academia, the Legislative Analyst’s Office, and key stakeholders on their thought of California’s progress toward the 2030 goal as well as consideration the state should make when establishing a goal for neutrality.

### SUMMARY OF HEARING

#### *Presentation by Chair Randolph of the California Air Resources Board*

**Power point presentation.** The power point presentation used by Chair Randolph in her testimony can be found on our website.

#### *Presentation by the Ross Brown of the Legislative Analyst’s Office*

**California met the 2020 goal early, but the 2030 goal is much more ambitious.** To reach the 2020 emission reduction goal, California only needed to reduce emissions by 1 percent annually. However, to reach the 2030 emission reduction goal, California would need to make annual reductions of 4 percent. Thus far, most of our reductions has been from the electricity sector. We would need to look at getting emission reductions from other sectors to reach our 2030 goal.

**It is difficult to evaluate the effectiveness of the State’s various climate programs and policies.** The State has a variety of policies with different effects. These policies include regulations, incentives, the cap-and-trade program, and others. It is difficult to evaluate their effectiveness and their overall cost and benefits due to the limited reliable information we have. There are also other complicating factors such as overlapping

effects of certain policies, changing economic conditions, market changes such as prices and behavioral factors, and federal and local policies.

The Legislature should consider establishing process for getting better information about program effects in order to help inform long-term policy decisions: (1) planning evaluation beforehand, (2) working with experts on data and methods beforehand, and (3) provide more funding (modest amount).

*Presentation by Daniel Cullenward of the Carbon Plan*

**We are not on track for 2030 goal.** Current pace of progress is not in line with where we need to go. We had a very good year in emissions reduction in 2018- 2019. We cut about 7 mill tons of emissions. We need to double that and sustain that rate every single year including 2020 forward if we are to hit that target.

2017 Scoping Plan calls on the cap and trade program to deliver half of our emissions reductions needed to achieve the 2030 goal. We are not on track for that. Almost all of the reductions that we've observed to date have been in the electricity sector.

**We cannot engage in magical thinking to get to carbon neutrality.** Getting to carbon neutrality by 2045 will require a lot of technical and difficult work to get the job done and the transitions that are necessary. Talking about carbon neutrality by 2035 is concerning, particularly because we are not on track for a 40 percent reduction by 2030.

**Carbon removal should not be relied on as a get-out-of-jail free card.** It is concerning the extent to which promises about the future role of carbon removal have been used in climate policy conversations to defray the needed actions right now. While Carbon removal will have to play a big role in our overall strategy, it should be taken into careful consideration otherwise we are setting ourselves up for serious problems.

The typical category we see broken down are engineered solutions to natural climate solutions. Each have distinct risks associated with its use.

*Presentation by Dr. Meredith Fowlie of UC Berkeley.*

**California's net zero goal is a means to an end, not an end in itself.** Our guiding principle should be to innovate and demonstrate technologies and policies that can be exported to other jurisdictions where the vast majority of future GHGs are projected to happen. In a recent report, the UNEP projects that global GHG emissions will reach 64 Gt under business as usual by 2030. To put this in perspective, our state-level inventory estimates that California emissions in 2019 were just over 0.4 Gt. So if California manages to drive our emissions to net zero, this would reduce projected global GHGs by less than 0.7 percent.

This not to suggest that California's decarbonization efforts are futile. But rather to underscore the fact that the overarching goal is to move the global ball forward. If California is going to make a dent in the global climate change problem, this will happen through leadership and demonstration of promising climate solutions. This is true for technology innovation, and many firms in CA are positioned to capitalize on that so incentives are well aligned. This is also true for policy innovation.

In some cases, there will be tensions between the pursuit of ambitious state-level targets and focused efforts to craft and demonstrate models that can be exported elsewhere. When these tensions arise, we should prioritize the latter.

If we want to maximize the global impact of our climate policy innovation, we should be doing more extract lessons learned from this experimentation so that others can follow our lead.

**It's not just what we do, but how we do it that matters.** In particular, if we want to ensure that the clean energy transition is equitable and affordable, we'll need innovation across the board. This includes technology innovation and infrastructure modernization. It will also require reinventing the institutional and regulatory structures that guide what investments we ultimately deploy, how we pay for them, and who ultimately pays the price. How we fund our climate ambition will determine what it costs to meet our goals and who will pay the price.

To elucidate this point, I want to draw from some work I am doing with Energy Institute colleagues to investigate why California's regulated retail electricity prices – the prices you pay per kWh – are high and increasingly out of line with the rest of the country. The answer has important implications for this discussion.

The reason we are paying inefficiently high prices is that California has a practice of taxing electricity consumption to raise revenues to pay for needed infrastructure, grid modernization, wildfire adaptation costs, rooftop solar subsidies, the list goes on.

These costs are only going to escalate as our GHG mitigation goals become more ambitious. However, recovering these escalating costs in retail electricity prices is problematic for two important reasons.

First, high electricity prices will slow progress on electrification. Electrification is the most promising path to deep decarbonization. Research clearly shows that it will be harder to get households and firms to electrify end uses if electricity prices are high.

Second, a tax on electricity consumption is one of the most regressive ways to raise revenues because lower income consumers spend a larger share of income on electricity. An electricity tax is more regressive than sales tax or gasoline tax, far more regressive than raising the income tax.

So. When we think about decarbonizing the California economy, it's clear that we will need to revolutionize how we generate and transport and use electricity. We also need to re-think/re-invent the regulatory framework that we use to raise revenues and allocate costs of a cleaner, greener grid.

**Mandating our way to net zero could undermine the role of California's carbon market and the cost effectiveness it brings.** The best path forward is not yet clear. It will depend in part on to be determined technological innovations and advances. California's carbon market provides a way to incentivize the deployment of the most cost effective actions without knowing ahead of time what these actions are.

Carbon pricing is not a silver bullet. But it is an essential piece of California's climate change policy package. We have in place an economy-wide carbon market which ensures that some part of the cost of GHG emissions is transmitted in the form of a carbon price almost everywhere carbon is implicitly bought and sold. This provides an incentive for agents across the economy – households, firms, investors- to partly internalize climate costs.

If we rely primarily on mandates and standards and subsidies to achieve our GHG emissions reduction targets, we depress and dilute the carbon price signal. This will undermine cost effectiveness if mandated costly solutions crowd out more moderately priced abatement opportunities that the carbon market would otherwise push in. There is thus a balance to strike between relying on the carbon market versus prescriptive regulations to deliver needed GHG reductions.

*Presentation by Paulina Torres of the Center on Race, Poverty, and the Environment.*

**CARB must not (continue to) rely on false solutions to climate change that are being pushed forward without regard for their potential and, for some, known disproportionate impacts to environmental justice communities.** These false, technological solutions often come in lieu of prioritizing direct emissions reductions.

**Carbon capture and sequestration (CCS) technologies perpetuate the use of fossil fuels as a false solution to the climate crisis.** These technologies fundamentally prolong the life of the existing fossil fuel infrastructure by allowing continued combustion as long as carbon emissions are drawn down by untested technology. Therefore, CCS prolongs fossil fuels' harmful impacts on environmental justice communities.

**We urge the state not to over-rely on atmospheric carbon removal.** In general, CCS is an unproven and inefficient means of stopping climate change. Technology-based methods raise serious concerns with long-term storage and accountability, as well as with their ability to remove carbon at scale without excessive public investment, funds that are urgently needed to support more realistic solutions. Further, these techniques often increase local air pollution in already-overburdened EJ communities. Likewise, nature-based CCS provides emissions relief that is difficult to enumerate and

easy to game, as a recent report showed. Further, vast swathes of forest offsets are on fire, with more threatened, which appears to reduce sharply their climate benefits. We don't necessarily oppose all CCS at all times, but any CCS that exacerbates environmental injustice and local air pollution should be out of the question, and the state should focus on direct emissions reductions rather than over-relying on these dubious practices.

**Cap and trade contributes to local air pollution in EJ communities, and it overpromises and under delivers on climate benefits.** Environmental justice communities and advocates have objected to California's cap and trade program since its inception. Now, research has emerged to support our on-the-ground concerns from our community members' lived experience. As a result, Secretary Blumenfeld of CalEPA and Chair Randolph both committed to reconsidering cap and trade. We hope that the Board, under legislative oversight, will direct CARB staff to evaluate the failed program thoroughly and respond to EJ communities' research-backed concerns by no longer relying on this false climate solution.

We applaud Senators Hertzberg, Becker and Wieckowski's letter to Chair Randolph as it highlights our concerns about cap and trade, AB 197's unequivocal mandate that CARB prioritize direct emissions reductions, and AB 197's intent to focus attention on policies other than cap-and-trade.

**CARB Must Prioritize Achieving the SB 32 2030 Target.** CARB has interpreted its requirements tied to the 2030 statutory targets to encompass other requirements such as the Carbon Neutrality Executive Order. However, we want to emphasize the need to refocus CARB's attention to our required and more imminent SB 32 goal of reducing greenhouse gas emissions to 40% below the 1990 level by 2030. As stated in the Senate letter to Chair Randolph: we are concerned that a focus on long-term or aspirational goals could come at the expense of near-term actions that are required by law.

*Presentation by Andrew Meredith of the California State Building & Construction Trades Council.*

**We feel marginalized in climate discussions.** We have been a good, strong partner in terms of deploying renewable energy in California. Yet we have our voice consistently marginalized in these discussions. Extreme views on addressing climate change seem to rule the day. Bumper sticker talking points like 'Shut it off now' or 'ban fossil fuels' seem to resonate with too many members of the legislature, too many folks at CARB. These all ignore science, they ignore data, and they ignore facts on the ground California is not ready to shut everything off in the fossil fuel sector. Our power grid is struggling to the point that starting tomorrow, we will have hundreds of workers installing emergency power generation to deal with impending shortages.

**Industry is responding to the climate crisis.** There is a push to ignore strategies like Carbon Capture because some would rather see whole industries crumble than see if science and technology can aid in emission reductions.

We are constantly fighting to deploy renewable projects, like wind energy ones, where environmental groups rise to oppose them. When Off-Shore wind begins to materialize, we will be battling the same groups to deploy this technology.

Industry is responding to the climate crisis. Projects like 'Rodeo Renewed' in Contra Costa County, where Phillips 66 will invest in transitioning their existing plant to be able to produce over 800 million gallons of Renewable Diesel. Will the environmental community embrace it? California companies are responding. Blue Planet, for example, based out of Los Gatos, and is utilizing Co2 to replace traditional building materials.

**More than 100,000 of our members perform work in the fossil fuel industry.** These jobs are like all the others in the Building Trades: barrier-free. Workers from all walks of life, all genders, all races, those previously incarcerated, those coming from foster care, they all have the opportunity to earn middle class wages by learning a trade through a Building Trades affiliated and state approved apprenticeship program. These members are highly skilled, highly productive, and fully capable of transitioning their skills into other meaningful technologies.

**Carbon capture technology will help our members maintain jobs.** As the industry transitions, these workers have nothing to worry about if we embrace carbon capture, we embrace carbon sequestration, and we ignore the bumper sticker talking points. The way we phase out fossil fuels in this state will be paramount in determining whether or not we want a working, blue collar middle class in California.

To that end, if the last drop of oil used in California isn't extracted and refined in this state, we've failed not only the environment, as our environmental standards are sticker here than anywhere in the world, but we've failed these workers as well.

The impacts of climate change are massive in California, and we recognize that. Our reservoirs are running dry, our forests are constantly burning, and things aren't getting better. We cannot, though, move forward with a strategy that believes we can shut off fossil fuels tomorrow, drop an electric vehicle in everyone's driveway tomorrow night, and 'intent' our way towards fixing climate change. We must embrace all technologies. We must deploy these technologies. We must embrace things like desalinization and off-stream storage to diversify our water portfolio. We must harden and diversify our electric grid. Public subsidization is needed to make that happen.

Lastly, we get asked a lot about what a just transition means to our workers. First, we're tired of hearing that term thrown around by others. Here's what the word just means to us. Our members JUST want to provide for their families in a good wage job. They JUST want to work in a meaningful industry. They JUST want to keep their benefits.

They JUST want to have dignity in retirement. And they JUST want you to help make sure those things happen.

*Presentation by Lance Hastings from the California Manufacturers Technology Association.*

Summary of comments unavailable. Please see Mr. Hastings presentation here: <https://www.assembly.ca.gov/media/joint-legislative-committee-climate-change-policies-20210817/video>

*Presentation by Catherine Reheis-Boyd from the Western States Petroleum Association.*

**We need an all of the above approach for a sustainable energy future.** Just four years ago (2017), this body passed significant climate legislation that directed the state to meet our 2030 climate goals in a manner that minimizes costs to your constituents and protects California jobs and business. You extended the cap-and-trade program out to 2030 and you directed the Air Resources Board to prioritize cost-containment in their implementation of the state's climate policies.

We are only 8 months into the ARB's implementation of the SB 32 target. As outlined in the background paper, the air resources board is currently evaluating the pathways to meeting our 2030 goals as well as a carbon neutrality by 2045 goal. This evaluation includes a robust and lengthy stakeholder process and will ultimately yield a set of policy recommendations from the ARB.

This work is extremely important, especially as the legislature is considering new and dramatically more aggressive targets in AB 1395. A proposal for new targets far into the future, beyond 2030, is incomplete without certainty on the policies or tools that will be available for compliance. We know what tools we have through 2030 because of the direction this Legislature provided in AB 398 in 2017. It is critical that we know which tools and pathways will be available to achieve new goals that reach beyond 2030. Without this information you can't begin to have an informed discussion about what future targets will mean to your constituents and to the state's economy.

**The cap-and-trade program and the Low Carbon Fuel Standard program have driven tremendous innovation in our industry and others, and we must consider how these policies continue to effectuate important greenhouse gas reductions and innovation going forward.** Rather than setting a new goal 24 years out as proposed in AB 1395, this Legislature can make much more significant climate progress this year by demonstrating the political will necessary to deploy carbon capture and sequestration (CCS) in California and ensuring that the state is on track to meet our current climate goals.

**Internationally, experts agree that CCS technology will be key in advancing and meeting our climate goals.** While other states and countries are permitting and building these projects, California is falling woefully behind, despite having some of the best skilled and trained workforce, world leading universities and laboratories, a highly motivated industrial sector and some of the best geology in the world in which to store carbon. Now is our opportunity to make up for lost time and ensure that we can lead on technologies and solutions- and our industry is here to help do that, with several projects already being considered.

*Presentation by Katelyn Roedner Sutter of the Environmental Defense Fund.*  
*Pending*

**SB 32 continued California’s legacy of climate leadership and codified our 2030 goal; meeting this goal is essential for limiting California’s impact on the climate.**

The good news is that California already has the suite of policies it needs to meet this goal – including an economy-wide, declining limit on greenhouse gases. When well-designed, this limit or cap provides the greatest possible certainty of meeting reduction goals and is THE essential feature of the cap-and-trade program. If sector-specific policies achieve greater reductions than expected then there is less pressure on the cap, and that is fine, but if other programs deliver fewer reductions, then the cap remains the “backstop” to ensure emissions continue to decline at the pace required to meet our goals.

However, in order to continue playing the role of “backstop,” the emissions cap has to be calibrated to actually meet the 2030 goal. And California needs to increase the ambition of the cap-and-trade program – that is, tighten the cap - to ensure required reductions by 2030. A tighter cap means the emissions budget is smaller, fewer allowances are issued, and the level of emissions is lower.

We have this opportunity because the state celebrated, and justifiably so, a great achievement when it met its 2020 greenhouse gas reduction goal of returning to 1990 levels four years ahead of schedule. And that success means that we have the chance to increase the stringency of the cap by setting it based on actual emissions, which are below the 2020 target. A lower emissions cap essentially makes those reductions permanent.

Additionally, the Legislative Analysts Office estimates there are between 100 and 300 million banked allowances in the cap-and-trade program; allowances that have been saved for future compliance use. While banking is not inherently problematic, the bank has to be accounted for in setting the cap.

**There is a need to re-calibrate the emissions cap to ensure that California is on track to meet its 2030 goal.** This is not the only thing the state needs to do, but it is necessary. The state has to aggressively increase the ambition of its policy, especially cap-and-trade, and it must happen as soon as possible to ensure there is still time to get on track to 2030.



At the same time, California should also seek additional measures to ensure the state is achieving reductions in local air pollution alongside global climate pollution. While California has made great progress in improving air quality as Chair Randolph explained, much of the state still suffers from dangerous air pollution, and this problem is especially acute in communities with lower wealth and communities of color. Earlier this year, Washington State adopted the Climate Commitment Act which includes air quality provisions that California could consider, including: facility-specific limitations on offset use, enforceable criteria pollutant targets in communities historically overburdened by pollution, and regular program reviews to ensure progress in reducing both climate and conventional pollution. Washington has built on California's exceptional climate leadership and is exploring additional ways to address climate and local pollution in the same policy framework.

**Meeting the 2030 goal also has significant implications for meeting a no-later-than 2045 net-zero greenhouse gas emission goal, which CARB is already planning for in the Scoping Plan update.** Achieving the 2030 goal puts us on track to achieve net-zero emissions. And as CARB is doing, we have to start planning for net-zero today - decisions made now with our eye on 2030 have to be consistent with the need to achieve net-zero as swiftly as possible. We also have to ensure strategies to meet both goals preserve environmental integrity, and that at an absolute minimum, strategies do not create or exacerbate air pollution hotspots. California needs a long-term vision out to 2045 alongside an ambitious plan to meet the 2030 goal.

At a time when the state is on fire around us and the IPCC is issuing a “code red alert for humanity,” California needs to ensure it is maximizing its climate ambition and the greatest possible amount of emission reductions from polluting sources.

Our state has long been a climate leader – states and now even the federal government are following our example. But we must ensure we have policy in place to actually meet the commitments we have made, and that we continue to aggressively lead on climate ambition.

## **KEY TAKEAWAYS**

- We are not on track to meet the 2030 reduction goal.
- Though unclear how we get on a better track to achieve the 2030 goal, the Legislature would need to put in considerable work if it wants to have more confidence that it will meet the 2030 goal.
- The 2017 Scoping Plan relies heavily on the cap-and-trade program to meet 2030 goals. It is unclear whether the program is set up to accomplish task laid out for it in the Scoping Plan.
- As part of 2022 Scoping Plan, ARB undertaking modeling effort to try to provide a more up-to-date sense of current policy scenario.

- Long-term goals can be helpful to guide planning, avoid stranded assets, and provide long-term market signals.
- Good evaluation is key to understanding effectiveness and tradeoffs, and inform the decisions about which policies to adopt and "how."
- Cost-effective policies can allow the Legislature to meet goals at lower cost or achieve more ambitious goals at similar cost.

## **NEXT STEPS / RECOMMENDATIONS**

Numerous thoughts, ideas, and suggestions were shared at the hearing. Below is a list of recommendations for further action that were distilled from the information received.

- Task the Legislative Analyst's Office to conduct an evaluation of a carbon tax
- Task the Legislative Analyst's Office to conduct an evaluation of cap-and-trade revisions, including raising the price of carbon and lowering how many allowances are allocated to industry.
- Enact legislation to establish a process for getting better information about various climate program effects in order to help inform long-term policy decisions.
- Enact legislation to require CARB conduct a regular program review and recalibrate the C&T program as needed in order to better align it with California's emission reduction goals.
- Enact legislation to establish an emission reduction goal further out in order to send long-term market signals and to promote long-term planning and avoid stranded assets.