

EJAC Draft Recommendations for Inclusion in the Scoping Plan

February 28 and March 1, 2022

"CARB should" is implied at the start of every comment in the tables below.

Non-Fossil Fuel Energy Generation	
N1	Programs reducing energy use and energy efficiency programs should be prioritized because they produce the "cleanest," lowest emissions energy. Because energy efficiency programs are de facto "local" programs, they increase equity in energy access by reducing utility bills and creating local workforce development opportunities.
N2	Large, remote non-fossil fuel projects require large capital. Such projects increase profits for large corporations and increase utility bills, resulting in increased wealth inequity in low-income and people of color communities.
N3	All types of non-fossil fuel energy generation must be examined for life cycle harm to environmental justice communities. For instance, energy produced by nuclear power plants is hailed as carbon-free, though the mining and storage of nuclear fuel causes major harm for Indigenous communities. The harm caused by mining for uranium, nuclear weapons testing, and nuclear accidents falls most heavily on frontline, Black, Indigenous, People of Color (BIPOC) communities.
N4	I. Workforce Development
N5	II. Electric Vehicles 1. Concerns about Lithium Mining out of Geothermal and impacts on EJ communities a. Lithium Mining from Geothermal Energy is being presented as cleaner, but is actually problematic and harming frontline EJ communities. 2. There are equity barriers to EV adoption in California including affordability, and access to charging stations. An EV survey conducted in 2018 found that only 2% of EV's are owned by Black households. 3. Prioritize funding incentives of electrification of mass transit and heavy duty vehicles (HDVs) to reduce Diesel Particulate Matter (DPM), over electrification of single-passenger vehicles (which currently mostly benefits wealthier and white communities.)
N6	III. Rooftop Solar 1. Utilities are not being held accountable to put in rooftop solar. 2. Low-income people don't have solar because public + private utilities are profiting from utility-scale solar. Investor-owned utilities make most of their profit on long distance transmission lines. Rooftop solar reduces utility revenues and the need for long distance transmission lines. 3. Targeted incentives are needed for low-income households to go solar and pay for energy efficiency. Rather than the punitive proposed revision of NEM 3.0 currently being considered by the CPUC, a graduated solar tariff increasing as household income decreases is needed to address equity in access to rooftop solar. Energy Efficiency programs can be made affordable through grants, combined with on-bill repayment mechanisms, guaranteed to reduce energy bills at no upfront cost, from day one. 4. The Scoping Plan must prioritize and direct significant public dollars to invest in local clean energy resources for energy equity in low income and people of color communities who are most burdened by pollution. 5. Community ownership and control of local solar and wind will reduce the cost of energy by eliminating the need for long-distance transmission lines and for paying corporate

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	<p>shareholder profits, and provide a more reliable and resilient local source of non-polluting energy for decarbonized buildings in these communities during power outages.</p> <p>6. Invest in community-controlled and community-owned microgrids, powered by community solar, must play a major role in supplying future electricity needs. If islandable, these mini power plants can continue to provide power during grid outages. They also maximize the efficiency of energy use overall, reducing electrical demand and cost to customers. Microgrids can also be a mechanism for sharing electricity between households within a community.</p> <p>7. Prioritize and direct public investments in rooftop solar to benefit the most disadvantaged communities most impacted by poverty, pollution and climate impacts, first. The California Environmental Justice Alliance has called for the CPUC to increase funding for the proposed Equity Fund from \$150 million to \$1 billion. The Equity Fund would be used for distributed energy resources in low income and disadvantaged communities.</p> <p>8. CARB's own modeling to achieve climate targets for 2030 depends on rooftop solar contributions to non-fossil fuel energy resources to increase 2.5 times to 23 GW . The California Energy Commission includes 28.2 GW of customer-owned solar to meet the tripling of electricity demand anticipated by 2045 .</p> <p>9. Rooftop solar reduces emissions beginning with installation, which takes 3-4 months on average. Utility scale solar projects can take up to 6 years from concept to implementation.</p> <p>10. Electrification that results in increased use of fossil fuel sourced power plants to supply the increased electrical demand only negates electrification efforts to keep fossil fuels in the ground, and reduce GHG emissions at the scale and pace that is demanded by science to address the climate emergency.</p>
N7	<p>IV. Utility-Scale Renewable Energy</p> <p>1. How do we overcome barriers to offshore wind production?</p> <p>a. Recommendations to overcome both policy and technical barriers</p> <p>2. How do we overcome barriers to tidal energy production?</p> <p>3. Incorporate full-cost accounting to correctly assess the economic savings from investing public resources in community owned, community-controlled and local clean energy resources over utility-scale, IOU-owned renewable power generation. Utility scale solar energy is only counted as less expensive than rooftop solar because the cost of transmission from remote facilities to distribution centers is not included in that cost. If the construction costs of transmission lines are added to the cost of energy produced, utility scale solar costs are about equal to rooftop solar. If the operation and maintenance costs of transmission lines are also added to the energy costs, utility-scale solar is more expensive than rooftop. If the costs of wildfire destruction from transmission line caused-wildfires utility scale costs rise even higher above rooftop solar.</p> <p>4. Utility scale solar projects are destructive environmentally. Relying exclusively on utility scale solar and wind power to provide electricity needs in California threatens sensitive ecosystems and endangered species, as well as Indigenous sacred sites and other types of land use in California.</p>

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		5. Utility scale projects can take over 2 years from planning to implementation. The urgency of the climate crisis and the accelerated pace and enormous scale of decarbonizing California's new and existing building stock will require a more rapid and nimble deployment of clean energy resources via rooftop solar, than is possible with utility-scale solar projects.

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	N8	V.	Building Decarbonization
		1.	Closely follow BEEP's—Building Energy, Equity, and Power (BEEP) Coalition—energy justice principles & listening session report with recommendations
		2.	Closely follow the approach of SAJE's report
		3.	Establish official funding for community engagement for each sector of the Scoping Plan in order to perform meaningful community engagement & investigate potential unintended consequences. For Building Decarbonization, the funding needs to be 7-figured. Funding will be used for staffing of local organizations, organizing events, stipends for participants, and translation services.
		4.	Building Decarb is a highly intersectional movement. Must provide resources, capacity, and time for key stakeholders, such as affordable housing groups (a group with specific needs and financial concerns about building decarb)
		5.	<p>Perform decarbonization in phases, prioritize new buildings, the largest buildings and largest emitters, and publicly owned buildings.</p> <p>i. Owners of large buildings are typically better able to comply with a decarbonization mandate. Decarbonization should be rolled out in phases. It should target all new construction, privately owned buildings 20,000 square feet or larger, and public buildings larger than 7,500 square feet (commercial and residential) first .</p> <p>ii. By targeting public buildings, there is no expectation of landlord harassment of tenants. By prioritizing the largest buildings, policymakers will have more time to identify funding and technical assistance for smaller landlords and subsidized housing providers who may need the most support.</p>
		6.	<p>For existing buildings, prioritize energy affordability and tenant protections from cost increases, harassment, displacement, evictions or energy debt burdens, and prevent landlords from absorbing decarbonization subsidies while still passing the costs to tenants.</p> <p>i. Low-income renters live in the least efficient homes and have the highest energy burdens. Research shows that under landlord-tenant laws, decarbonization is expected to increase rents and tenants' risk of displacement.</p> <p>ii. CARB must work with local and state housing policymakers to 1) strengthen the current tenant anti-harassment policies in order to protect tenants from decarbonization-related harassment and include budget resources for enforcement, 2) ban pass-through costs for decarbonization retrofits to Rent Stabilization Ordinance (RSO) tenants, tenants in covenanted affordable units, and low-income tenants in non-RSO units, 3) establish new or increase existing permanent relocation amounts for tenants displaced by decarbonization retrofits, 4) close the remodel eviction loophole in AB 1482—the statewide rent control law—that could lead to displacement of non-RSO tenants.</p> <p>iii. Incentive programs usually do not have tenant protections tied to them. A landlord can get a grant or subsidy to electrify their kitchen but still pass the cost onto the tenant. Any incentive program must be sure to include tenant protections, such as if the property owners take advantage of incentives, they cannot increase rent.</p>
		7.	<p>Address building decarbonization in tandem with affordable housing preservation.</p> <p>i. There is a significant need to not only build new affordable housing, but also to protect and retrofit existing units in ways that improve habitability, reduce household expenses, and support a healthier environment. Any policies that affect the residential market must therefore be carefully considered and designed to directly support affordable housing and low-income households .</p>

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	<p>ii. Lack of funding, limited access to capital, the complexity of financing structures, backlogs of deferred maintenance, and other challenges make affordable housing least likely to transition by market forces alone. Sector stakeholders must be included in the policy design process to avoid perpetuating the cycle of disenfranchisement.</p> <p>iii. Decarbonization can be leveraged to drive investment into existing affordable housing to improve performance and keep units fit for purpose in a changing climate. Policy approaches are needed to support social equity, such as displacement and rent increase protections, tools to expand the pool of regulated affordable housing and support alternative ownership, and wealth-building opportunities for tenants.</p> <p>iv. CARB must coordinate with public agencies to make sure the building decarbonization will preserve and improve affordable housing.</p>
	<p>8. Include policy protections to protect and empower small landlords and homeowners, and prevent consolidation of corporate building ownership.</p> <p>i. Covid-19 has created financial issues that might force small landlords to sell their properties . The high upfront costs of a decarbonization retrofit could intensify cash flow issues for smaller landlords, prompting them to sell, enabling deep-pocketed corporations to buy their properties.</p> <p>ii. At the very least, corporate landlords should not be eligible to receive public assistance for decarbonization as they are the most well positioned group to finance this transition. Subsidies must be targeted towards small landlords and homeowners.</p> <p>iii. Decarbonization also provides an opportunity to promote homeownership of tenants and communities. Some landlords will exit the rental market when confronted with the cost of decarbonization. CARB should coordinate with public agencies to prioritize the purchase of such buildings by tenants and Community Land Trusts. This would allow them to have the first option to buy a building that is for sale.</p>
	<p>9. Pair building decarbonization with other critically needed renovation efforts to make buildings healthier and resilient and design a consumer-friendly one-stop shop for retrofits.</p> <p>i. It is necessary to issue a mandate for holistic decarbonization retrofit that results in habitable, energy-efficient, all-electric, and climate-resilient homes. Fuel switching in buildings from natural gas to electric appliances will, alone, achieve emission reductions because electricity generation is getting cleaner. However, coupling fuel switching with both energy efficiency measures and building envelope improvements can reduce energy cost burdens, reduce peak demand for electricity both seasonally and over the course of a day to mitigate grid impacts, and better protect inhabitants from extreme weather events like heat waves .</p> <p>ii. To maximize benefits to occupants and return on investment, upgrades should produce healthy, high-quality indoor environments by using materials without hazardous chemicals and addressing issues like mold, moisture, and ventilation. Public financial support for comprehensive building improvements in the rental market can be coupled with anti-displacement measures that preserve and expand housing and energy affordability. Upgrading schools and colleges not only reduces operational expenditures but can improve ventilation and indoor air quality for students and teachers.</p> <p>iii. San Francisco City and PODER are developing this together. CARB should assist local government and community groups with designing and implementing a consumer-friendly one-stop shop for retrofits.</p>
	<p>10. Prioritize creation of local, unionized or family-sustaining "high road" jobs in partnership with labor unions, community colleges and green jobs training centers,</p>

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		<p>particularly for youth, people of color, formerly-incarcerated people and people with other barriers to employment.</p> <p>i. UCLA's Luskin Center for Innovation estimates that, in general, the electrification of buildings statewide is expected to create more than 100,000 jobs annually for 25 years in California in the construction, energy and manufacturing industries .</p> <p>ii. Thinking upfront about who will perform the work to improve building performance is also important. Engaging a skilled and trained workforce is fundamental in ensuring that the expected energy savings and emission reductions are actually achieved. Adopt hire standards on publicly funded projects and coordination with the apprenticeship readiness programs can ensure job access for priority populations underrepresented in high-road construction jobs. For example, support, training, and capacity building of women and minority-owned business enterprises (WMBEs) can ensure diversity, equity, and inclusion on the contracting side.</p> <p>iii. CARB must coordinate building decarbonization efforts with labor agencies to ensure that this job creation is inclusive and uplifting for vulnerable populations.</p>
		<p>11. Design and promote financial interventions that address the overlooked consumer groups who do not qualify for commercial loans due to the unduly restrictive credit score requirement.</p> <p>i. Building decarbonization has high upfront costs. Many consumers will need to take out commercial loans to finance the upgrades. However, these commercial loan products are designed to minimize risk for institutional investors and unduly prevent the adoption of energy upgrades. These barriers are unduly restrictive because credit score is not an accurate indicator of a household's ability to pay for energy upgrades. For example, Posigen is a solar and energy efficiency provider for low income, low credit score, and low income/low credit score customers without consideration of individual credit scores. The overall performance of PosiGen's 14,000-low-income-households portfolio is comparable to the general market for similar loans with a default rate of 0.4% .</p> <p>Lenders do not issue loans to consumers with FICO credit scores below 650. Research of the Inclusive Solar Finance Framework estimates that 30% of all consumers in the U.S. have bad and poor credit scores (below 650), and 35% of the U.S. households qualify as low-income . Interventions for the loan underwriting process are needed for these U.S. consumers, estimated from 44 million to 78 million households.</p> <p>California needs to innovate and implement equity-focused financing interventions to underwrite the loans for low-income and low-credit-score consumers. It is important to ensure the building decarbonization transition is inclusive and we do not repeat the same stories where solar and EV adoption exacerbate existing disparities. CARB must work with related agencies to design financial interventions.</p> <p>CARB should finance expanded pilots to create on-bill financing or 'pay for performance' inclusive financing programs to amortize the upfront cost of expensive appliances or rehabilitation construction work over a period of time, to be paid on the customers' utility bill from the bill savings of the energy efficiency improvements. On-bill financing enables customers of all incomes to pay for decarbonization measures at no upfront cost, and is currently being piloted by East Bay Community Energy (EBCE), with BlocPower and Revalue.io.</p>
	N9	Exclude decentralized or distributed rooftop solar as eligible renewable energy source as opposed to larger-scale energy projects.

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	N10	Increase scrutiny on utility credits and enhanced enforcement. Burning waste increases heat/efficiency of combustion but is a hazard to surrounding area, as is dumping.
	N11	Recognize that centralized energy generation is far better for greenhouse gases (GHGs), air quality, and health than utility scale generation.
	NF12	Don't assume that all generation options are clean; there's going to be some carbon from construction because there's no carbon-free source. Even with solar, the panel must be produced.
	NF13	Eliminate fossil fuels.
		Push to electrify transportation; explain how transportation relates to non-fossil fuel energy generation.
	NF14	Promote education.
	NF15	Provide as much data as available, including full life-cycle analyses.
	NF16	Include truly green hydrogen powered by photovoltaic that is decentralized and used as energy storage that could power electric vehicles.
	NF17	Do not include blue or gray hydrogen, which is more polluting than natural gas.
	NF18	Be innovative in exploring a range of alternatives.
	NF19	Recognize the potential of microgrids.
	NF20	Model impacts of increased geothermal and lithium production.

Fossil Fuel Industry and Transportation		
	F1	Transportation / Reducing VMT
	F1A	<p>California Air Resources Board (CARB) must maintain aggressive ZEV goals in order to meet its AB 32 climate goals. Light-duty vehicle sales must be 100% ZEV by 2035 and aggressive interim targets for 2026 and 2030 must be set at 46% and 75% sales respectively, which are both feasible and deliver significant health and climate benefits. These interim targets will allow California to meet climate goals while protecting most vulnerable neighborhoods along transportation corridors. Additionally, CARB should put in place mandatory and enforceable equity measures which will enhance access to ZEVs for low income communities of color.</p> <p>On the medium- and heavy-duty side, CARB must accelerate its 100% sales mandate to 2035. Additionally, CARB must include a mandatory retirement of 18 years or 800,000 miles for medium- and heavy-duty trucks. CARB's current lack of dirty truck retirement mandates will prolong pollution burden in EJ communities by allowing diesel trucks to continue operating well beyond 2035 and potentially into 2050.</p>
	F1B	<p>CARB climate policies must not come at the expense of environmental justice communities impacted by lithium mining.</p> <p>Support requests and recommendations of environmental justice communities impacted by lithium mining.</p>
	F1C	<p>CARB should highlight the need for decision-makers to significantly increase funding for its Clean Transportation Equity Investments.</p> <p>Transportation equity programs are currently over subscribed and only available in some parts of the state.</p> <p>Funding for Clean Truck and Bus Vouchers (HVIP), Clean Off-Road Equipment Vouchers (CORE), and demonstration and pilot projects to advance zero emission technology must also be dramatically increased. Additionally, CARB should facilitate the fleet adoption of ZEV</p>

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		trucks by providing direct funding to small fleets and enable greater private market financing through large fleets. Majority of investments in ZEV and charging should be prioritized to be spent only in the top 25% DACs to ensure an equitable transition to electric vehicles to benefit EJ communities.
F1D		<p>CARB should support the implementation of the Caltrans California Transportation Plan 2050. CARB should set VMT reduction targets of statewide mode share for transit of 11% by 2035, with a corresponding VMT reduction of at least 30%. Transit mode share could increase to 22% by 2045 with a corresponding VMT reduction by continuing to double the investments in transit. This corresponds to implementing the combined land-use and transportation scenario in the Caltrans California Transportation Plan 2050.</p> <p>CARB should signal the need for additional policy and investments in mass transit for EJ communities for regional capacity building. These should focus on increasing accessibility, frequency, reliability, and affordability of zero-emission transit options such as expanding electric bus and light rail service by increasing frequency, reducing transit fares, or improving transit stops.</p> <p>CARB should set higher Metropolitan Planning Organizations (MPOs) greenhouse gas (GHG) emission reduction targets at sliding scales relative to each region in the Scoping Plan. Each region can increase the ambition for GHG reductions by implementing localized VMT reduction strategies. For example, the San Diego Association of Governments (SANDAG) GHG reduction target can be increased from 18% to 25% by 2035.</p>
F1E		CARB should send a strong signal that it plans to amend the Low Carbon Fuel Standard (LCFS) to reflect serious climate and sustainability concerns. CARB must be clear about the very limited supply of sustainable, carbon-free liquid and gaseous fuels, and avoid using them in any sectors where it is feasible to implement solutions that are zero-emission for both air pollution and greenhouse gases. In particular, CARB should highlight environmental sustainability concerns with particular types of biofuel feedstock that it identified in the 2018 CARB LCFS Environmental Assessment. The Scoping Plan should make clear that California fuels policy will reflect the latest consequential life cycle analyses of biofuels by feedstock and the finite availability of feedstock for food system crop-based biofuels.
F2		Oil Refineries
F2A		<p>By 2024, in close collaboration with refinery workers and communities, CalEPA should lead the adoption of an interagency plan to manage the decline of California oil refinery production of gasoline, diesel, and other fossil fuels, as it reflects California's climate laws and zero emission transportation policies. With urgency, the 2022 Scoping Plan must call for an immediate, robust safety net fund for displaced fossil fuel workers and communities that will otherwise lose local tax revenue for critical services.</p> <p>Commit to an Interagency Planning Process to Manage Petroleum Refinery Decline</p> <ol style="list-style-type: none">1. CARB should commit to developing a regulatory process, in collaboration with refinery operators and communities, to identify and set key milestones, timetables, and reporting mechanisms to manage the decline of refinery production.<ul style="list-style-type: none">Consider the declining and minimum throughput of crude oil into refineries, fuel outputs, financial assurances, and additional measurements reflecting milestones for increased zero emission transportation in California and corresponding reductions in fossil transportation fuel demand.

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		<ul style="list-style-type: none">Model multiple potential refinery phasedown scenarios, projecting the slate of liquid fuel demand decline across refinery capacities statewide to assist worker-led and community-led decision-making. For each scenario, present total and disaggregated liquid fuels consumption over time with corresponding, sustainable feedstock levels.Plan a corresponding phase down of carbon-emitting refinery hydrogen operations.Measure and assess all phasedown milestones against cumulative GHG emissions.Develop health and safety guidance for the decommissioning, closure, and post-closure of refineries. <p>2. CARB should develop guidance measures for local and regional permitting agencies that identify the expansion of refinery and associated fossil fuel infrastructure as inconsistent with state goals.</p> <p>3. CARB should develop health and safety guidance for the decommissioning, closure, and post-closure of refineries.</p> <ul style="list-style-type: none">Assess the cost of refinery land remediation obligations statewide and accordingly enhance financial assurance amounts and mechanisms to ensure cleanup at decommissioning.Assess the cost of increased climate risks to workers and communities, and accordingly establish or enhance financial assurance amounts and mechanisms to ensure financial accountability for petroleum companies.Evaluate health benefits in communities surrounding refineries and regional benefits toward achieving state and federal Clean Air Act standards. <p>Recommendation A should be pursued in conjunction with Recommendation B.</p>
	F2B	<p>Sound the Alarm for a Fossil Fuel Worker and Community Safety Net Fund</p> <p>With urgency, the 2022 Scoping Plan must call for an immediate, robust safety net fund for displaced fossil fuel workers and communities that will otherwise lose local tax revenue for critical services. Given the accelerating rate of decarbonization targets and the imminent phaseout of the internal combustion engine under California climate policy, the Scoping Plan should outline a plan to:</p> <ol style="list-style-type: none">Collaborate with other state agencies to establish a robust safety net fund that will support fossil fuel dependent workers who will lose their livelihoods and communities whose essential services are at risk from a contracting tax base.<ol style="list-style-type: none">An equitable transition for fossil fuel workers would include wage replacement, income and pension guarantees, healthcare benefits, relocation and peer counseling for professional and personal support. It would provide access to education and training for existing and future jobs that are safe and healthy.Communities whose city and county services, schools, and libraries should receive financial support to maintain or strengthen local budgets as the fossil fuel industry sunsets. These environmental justice communities should also be considered a priority for CARB equity investments.Contribute climate data and modeling as well as projections of changes in transportation fuel production to establish a timetable in which to accumulate and deploy a robust statewide safety net fund for fossil fuel workers and communities.

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		3. Support urgent allocation of funding to a robust safety net for fossil fuel workers and communities. Sudden losses of refinery jobs in California and the historical pattern of fossil fuel companies declaring bankruptcy as a shield from closure and post-closure financial accountability at local facilities across the nation indicate that the state must act quickly.
	F3	Oil Extraction
	F3A	End oil drilling in California by 2035. Phaseout should start as soon as possible and include protections for workers and tax-base replacement for county and local governments. A just transition needs to be developed for workers in the petroleum industry, to minimize/prevent job loss and ensure tax dollars continue to support the communities.
	F3B	Setting a phaseout date is unnecessary because of existing market conditions. The policy to prioritize is the establishment of an equitable transition for fossil fuel workers and communities.
	F4	Carbon Capture and Storage (CCS)
	F4.1	<p>No engineered carbon removal should be considered for fossil fuel infrastructure in the 2022 Scoping Plan.</p> <p>a. CARB should revisit the LCFS CCS Protocol to clarify the application of rigorous, eligibility and application review criteria specific to different types of fossil fuel infrastructure. Currently, the Protocol lacks adequate assessment criteria to evaluate the addition of carbon capture technology to different types of CCS capture facilities, as defined in the LCFS CCS Protocol Section A.2(19). Despite inclusion in the system boundary under Section B.1, the substantive Sections B.2 (Quantification of Geologic Sequestration of CO2 Emissions Reductions) and the entirety of Section C (Permanence Requirements for Sequestration), there must be no question which provisions apply to what types of capture facilities themselves, not only injection and sequestration sites.</p> <p>b. Additionally, the permissibility of weak financial assurance instruments in Section C.7 (Financial Responsibility) is unsupportable.</p> <p>c. CARB should also revisit regulations governing the Refinery Investment Credit program, title 17, CCR, section 95489(e), which currently fails to consider the range of risks necessary to protect refinery communities; additionally, the regulations should be amended to reflect initial assessments and findings from the first examples of CCS projects on fossil fuel infrastructure across the globe.</p> <p>d. CARB should not authorize LCFS credits for CCS infrastructure in environmental justice communities that would increase net criteria pollution; knowingly incentivizing projects that would increase net criteria pollutant emissions as described in section 95489(e)(1)(c), perpetuates and worsens a long legacy of environmental racism.</p>
	NF4.2	Ban the use of captured CO2 for use in Enhanced Oil Recovery (EOR). Currently, there are 14 operating CCUS projects in the U.S. Thirteen of the 14 (93%) are made profitable by using the captured CO2 for EOR. "Recovered" oil and natural gas from EOR will then be burned and release additional CO2 into the atmosphere. Using CCUS-CO2 for EOR will only increase, not decrease, California's overall GHG emissions, and extend the life of highly polluting facilities.
	F4.3	Industry projections and promises of reduced GHG emissions must be evaluated with a thorough GHG lifecycle analysis, conducted by a panel of independent experts. Industry claims typically exaggerate or misrepresent actual GHG reductions from CCS, which

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		generally are designed to capture carbon from a portion of a facility's emission sources, and only partially at that. For example, CCS on refining facilities have seemingly only been placed on their hydrogen plants, with a wide range of daily capture efficiencies and without even addressing carbon combustion emissions. A report by Global Witness documents that while the CCS on a Shell Hydrogen plant in Alberta, Canada prevented 5 million metric tons of CO2 from escaping into the atmosphere at the plant since 2015, it released a further 7.5 million metric tons of GHGs over the same period.
	F4.4	Direct emissions reductions must always be prioritized over CCS. The recently published Sixth Assessment Report by the United Nations' Intergovernmental Panel on Climate Change (IPCC, August 2021) states that the most effective way to address the climate crisis is to keep fossil fuels in the ground, and to rapidly phase out the extraction, transport, refining, and burning of fossil fuels. The same IPCC report
	F4.5	Prioritize ecologically based solutions to naturally sequester carbon by restoring soil and ecosystem health, such as afforestation, reforestation, soil carbon management, and biochar. Ecological solutions should be prioritized first, prior to and instead of CCS, CCUS, BioEnergy CCS (BECCS), and Direct Air Capture (DAC). Ecologically based carbon sequestration strategies – such as incentivizing regenerative agriculture and Indigenous rematriation and food sovereignty projects – should not be used as offsets in carbon trading schemes.
	F4.6	Permitting of CCS projects should be conditional upon completion of a rigorous health impact analysis that includes workers, communities, and their environments to evaluate the potential health impacts of using CCS, CCUS, DAC, or BECCS, by public health experts including the Office of Environmental Health Hazard Assessment (OEHHA) and the California Department of Public Health (CDPH). Regions like the San Joaquin Valley and the Delta should be treated with special consideration.
	F4.7	Worst-case scenarios must be included in any modeling of engineered carbon removal. This includes an analysis of the health and human harm risk posed by: a. Ruptures of CO2 pipelines (i.e., the CO2 pipeline explosion in Sartartia, Mississippi in 2020 that resulted in the ER hospitalization of 49 people). b. Man camps for the construction of CO2 pipelines, which increase rates of Missing and Murdered Indigenous Women (MMIW). c. Risk of inducing seismic activity (earthquakes) from geologic injection of CO2. c. Poisoning of groundwater or destruction of aquatic ecosystems.
	F4.8	ECR (Engineered Carbon Removal), as an unproven, expensive technology, should be eligible for government assistance only after proven sequestration and reduction strategies have been fully exhausted. According to the United Nations' IPCC AR6 WRG1 Scientific Report 2021 report, "Technologies to achieve direct large-scale anthropogenic removals of non-CO2 GHGs are speculative at present."
	F4.9	Any publicly funded ECR strategy must be conditional on the Free, Prior and Informed Consent (FPIC) of locally impacted Environmental Justice communities, in accordance with the United Nations' Declaration on the Rights of Indigenous Peoples.

Cap and Trade

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C	<p>1 As CARB creates a 20 year climate blueprint to cut California's GHG emissions to 80 percent below 1990 levels by 2050, we need CARB to step up to put California on a path toward a full, multi-agency coordinated phase out of fossil fuels, especially in sectors like oil refining where we've seen emissions increase over the course of the cap and trade program. The more we put in place real climate solutions that result in direct emissions reductions and move us toward a full coordinated phase out of fossil fuels, the less we'll need to rely on accounting gimmicks like cap and trade.</p> <p>That means setting clear timelines and goals for agency coordination to phase out sectors such as oil refining. This transition must be planned in accordance with timelines reflecting the urgency of our climate crisis. Research has shown that unnecessary delays in the phase out of polluting sectors, such as refineries, will only cause greater disruption to local economies, communities, and workers as the climate crisis intensifies and requires rapid phase out to meet our targets the longer we delay.</p> <p>CARB must prioritize rules and regulations to achieve direct emissions reductions and reduce reliance on mechanisms that enable local pollution such as cap-and-trade. CARB must simultaneously close loopholes in cap-and-trade that prevent direct emissions reductions. Reforms in program design could include:</p> <ul style="list-style-type: none">• Closing loopholes for polluters by eliminating offsets and free allowances. Policies like offsets and free allowances give cheap and free opportunities to avoid reducing what is coming out of smokestacks. The process of allocating free allowances is based on old data and assumptions about allowance prices. CARB should further assess the extent to which free allowances contribute to leakage.• Conducting a thorough analysis of the cap needed to meet 2030 goals. This is a necessary step to provide certainty that cap-and-trade will lead us toward actual emissions reductions, and is especially necessary given the sheer number of banked allowances. There is concern that none of the scoping plan scenarios address the level of the emissions cap needed to meet the 2030 goal.• Implementing IEMAC's recommendations for market design and program reform. The IEMAC report makes several market-based suggestions that would address loopholes, including reducing the supply of new allowances, raising the allowance price floor, conditioning offset availability on auction price, and retiring allowances to account for shortcomings in offsets.• Establishing no trading zones in EJ communities. Facilities in air pollution hotspots should be restricted from trading allowances once they have used up their own. This would protect the most impacted communities from excessive exposure to co-pollutants.• Increase transparency and data sharing between CARB and local air districts. GHG and co-pollutant data collection and reporting must be standardized across agencies. Annual data on facility- and company-specific allowance allocations and trading patterns must be collected and publicly released.
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EJAC Draft Recommendations for Inclusion in the Scoping Plan

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Overarching	
	O1 Carbon capture, utilization, and storage (CCUS) must not be considered a direct emissions reduction strategy.
	O2 Address whether CCUS drops any gross polluters below a regulatory threshold and their responsibility to pay for their emissions.
	O3 Do not incentivize CCUS.
	O4 Share diagrams and specifications of CCUS monitoring.
	O5 Include remote sensors at the plug of CCUS projects under the Delta.
	O6 Provide global examples of CCUS projects, successful or not.
	O7 Disclose how CARB is measuring the success of CCUS projects.
	O8 Discuss geological exploration and whether every avenue was explored.
	O9 Consider the long-term effects of CCUS.
	O10 Share alternatives to CCUS given the risks. It's hard to believe that CCUS is the best option.
	O11 Share CARB's perspective on high road jobs.
	O12 Share any evaluation of direct air capture in California.
	O13 Provide a list of projects.
	O14 Target reductions on the dirtiest polluters.
	O15 Allow the EJAC to influence the research conducted.
	O16 Do not rely on biased science.
	O17 Be innovative in exploring alternative options.
	O18 Share the Scoping Plan CEQA drafts before they are final.
	O19 Groundtruth the Scoping Plan—the reality is on the ground.

Manufacturing	
	M1 Share a menu of reduction strategies.
	M2 Oppose carbon sequestration.
	M3 State CARB's position on carbon neutrality for manufacturing, electricity generation, and concrete.
	M4 Go beyond the status quo, especially where the science to support that exists.
	M5 Place a value on options in terms of the solution they provide, not spewing more carbon into the atmosphere.
	M6 Don't consider climate reducing policies that increase pollution in EJ communities.
	M7 Ensure a just transition for workers. Transitioning refineries, for example when internal combustion engine is phased out, will require years of permitting; that process would have to begin now.
	M8 Meet climate goals as justly as possible but also in a way that minimizes the damage to our economy. We need to continue economies that will survive through the end of fossil fuels; workers need to maintain their livelihoods and the tax flow needs to continue to support local economies.
	M9 Start transitioning to alternatives now, including just transitions.

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Manufacturing		
	M1 0	Accelerate the closing of carbon credits. When credits close, they will have to pay a tax or a fee.
	M11	Promote education about pesticides, including the application and identification of petrochemicals used in pesticides, including in those manufactured outside of California but purchased for use in California.
	M1 2	Factor innovative technologies into the modeling.
	M1 3	Seek the maximum feasible technologically that is achievable.
	M1 4	Target reductions on the dirtiest polluters.
	M1 5	Channel investments into R&D, pilot programs, etc. to reduce the maximum levels of emissions directly from both materials used and from the manufacturing process. Implement incremental industrial electrification to reach 100% clean energy sources (such as high industry electrification via renewables and direct hydrogen combustion via dedicated clean hydrogen pipelines) by 2045. No biomass or renewable natural gas (RNG)-based hydrogen should be used. Ensure any switched fuels and new technologies/materials used do not increase local air pollution on disproportionately burdened communities. Apply the best available control technologies to reduce pollution in the interim until 100% zero-emissions facilities are achieved. Start this transition in disadvantaged communities first.
	M1 6	Make a statement about prioritizing (via innovation, investments, etc.) reductions of materials/process emissions versus energy source emissions, depending on which is the greatest contributor of emissions in any particular industry.
	M1 7	Prioritize eliminating emissions before allowing CCS.
	M1 8	Permit CCS.
	M1 9	Provide key information about demand trends for different products produced by various manufacturers, as well as technology substitutions.
	M2 0	Discuss integration of short-lived climate pollutants (SLCP) and hydrofluorocarbon (HFC) manufacturing.
	M2 1	Discuss the overlaps between sectors (manufacturing, SLCP, fuels, energy, NWL, etc.).

Public Health and Social Costs		
	P1	Have localized health impacts by design in the Scoping Plan modeling.
	P2	Provide access to the main database with the most localized data available.
	P3	Share publicly the available research of CARB research staff involved with the Scoping Plan.
	P4	Have CARB work with the EJAC to develop methods to evaluate the effectiveness of measures in the Scoping Plan, and have a third-party evaluator conduct the evaluation.
	P5	Create environmental and health equity metrics tracking and benchmarks for EJ communities, disaggregated by race/ethnicity.

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	P6	Have a third party conduct a racial equity impact analysis of the Scoping Plan before it is approved by the Board.
	P7	Have a third party conduct a health impact analysis, including a full life cycle assessment of CCS, and identify what it would look like if CARB relies on carbon capture and storage (CCS) in the Scoping Plan. CARB should compare the health impacts of CCS to direct emissions reduction strategies.
	P8	CARB and OEHHA must conduct a health impact assessment that must be completed before the next Scoping Plan process begins. In consultation with the EJAC, they must develop and adapt methods that can be used to conduct those assessments for topics of concern to the EJ community (such as health, costs, and equity), so the assessments can be repeated at the update of every Scoping Plan.
	P9	CARB and CDPH should have a third party conduct a health impact assessment of CCS as soon as possible, and before May 2022. Present it to the EJAC and ensure that the data are accessible and understandable to all stakeholders, as is done with CalEnviroScreen.
	P10	Provide both qualitative and quantitative health and cost data on health impacts.
	P11	Share how the health impact analysis will be used to evaluate Scoping Plan measures and consult with the EJAC to improve the methodology.
	P12	By the end of 2023, CDPH should create a data sharing partnership with clinics and other health providers in disadvantaged communities to get more granular health data for use in a more robust health impact analyses.
	P13	Provide all available data used to characterize conditions and for assessments, to ensure transparency, including full life-cycle analyses. Incorporate principles of life cycle analyses to consider the full impacts of key elements of the plan and policies. Provide the data and results of such analyses.
	P14	Provide a publicly accessible online tool for the data sources used for the health impact analysis.
	P15	Improve accessibility for criteria pollutant and air toxics emissions data, and add finer scale criteria pollutant and air toxics emissions data for the oil and gas sector.
	P16	Increase the transparency in offset entity information by clearly linking specific carbon offset projects with specific polluting entities.
	P17	Promote public health high road jobs.
	P18	Work with Cal/OSHA to address the worker health and safety concerns of high road jobs.
	P18	Ensure the Scoping Plan incorporates strategies to reduce use of GHG producing pesticides.
	P20	Promote education about pesticides, including the application and identification of petrochemicals used in pesticides, including those in pesticides manufactured outside of California but purchased for use in California.
	P21	Share analyses done from previous Scoping Plans that advance Environmental Justice regarding the fuel industry, in addition to phasing out fossil fuel production by 2035.
	P22	Detail how Border emissions are calculated, counted, and integrated into the Scoping Plan.
	P23	Account for emissions from California's wildfires in the Scoping Plan.
	P24	Implement a statewide data standard for all emission sources that would collect more granular, community-level data for mobile and stationary sources.
	P25	Never rely on any GHG reducing policies that increase pollution in EJ communities.

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	P26	Seek the maximum feasible and achievable technologically and identify zero emission technologies that would prevent the need for mitigation technologies.
	P27	If CARB relies on CCUS, it must demonstrate the safety and impact on local air pollution of CCUS projects.

Natural and Working Lands		
	N1	Collaborate with Native Nations
	N2	Work with water resources.
	N3	Look at the offshore capacity of healthy aquatic systems instead of just terrestrial systems.
	N4	Include an ambitious pesticide reduction target to (1) reduce the use of synthetic pesticides by 50% by 2030 and (2) reduce the use of hazardous pesticides by 75% by 2030, starting with organophosphates, fumigants, paraquat, and neonicotinoids.
	N5	Adopt organic farming in the Scoping Plan scenario. Include an ambitious pesticide reduction target to (1) reduce the use of synthetic pesticides by 50% by 2030 and (2) reduce the use of hazardous pesticides by 75% by 2030, starting with organophosphates, fumigants, paraquat, and neonicotinoids. Restructure scenarios to model progressive percentage increases in the adoption of all proposed agricultural management strategies.
	N6	Evaluate public health and equity outcomes for all agricultural management strategies. In addition to carbon, model methane and nitrous oxide emissions from agriculture. Model the full life-cycle greenhouse gas and public health impacts of fumigant pesticides.
	N7	Share the improvements the previous EJAC asked for. From the 2008 EJAC Recommendations: "Recommendation to Protect Farmland: The Committee recommends that ARB encourage land use planning and development that protects farmland. ARB should also encourage organic and other sustainable farming practices that reduce greenhouse gas emissions from fertilizers and pesticides."
	N8	Respond to how environmental justice communities support the creation and development of more natural land development.
	N9	Include a negative carbon subregion as a goal.
	N10	Seek nontraditional technical input.
	N11	Describe commonalities and differences of the Scoping Plan with the state's 30 x 30 goals.