



May 14, 2021

California Air Resources Board
1001 I Street
Sacramento, California 95814
Via Electronic submittal

Re: Comments on CARB's Revised Draft 2020 Mobile Source Strategy

On behalf of Pacific Environment, thank you for the opportunity to comment on the California Air Resource Board's Draft 2020 Mobile Source Strategy.

Pacific Environment is a 501(c)(3) public-benefit corporation, headquartered in San Francisco, with regional offices in Anchorage, Alaska, and Chongqing, China. Founded in 1987, Pacific Environment protects communities and wildlife of the Pacific Rim by supporting community leaders to fight climate change, protect the oceans, build just societies, and move away from fossil fuels toward a green economy. We are the only California headquartered non-governmental organization that has earned rare permanent consultative status at the International Maritime Organization (IMO), the United Nations' entity that sets international shipping law.

Our comments here focus on off-road vehicles, marine vessels specifically. We appreciate the work that CARB staff have done on the Revised Draft 2020 Mobile Source Strategy (MSS). However, in the face of interrelated climate, public health and racial justice emergencies here in California and globally and with another disastrous climate change-fueled wildfire season on California's horizon, the MSS does not go far enough in ambition or pace.

Accelerate Low/Zero Emission Transition for Off-Road Marine Vehicles (Vessels)

As noted in the MSS, Governor Gavin Newsom issued Executive Order N-79-20 setting statewide targets to transition California's transportation sector to 100% zero emissions by 2035 to reduce climate-warming, smog-forming, and toxic diesel pollution, which includes marine vessels. On April 20, 2021, the Biden-Harris Administration committed the United States to pursuing a policy target for a 100% zero-emission international shipping industry by 2050.

The State of California needs to ramp up its criteria pollutant and toxic emission reduction targets and greenhouse gas emission reduction targets in order to urgently save lives, meet bare minimum federal clean air attainment standards, and align its decarbonization trajectory with the Paris Climate Agreements' 1.5C global warming mitigation target. It is therefore imperative that no potential emissions reductions be left on the table as CARB finalizes its MSS.

Marine vessels are massive sources of pollution – including climate-warming carbon dioxide ("CO₂"), methane ("CH₄"), and black carbon emissions and hazardous nitrogen oxide ("NO_x"), sulfur oxides ("SO_x"), and particulate matter ("PM") emissions. According to the 2017 San

Pedro Bay Ports Clean Air Action Plan, marine vessels are the primary source of emissions at California ports. By 2023, South Coast Air Quality Management District projects that ships will be the largest contributor of smog-forming NOx emission in their air basin. In the areas surrounding the San Pedro Bay Ports, harbor craft constitute one of the top three sources of cancer risk attributable to diesel particulate matter exposure.

Major shipping companies are [making record profits](#) as a result of Covid-related consumer spending. This has led to significant [port congestion](#) in the San Pedro Ports, which also means a spike in ship pollution. South Coast AQM [now expects](#) ocean-going vessels to account for the majority of smog-forming NOx emissions in their air basin by 2023.

For these reasons, CARB must speed up the zero-emission marine vessel transition within California's transportation system and make the following changes to the draft MSS:

Recreational Marine Vessels (RMVs)

We urge CARB to start the RMV regulation earlier than 2026 and mandate NOx reduction to 90% below current level given the smog forming emission potential that recreational watercraft plays, in order to achieve smog reduction and associated health benefits earlier. CARB projects that by 2031, smog forming emissions from an average recreational boat in California is equivalent to 20 passenger cars. It is our understanding that technology such as three way catalysts exist today at a commercial level that helps reduce NOx emission by 90 percent. In addition, electric solutions already exist for 100% zero-emission RMVs. What we need now to drive uptake are strong market accelerating policies, including incentives and funding mechanisms.

We also encourage staff to include language that aligns its RMV goal with [California Executive Order N-79-20](#), affirming CARB's intent to achieve zero-emissions from all RMV craft by 2035 as part of the state of California's economy-wide strategy to eliminate transportation emissions.

Commercial Harbor Craft (CHC)

We believe that all commercial harbor craft can feasibly achieve 100% zero emissions by 2034/2035, in line with [California Executive Order N-79-20](#), and we urge CARB to regulate them accordingly.

In the face of climate emergency, CARB should not allow an entire new generation of harbor craft vessels to be designed for diesel powered. The shipping industry needs to transition off fossil fuels and the CHC segment, along with RMVs, is a technologically feasible place to begin.

We note for MSS staff that a broad coalition of environmental justice groups and nongovernmental organizations have submitted a [comment letter to CARB](#) urging greater ambition in its pending commercial harbor craft rule. CARB's MSS should similarly make clear CARB's intent to align the entire CHC segment to align with [California Executive Order N-79-20](#) moving as many vessels to 100% zero-emission as possible.

Ocean Going Vessels (OGVs)

As a package, OGV goals are not ambitious enough and do not seem to seriously consider climate pollution reduction from the OGV segment. We urge CARB to set a more aggressive focus on reducing climate *and* air pollution from OGVs.

First, we welcome the phase out of Tier 0/1/2 vessels, but urge the timelines be accelerated. The phase out of Tier 0 vessels should commence in 2022. Tier 0 vessels are among the dirtiest transportation sources on the planet and should not be allowed to dock California ports. The phase out for Tier 1 and Tier 2 vessels should also begin promptly, no later than 2023/2024.

Second, we urge CARB to commit in the MSS to adding a 1.5C-aligned operational carbon equivalent (“CO_{2e}”) intensity fuel standard for OGVs to both reduce year-over-year emissions and accelerate the zero-emission vessel market. Similar to CARB’s landmark approach to helping develop zero-emission auto and heavy-duty trucking markets, CARB can play a leadership role in accelerating the zero-emission vessel market. CARB should require linear CO_{2e} improvements per ship in a year-over-year manner. Improvements should be implemented using the AER metric (gCO_{2eq}/DWT-nm and gCO_{2eq}/GT-nm), and compliance should be measured in three-year cycles, with annual audits.

We note for staff that at the [2022 AQMP OGV Working Group Meeting #2 April 2021 meeting](#), in a presentation with South Coast AQMD, CARB staff announced that CARB was exploring several potential regulatory measures for OGVs, including a carbon fuel standard.

Finally, we encourage staff to include language that aligns its OGV goal with [California Executive Order N-79-20](#), affirming CARB’s intent to bring as many 100% zero-emissions OGVs to California by 2035 as is technologically feasible.

Working with Federal and International Partners on Cleaner Marine Standards

On page 147, CARB commits to “work with the U.S. EPA, U.S. Coast Guard and other partners to urge the IMO to adopt more stringent Tier 4 marine standards by 2028.” We greatly welcome the state of California and California ports engagement on standards at the IMO. However, we urge CARB to also commit to helping develop 100% zero-emission vessel standards there. Actors at the IMO and many other nations are already discussing standards and criteria for “zero-emission” and California’s voice and expertise on these negotiations will be important. The 2020s is the decade of climate emergency. We must be accelerating ships’ transition off fossil fuel propulsion systems, rather than continuing to regulate diesel-powered engine upgrades.

Thank you as always for your consideration of these comments. We would be pleased to answer any questions or provide further information.

Sincerely,

Madeline Rose

Madeline Rose
Climate Campaign Director
Pacific Environment