To: Interested Parties
From: Evergreen Action Policy Team
Date: August 21, 2023
Re: President Biden's Narrow Window to Accelerate Heavy-Duty Decarbonization

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The freight sector boomed during the pandemic and so did its pollution, with the burdens falling heaviest on communities of color and lower-income communities along truck and train routes and near giant warehouses. The Biden Administration and the Environmental Protection Agency (EPA) have a narrow window of opportunity to act, but its proposals, currently set to go final by late 2023, are not ambitious enough.

Three new developments, driven by the ever-growing wave of states and companies that have committed to zero emission technology in the wake of the Inflation Reduction Act, have opened the way to real progress, if the Administration acts fast:

- **Every one of the nation's big truck engine manufacturers has agreed to 100% zero emission vehicle sales in California, the nation's largest market, by 2036, and to strive for the same target in every state that adopts California rules – covering many of the largest U.S. ports (and their trucks) and about 25% of the total heavy-duty vehicle market**. By contrast, the EPA proposal anticipates just 25% of heavy-duty trucks as zero emission by 2032 – with no improvement from there, despite this major shift in industry investments. This is a status quo electrification proposal, as the state deal is on track to electrify 25% of heavy-duty trucks anyway. **EPA must strengthen its proposal to take advantage of these industry commitments on a national basis.**

- **The same agreement commits the truck manufacturers to cut smog pollution from combustion engines in amounts in California greater than required by US EPA nationally**. Multiple states and NGOs (including Evergreen) have petitioned EPA to tighten its combustion standards – and **now even truck manufacturers have agreed to deeper cuts in California** – but the states need to start enforcing the stronger state rules this fall, and EPA must tighten its program on the same timeline to secure national cuts. **EPA should grant these petitions and align its standards, at a minimum, with those agreed to by California and industry – and finally issue the waiver needed to enforce the smog pollution component of the state program.**

- **Finally, moving from trucks to trains in the freight sector, California has issued pioneering rules cutting rail pollution which it must finalize by late September - but the rail industry is suing.** In response to a petition, U.S. EPA has proposed to repeal outdated and wrong preemption rules that the rail industry will use to attack California in this way, but has tied this proposal to its truck rules, which may take much longer to complete, leaving the rules unclarified as rail attacks in court. **EPA should finalize its preemption repeal by October to ensure the California train pollution rules go into force.**

Unless EPA takes each of these opportunities quickly, its truck rules will have very limited additional, impact given the wave of electrification already moving forward and the state-level progress and it will leave progress on rail open to immediate attack. EPA must move ahead of the status quo, and has the opportunity to do so.

The rest of this memo describes the opportunities in more detail, and makes one further point – that **EPA, DOE, and DOT have significant funding opportunities to further accelerate progress and the White House can use its convening authority to strike key agreements with utilities and governments to accelerate infrastructure deployment, using these funds**. The freight sector is concentrated in specific geographies – including coastal ports that are now largely covered by the recent truck deal – meaning that directed federal funds to build out infrastructure, or encourage immediate utility and private sector investment can significantly speed the transition while doubling down on efforts to protect vulnerable communities. **This fall is the Administration's last chance to align funds and rules to clean up this dominant source of pollution – and to modernize the freight sector.**

The Stakes

The transportation sector is the largest source of greenhouse gasses in the United States, contributing a full 38% of fossil fuel combustion emissions as a result of tailpipe emissions (and close to half of all pollution if one includes fuel refining for vehicles). Transportation emissions also contribute the vast bulk of smog and toxic pollution to communities. Unlike power plants, the second biggest sector, transportation emissions have continued to rise and are up by about 20% since 1990. The freight sector – trucks, trains, and other heavy-duty engines – is an enormous chunk of this pollution because, though there are many more cars, truck and train engines are gigantic and dirty.

Medium and heavy-duty trucks, used to haul freight, alone account for about a quarter of transportation carbon pollution – over 417 million metric tons annually. Trains add another 35 million metric tons of carbon pollution a year (more than 20% of US states!), while spewing diesel exhaust into homes and schools. Worse, smog-forming and toxic emissions also pour from heavy-duty freight engines, and are a

dominant threat in communities of color and lower income communities along freight routes, where millions of people live. This is thus both a huge equity problem and a giant global climate challenge: Without swift action, freight is expected by many analysts to be the highest emitting sector, globally, by 2050.

Although pioneering states, including Colorado, Maryland, Massachusetts, New Jersey, New York, Oregon, Washington, and Vermont, along with California, have passed major rules that would take freight sector pollution from new vehicles to zero in the 2030s, EPA has lagged behind. Although it has proposed a truck carbon pollution rule (called the "Phase 3" rule), that rule is weaker than the California-led rules. Where the state rule would take all new truck sales to 100% electric by 2036 (while also accelerating turnover of existing truck fleets to electric), the federal rule flatlines in 2032 at a projected 25% of heavy-duty trucks electrified, and only 50% of medium-duty trucks and vans. Because California and its allied states cover about 25% of the heavy-duty truck market, plus a disproportionate share of the coastal ports where drayage trucking fleets are concentrated, this means the federal rule's 25% goal for the national fleet seems unlikely to substantially alter the status quo unless made much more ambitious.

A similar situation is playing out with California's recently finalized rule for smog-forming pollution from trucks, which, again, is stronger than EPA's proposed rule, and has been adopted thus far by Colorado, Maryland, Massachusetts, New Jersey, New York, Oregon, Washington, and Vermont. The state rule is substantially more stringent than EPA's. And though California recently agreed to propose to align its rules more closely with the federal rule, that proposal included closing significant loopholes that appear in the federal rule in the process of that alignment rulemaking - which will generate significant reductions in pollution if EPA also closes those loopholes.

Finally, EPA has not updated federal pollution rules for trains – another major source of pollution – for fifteen years, though it has proposed (but not finalized) a long awaited rule that will at least clarify that states can take action. That rule, too, has been proposed years after it was requested.

Noticing a pattern? EPA is lagging behind, but has a clear opportunity this fall to go further, faster, and make critical strides towards achieving our national climate goals by reigning in pollution from the transportation sector and, by extension, sending a clear signal to the market which will enhance investment and innovation hastening the transition to cleaner solutions.

However, if EPA continues to be unduly cautious, despite the leadership states adopting California's stronger rules and the recent deal California secured from truck makers to commit to 100% zero emission truck sales by 2036, the Biden Administration will not succeed in cutting this massive pollution source as deeply as

the science demands and communities need. Indeed, because the rules generally lag behind the likely status quo, with targets well behind leadership states and industry commitments. They need to go much further to accelerate progress given the climate and air pollution crisis caused by the freight sector.

The potential opportunity is huge. The California rail rule, alone, would cut smog-forming NOx pollution by nearly 400,000 tons over the multi-decade course of its operations and, per California, cut "21.6 million metric tons of GHG, roughly equivalent to removing all heavy-duty diesel trucks from California's roads for all of 2030." That would save 3,200 lives and cut regional cancer risk by 90%. Similarly, California's requirement that only zero emission trucks be sold by 2036 would cut truck fleet carbon emissions by half in that state and smog emissions by a third, while saving $26 billion in health benefits through saved lives and avoided hospital visits. Simply put: there are enormous public benefits, from climate risk mitigation to public health promotion to economic growth, associated with strong freight sector rules. The federal rulemaking windows open now are generationally important opportunities to secure those benefits, and President Biden and his EPA must move swiftly to seize them. **EPA has a chance to build on this critical state leadership, but as the clock winds down the first term of the Administration, and as freight vehicle emissions keep increasing, it must act now.**

Truck Emissions: A Chance to Accelerate

EPA has recently finalized a national rule on truck smog emissions, and proposed national rules on carbon pollution from trucks. Both of these rules, though highly significant steps forward, have important gaps and have been decried as too weak by the environmental justice movement. For instance, the smog rules contain substantial compliance loopholes at lower temperatures, and the carbon pollution rules flatline projected heavy-duty (Class 8) truck electrification at only 25% of the heavy-duty fleet, indefinitely. These unduly weak proposals send a signal to the market that is at odds with OEM commitments, unprecedented incentives that the administration expertly navigated through the legislative process, and actions by leadership states.

The key missing element for trucking is a complementary Phase 3 Heavy Duty GHG rule that sends a clear signal to the market that supports investments, innovation, economic growth, and the transition to the clean transportation future. The way to that rule is clear: When California secured its landmark agreement with the Engine Manufacturers Association (EMA) and all major truck engine makers, dubbed the "Clean Truck Partnership", it changed the landscape.

Before, EMA was threatening litigation; it has now dropped its case and committed to follow key California rules in California (and with best efforts in all other leadership

states) regardless of the outcome of other lawsuits. It is particularly important that the leadership states include many of the nation's largest ports – and hence its largest truck fleets. With the manufacturers accelerating action in those locations, the federal rule can now lock in greater stringency, especially if federal investments also accelerate heavy-duty charging and fueling infrastructure in those port locations and similar freight hubs. That deal opens the way for EPA to tighten its own program – but it has to act fast.

> **The California truck rules secured by the deal are stronger than EPA's, so the federal government should build upon the deal to strengthen federal rules.**

The Advanced Clean Trucks (ACT) Rule requires 40% zero emission truck (ZET) sales by 2035, and the recent Advanced Clean Fleets (ACF) Rule follows this up by requiring 100% ZET sales by 2036. ACT has been adopted by leading states on both counts, as noted above, covering an ever-growing portion of the coastal ports central to the freight sector nationally. Meanwhile, California's Low-NOx Omnibus Rule has the world's most stringent rules on smog-forming pollution from combustion trucks. EPA recently issued a Clean Air Act waiver to allow enforcement of ACT, but still has not yet issued the waiver needed for the low-NOx Omnibus, which goes into force in 2024 and for which a waiver request has been pending for more than a year. Industry's deal with California cleared the way for manufacturer compliance with key elements of all these rules, no matter who sues, and altered the national landscape.

The California deal has a few key elements for EPA's purposes:

- Industry agrees to comply with the ACT Rule and the 100% ZET sales requirement of the ACF Rule, in California, regardless of the outcome of litigation. And the engine makers have agreed "to put forth their best efforts to sell as many zero emission trucks as reasonably possible in every state that has or will adopt CARB's ACT regulations" in the many other states that have adopted these rules. These rules are *much* more aggressive than EPA's carbon pollution rule proposal, which, again, EPA projects will drive only 25% heavy-duty ZET sales by the 2030s. **The upshot is that EPA can now count on trucks being sold on the ACT and ACF trajectories in California and in massive ZET investments in many other states. This means that EPA needs to adjust its carbon pollution standards to align with, at least, the ACT trajectory that would reach 40% ZETs by 2035 so as to support rather than undermine these efforts – and should consider a standard that would achieve 100% ZETs soon thereafter.**

- California and industry agreed to close a series of loopholes in EPA's smog rules for trucks as California, over time, aligns its rules more closely with EPA. This agreement came with industry agreement to drop opposition to

California's Omnibus rule waiver. These loopholes provided large compliance margins for the long life of big trucks, badly eroding the EPA rules – which is why California, other states, and NGOs have asked EPA to reconsider and close them. Now that industry will be manufacturing trucks consistent with the deal, which phases out the loopholes by the mid 2030s, **EPA can, after completing its carbon rule, carve out time to adjust its national smog rules to do the same by closing these loopholes– cutting pollution nationally, raising combustion truck costs, and accelerating the shift to ZETs. And it can now issue the Omnibus waiver with reduced litigation risk.**

These shifts opened by the state rules and deal pose an especially large opportunity for EPA's national rulemaking because many major U.S. ports are already covered by the California rules and deal. The California rules have been adopted up and down the west coast and in the Northeastern states, and those rules are now protected by the subsequent deal, meaning that all of the major Pacific ports and many of the largest Atlantic ports (including those in the Tri-state area around New York) will see electrification advance sharply, even without stronger federal action from EPA. Again, the California deal provides a path to electrify a quarter of the national fleet if it operates across all allied states, as is planned. EPA can build on this foundation, rather than simply replicating it in its carbon proposal. Because large chunks of the freight sector will now electrify more quickly, and more certainly, EPA has a much clearer hand to accelerate national rulemakings covering the entire sector, as core freight hubs are now swiftly electrifying.

Further, given this concentration, though electrifying the heaviest long-haul trucks (Class 8 vehicles) may pose some geographic challenges, given the long distances they cover, the majority of trucks operate on shorter distances, concentrated in freight hubs. So EPA should look for opportunities to strengthen electrification in each class of vehicles, including the slightly lighter trucks that are also covered by the state rule and deal, but which operate in more limited geographies.

The time to act is short. On the ZET front, EPA says it will finalize its carbon pollution rules by December 2023, so any increase in ambition must be built into the final rule immediately. And on combustion trucks, California and its allied states must start enforcing their rules by 2024 but still need a waiver from EPA to do so. EPA's timeline to adjust its own rules is also short because it must adhere to statutory multi-year lead-time requirements to make changes. Because it may be years before EPA again sets truck carbon pollution standards, it is critical that the standards being set now are as ambitious as possible – and now, thanks to state leadership paving the way for bolder federal action, they can be. If EPA is going to clean up those trucks by even the late 2020s, it needs to accelerate analytic work now to demonstrate that more ambitious electrification targets than have currently been

proposed are now possible, in the record for the open rulemaking, before swift finalization.

The White House should use its convening power to clear the way for required infrastructure, and align federal funds to accelerate progress.

This analytic work before the agency can be complemented by important cross-agency work led by the Administration and supported by utilities, the private sector, and state and local governments. There are important tools the White House has to further accelerate action, if EPA is to sprint as fast as the pollution crisis warrants:

- The White House, EPA, and the Departments of Energy (DOE) and Transportation (DOT) should convene truck makers, states, utilities, and communities to rapidly advance heavy-duty charger installations **with a focus on a joint heavy-duty infrastructure agreement, this fall, to align funds and policy to enhance ambition.** By far the best way to accelerate charging infrastructure is to pass a strong rule requiring ZETs, which is the investment signal the private sector needs. **But the White House can also help by aligning commitments and federal and state funding via an ambitious MOU committing utilities and local governments to accelerate charging and fueling infrastructure with aligned federal funds and support**. **Federal fund disbursement decisions, which cover billions of dollars in funds, should complement MOUs and should include a close look at the ability of grantee states to electrify truck fleets (including via infrastructure installation) as a key factor in judging applications.** Such an approach weds agreements to grants to support stringency and achieve climate, air pollution, and environmental justice goals. Specifically:

    - With a focus on the major ports and freight corridors, the White House should work with the DOE/DOT Joint Office and all parties to secure agreements to align public capital, utility planning, permitting, and private investments to accelerate infrastructure installation in these key areas. Indeed, recent analytic work demonstrates that this geographically focused strategy could greatly accelerate electrification. This MOU (or series of MOUs) could and should be negotiated this fall, and would provide important regulatory and investment signals to align infrastructure planning and roll out, thereby supporting the rules, while also channeling funds (as described below) in a strategic way.

    - EPA's major Inflation Reduction Act (IRA) green bank programs can support ZET purchases and fleet turnover, as well as charger installations. States submitting Climate Pollution Reduction Grant proposals should also be encouraged to focus significant resources on

the chargers needed to clean up freight sector pollution – which will also support Justice40 goals.

  - DOE's Loans Program Office should be encouraged to make significant loans in the ZET space, including by working with states to finance large scale infrastructure projects, including by using trucking fleets as "virtual power plants" that can supply grid power with their batteries when not in use, generating additional revenue to drive electrification.

  - DOT and the DOE/DOT Joint Office should provide funds and technical support to rapidly extend heavy-duty charging funding and technical assistance, building on their work on light-duty infrastructure to focus on the critical freight sector needs that can also deliver key environmental justice benefits to burdened communities.

  - The federal government should uplift major state charging funding efforts, like California's multi-billion dollar investment and parallel utility sector ratemaking programs, as models for others to follow, and consider ways state investments can anchor further federal and private sector funds by initiating projects that can receive further support.

  - The federal government should help catalyze private sector funds to support charging deployment, along the lines of the auto sector's recent alliance to accelerate buildout.

  - The White House should also continue to accelerate efforts to train union-certified electricians to build the network.

- The White House and EPA should also work to bring local governments and other pools of development capital – especially warehouse developers and online shipping company owners with major shipping assets (like Amazon) – firmly into the effort.

- Finally, the White House and EPA should deploy their full suite of Clean Air Act tools to move all actors in the freight system into alignment around decarbonization. Warehouse owners and operators are an especially important constituency, given their role in providing charging and fueling facilities, and setting standards for their fleets. Therefore, EPA should approve the South Coast Air Quality Management District's "WAIRE" rule which drives facility electrification by giving warehouse operators a regulatory obligation to reduce the "indirect source" emissions caused by trucks coming to warehouses into the federal State Implementation Plan for California – and encourage other states to take similar steps.

Aligning financial incentives and policy with EPA's efforts, and forwarding regulatory efforts to ready freight facilities for ZETs will help create a fiscal and policy context for success. These efforts need to move forward now, in parallel with quick EPA action on trucks, to build on the California deal and secure a national path forward by the end of the first term. With industry and the states now well ahead of the federal program, and significant IRA funds available to accelerate action, this is the time to accelerate ambition.

Locomotives: Bringing State Rules Safely into the Station

Cleaning up trucks is critically important, but rail is the other core element of the terrestrial freight system, and must be cleaned up in tandem with the trucking fleet with which it is fundamentally interdependent. Yet, EPA has not updated its locomotive pollution rules since the late 2000s, and decades-old locomotives continue to operate, even in highly-polluted air basins like the Los Angeles region.

The result? Truck transportation, dirty though it is, is becoming cleaner than rail transportation on trains with these dirty "zombie" engines from years past, and those zombie engines are pouring emissions into vulnerable communities, worsening an ongoing environmental justice tragedy. In essence, the companies "remanufacture" old engines over and over again, and send them back out on the tracks, meaning that locomotives operating now often have been "remanufactured" from trains made to pollution standards current twenty or more years ago. In light of this fleet of zombie trains, EPA must take action.

The back story: the California Air Resources Board is in the process of finalizing innovative locomotive rules for existing engines that, among other tools, would phase out the oldest zombie engines over time, create funds within rail companies to support zero emission technologies, and make it easier to stop illegal idling (which often occurs near homes and schools). As we have described above, these rules have massive health benefits, would accelerate zero emission technology deployments (including creating a good basis to capture further IRA funds for states and companies to promote this move), and could provide a basis for national action. The clock is ticking: By California state law, those rules must be done by late September.

If EPA does not act, these important rules may never go fully into force. Right now, EPA has old preemption rules on the books that erroneously have been been read by rail companies as an impediment to regulating their zombie locomotives (essentially on the implausible theory that these ancient locomotives are actually "new" locomotives that only EPA can regulate). The rail companies, already suing, will doubtless argue these old and wrong rules should be used to block California's standards. EPA has already said, in a proposal attached to its proposed truck carbon

pollution rule, that those preemption rules are wrong. But, if EPA does not clear them off the books, by October shortly after the CARB rules go final, the rail industry will surely use these outdated rules in its spurious litigation against California.

It must finalize a fix to its out-dated and wrong rail preemption regulations, that will otherwise be used by industry to attempt to block key California rules. If those rules are enforced, they will save thousands of lives and could be a model for national action. **EPA must issue this fix by October.** If rail continues to push litigation (or even succeed) momentum on rail electrification seeded by these new rules will sputter to a halt, even as it is critical to accelerate it.

That's not an outcome the Biden Administration's EPA should tolerate. Allowing rules EPA thinks are wrong to cloud the future of rail rules the country needs – and which communities rightly see as central to meeting EPA's environmental justice commitments – is the last thing the Administration should want. It needs to split out the locomotive fix from the much bigger truck rule and finalize it ASAP.

Of course, this action should only be the beginning. EPA must still issue strong federal standards, in the second Biden term. And in the meantime, the same sorts of MOUs and financial tools available to electrify trucking hubs can and should be focused on freight rail systems, with a particularly strong focus on electrification (including via catenary wires) on rail systems passing through Justice40-eligible communities. But that future is far more attainable if the state rules have gone into force, moving the industry, at last, to control its emissions and rein in its zombie locomotive fleet. If the Biden Administration acts, it will protect millions of people near train tracks and pivot the rail industry towards a much cleaner future, but it must act immediately. **Finalizing the rail preemption fix by October is the single most important near-term regulatory action the Biden Administration can take to address freight pollution.**

Conclusion

EPA has done a great deal in the first term to clean up transportation, but the massively polluting freight sector has lagged behind and EPA rules – including the key carbon pollution rules for trucks – now lag behind the status quo. It's not too late to fix that. Aligning IRA investments with the opportunities created by the new California truck deal and rail rule could let federal progress surge ahead – and go further even than EPA thought possible when drafting its initial proposals. But time is very short.

High-level vision from the White House and Administrator Regan is needed to take these heavy-duty opportunities, this autumn, and power forward a cleaner freight sector and healthier communities.