



May 10, 2021

Transportation Advisory Panel
New York State Climate Action Council

Via email: Transportation.publiccomment@dot.ny.gov

Re: Comments on the Transportation Advisory Panel's Recommendations to the Climate Action Council

Dear Advisory Panel and Climate Action Council members:

Earthjustice respectfully submits the following comments to the Transportation Advisory Panel (the “Panel”) and the Climate Action Council (“CAC”), regarding the Panel’s recommendations to the CAC for a comprehensive plan to reduce emissions from New York’s transportation sector in accordance with the Climate Leadership and Community Protection Act (“CLCPA”). We appreciate the opportunity to comment at this early stage and urge the CAC to consider all stakeholder comments as it crafts a scoping plan, particularly those from impacted communities and those focusing on implementing the CLCPA’s commitment to equity. Going forward, the CAC should continue to be transparent about its process by posting substantive documents and materials online, informing the public of its progress and timeline, and giving advance notice of opportunities to participate in meetings and comment.

Crafting comprehensive recommendations to reduce transportation sector emissions is no small task. New York’s transportation sector is the state’s largest source of greenhouse gas (“GHG”) emissions as well as a source of harmful co-pollutants. In New York State, transportation accounts for 36% of statewide GHG emissions, more than any other end-use sector.¹ Total transportation sector GHG emissions have increased 25% since 1990—“by far” the greatest increase of all in-state energy-related emission sources.² The state’s own modeling indicates that transportation sector GHG emissions must be reduced by at least 86% of 2016 levels by 2050 (and 31% of 2016 levels by 2030), and likely by more, to meet the CLCPA’s binding economywide emissions limits.³ Vehicle tailpipe emissions are also a serious public

¹ N.Y. St. Energy Rsch. & Dev. Agency, *New York State Greenhouse Gas Inventory: 1990-2016* S-12 (2019), <https://www.nyserra.ny.gov/-/media/Files/EDPPP/Energy-Prices/Energy-Statistics/greenhouse-gas-inventory.pdf> (“NYSERDA GHG Inventory”).

² *Id.* at S-10, 19 tbl.11.

³ Energy & Env’t Econ., *Pathways to Deep Decarbonization in New York State* 23 tbl.2 (2020), <https://climate.ny.gov/-/media/CLCPA/Files/2020-06-24-NYS-Decarbonization-Pathways-Report.pdf> (“Pathways Analysis”).

health problem, as they contribute heavily to air pollution that disproportionately affects communities of color within the state.⁴

To comply with the CLCPA's emissions limits, as well as its mandate to prioritize reduction of co-pollutants in disadvantaged communities, the Panel and the CAC should focus attention on the most critical and enforceable policies: (1) enforceable electric vehicle ("EV") sales mandates; (2) maximizing co-pollutant reductions by electrification of trucks, buses, and other medium- and heavy-duty vehicles ("MHDVs"); and (3) other policies designed to ensure achievement of transportation sector emission reduction targets, such as those that enable affordable vehicle electrification and reduce vehicle miles traveled through expanded public transit and land-use planning. In particular, meeting the CLCPA's emission reduction targets and equity provisions requires:

- Adopting an "electrification-first" transportation policy for New York State to expedite the phase-out of fossil fuel-burning combustion vehicles across all vehicle segments;
- Opting in to California's EV sales mandates for light-duty passenger vehicles, MHDVs, and other non-road vehicle sectors as soon as feasible;
- Developing EV stock and charging infrastructure deployment targets for 2030, 2040, and 2050 to ensure attainment of economywide decarbonization by midcentury;
- Prioritizing efforts to turn over diesel MHDV fleets, especially those that impact disadvantaged communities, to maximize the air quality benefits of electrification;
- Encouraging utilities to develop EV-friendly rates that will hasten the transition towards zero-emission vehicles ("ZEVs") across all sectors and that will maximize the cost savings from fuel switching to electricity;
- Adequately funding state and utility incentive programs and making such programs permanent;
- Harmonizing existing state programs to facilitate adoption of ZEVs;
- Supporting facility-based and other local strategies to promote electrification of vehicles in areas with significant volumes of car and truck traffic, including green zones and authorities in the Clean Air Act such as Indirect Source Rules; and
- Finalizing studies to identify locations with disproportionately high concentrations of diesel emissions, in order to prioritize those areas with funding, incentives, and investments.

Furthermore, the CAC's scoping plan should not provide incentives for low-carbon drop-in fuels or support market-reliant policies that do not directly regulate vehicle emissions, as those policies could prolong our reliance on internal combustion engine ("ICE") vehicles and divert resources from the investments we need to meet electrification goals. Given the scale and pace of

⁴ Pinto de Moura et al., Union of Concerned Scientists, *Inequitable Exposure to Air Pollution from Vehicles in the Northeast and Mid-Atlantic* (2019), <https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles>.

electrification needed to meet climate, equity, and public health goals, there is no room for policies that will serve to perpetuate the status quo.

I. THE SCOPING PLAN MUST PRIORITIZE ELECTRIFICATION TO ACHIEVE A ZERO-EMISSIONS TRANSPORTATION SECTOR.

The primary function of the Transportation Advisory Panel should be to offer a set of policy recommendations to lay the groundwork for the transition to a fully electrified vehicle fleet, with any role for non-electric fuels explicitly preserved for genuinely hard-to-electrify segments. The state-commissioned Pathways Analysis reached the conclusion that “[m]eeting CLCPA goals likely requires that transportation switch to electric technologies.”⁵ Under the CLCPA, advisory panel recommendations must prioritize actions that are “designed to reduce emissions” and that will “ensure the attainment” of statewide emissions limits, while “maximiz[ing] reductions of both [GHGs] and co-pollutants in disadvantaged communities.” *See* ECL §§ 75-0101(6), 75-0103(13), (14)(d). The CLCPA specifies that the scoping plan must include recommendations for electrification of personal and freight transportation. *See id.* § 75-0103(13)(f).

The scoping plan should make clear that New York’s transportation policy is electrification-first, similar to the California Air Resources Board (“CARB”) strategy of “zero-emissions wherever feasible” and promoting “widespread transportation electrification.” Electrification of nearly all vehicles is the only way to reach the CLCPA’s mandatory emissions limits; it also has important public health benefits by eliminating all tailpipe emissions, benefits that will improve air quality and prevent adverse health outcomes in communities most impacted by the transportation sector.

1. Panel Recommendations Must Prioritize the Accelerated Phase Out of Combustion Vehicles

The state’s modeling demonstrates that meeting the CLCPA’s economywide emission limits will require a reduction in transportation sector GHG emissions of somewhere between 86–97% relative to 2016 levels.⁶ Emissions reductions of this magnitude will require a massive shift towards zero-emission vehicles (“ZEVs”). Decarbonization by midcentury is feasible, and even cost-effective, but will require a “phase-out of internal combustion engine [] vehicles and replacement with electric drivetrains” according to a recent report from the National Academies of Science.⁷ Transitioning towards an all-electric vehicle fleet is consistent with the CLCPA, which explicitly calls for policies “to promote the beneficial electrification of personal and freight transport” to reduce transportation sector emissions. ECL § 75-0103(13)(f). Recent data underscores the scale and urgency with which the state must pursue a strategy to achieve widespread transportation electrification. The state’s Pathways Analysis suggests that all new

⁵ Pathways Analysis at 21.

⁶ Pathways Analysis at 23 tbl.2.

⁷ Nat’l Acads. Scis., Eng’g, & Med., *Accelerating Decarbonization of the U.S. Energy System* 48 (2021), <https://www.nap.edu/read/25932/chapter/1> (“NAS Decarbonization Report”).

light-duty vehicle and bus sales, and 95% of new MHDV sales must be ZEVs by 2040 to meet CLCPA emission limits.⁸

Notably, the 2040 target mentioned above comes well before the CLCPA's net-zero goals and binding 85% emission limit apply. Critical elements of the pathway to electrification must be completed in the near-term to avoid technology lock-in and to minimize transition costs.⁹ Slow turnover of vehicles, especially MHDVs, necessitates careful and forward-looking efforts to facilitate the development of the infrastructure needed to make the transition to a fully electrified on-road vehicle fleet by 2050. Meeting the transportation sector targets set forth in the Pathways Analysis requires nothing less than a fundamental transformation for the transportation sector away from ICE vehicles (and their supporting infrastructure) across all vehicle segments. Absent strong and targeted mandates, such a transformation will not happen.

We know that the right mix of policies can hasten the transition to a zero-emissions transportation sector at a tempo that is consistent with New York's 2030 and 2050 targets. The National Academies Committee on Accelerating Decarbonization in the U.S. recommends "manufacturing and performance standards for electric vehicles" that specify "fleetwide emissions standards for new vehicle sales that drop to zero in time for the on-road fleet to meet net-zero goals in 2050" and a commensurate development of charging infrastructure.¹⁰ The bulk of emissions reductions will need to come from sales mandates and other policies to support the transition away from ICE vehicles and towards ZEVs, with a sizeable contribution played by transportation demand management strategies as well.¹¹ For example, scenario modeling shows that over 70% of the emission reductions required for the transportation sector to achieve net zero emissions are realized through EV sales mandates.¹²

The foundation for an all-electric vehicle fleet in 2050 must be built in the near-term. To meet CLCPA emissions limits in time, there is little room for policies that would prolong reliance on incumbent combustion technology, which would only divert investment away from burgeoning markets for electric vehicles and charging infrastructure. Given vehicles' long lifetimes, banning new sales of fossil fuel-powered ICE vehicles must happen "almost immediately,"¹³ so that by the end of the decade EVs "become the predominant share of new purchases."¹⁴ The Panel needs to evaluate New York State-specific EV stock targets by vehicle

⁸ Pathways Analysis at 12 tbl.1.

⁹ NAS Decarbonization Report at 48.

¹⁰ NAS Decarbonization Report at 10.

¹¹ See Jeffrey Risman, Energy Innovation, *How to Reach U.S. Net Zero Emissions by 2050: Decarbonizing Transportation*, Forbes, Nov. 11, 2019,

<https://www.forbes.com/sites/energyinnovation/2019/11/11/how-to-reach-us-net-zero-emissions-by-2050-decarbonizing-transportation/?sh=6b2a72772040>.

¹² *Id.*

¹³ *Id.*

¹⁴ NAS Decarbonization Report at 72.

type for 2030, 2040, and 2050, and propose concrete recommendations to ensure those targets will be met.

Fortunately, many vehicle types can be electrified now, and with concerted policymaking support, almost all vehicles will be suitable for electrification by the end of the decade.¹⁵ Nor should we prejudge the range of applications where electrification will be appropriate as the market matures. A “beachhead” strategy as touted by the International ZEV Alliance targets “initial applications that will support the growth and development of other [ZEV] applications” with “successful applications . . . develop[ing] in waves and contribut[ing] to a continuously expanding [ZEV] market.”¹⁶ Fostering that market must be the Panel’s overarching priority.

Recent developments support this strategy and call into question previous assumptions regarding the electrification of MHDV segments previously considered “hard to electrify.” ZEV technology is advancing quickly, opening up opportunities to electrify even the largest vehicles with the most demanding duty cycles as soon as 2030.¹⁷ A study from the Lawrence Berkeley National Laboratory earlier this year concluded that for class 8 trucks – long considered the Achilles’ heel of MHDV electrification – electric models offer a 13% savings over diesel on a total cost of ownership basis with limited reduction in payload capacity today.¹⁸ New York State has been identified as a high-priority region for electrification of regional haul routes¹⁹ and could be well positioned to lead the transition to ZEVs across a range of MHDV applications.

2. Adopting California’s EV Sales Mandates Is a Necessary First Step

The Panel is right to recommend that New York opt in to California’s ZEV sales mandates for passenger vehicles as well as for trucks and buses. As discussed above, sales mandates are a

¹⁵ See CAC, *Meeting 8* at slides 14–15 (Feb. 26, 2021); see also Int’l ZEV Alliance, *Moving Zero-Emission Freight Toward Commercialization* at 27–31 (2020), <http://www.zevalliance.org/wp-content/uploads/2020/12/Zero-Emission-Freight-Commercialization-dec2020.pdf>; ICF, *Comparison of Medium- and Heavy-Duty Technologies in California: Part 2: Total Cost of Ownership Technology Analysis* at 17–34 (2019), https://www.caetc.com/assets/files/ICF-Truck-Report_Final_December-2019.pdf; Cal. Air Resources Bd., *Advanced Clean Trucks Total Cost of Ownership Discussion Document* (preliminary draft 2019), <https://ww3.arb.ca.gov/regact/2019/act2019/apph.pdf>; North American Council for Freight Efficiency, *Guidance Report: Electric Trucks-Where They Make Sense* at 13–14 (2018), https://nacfe.org/wp-content/uploads/edd/2018/04/NACFE_CBEV_FULL_050118.pdf.

¹⁶ See Int’l ZEV Alliance, *supra* note 15, at 23.

¹⁷ Gabel Assocs., *Full Market Electrification in New Jersey* 29, fig.4.4 (2020), <http://www.chargevc.org/wp-content/uploads/2020/10/ChargeVC-Full-Market-Electrification-Study-FINAL-Oct-7-2020.pdf>.

¹⁸ Amol Phadke et al., Lawrence Berkeley Nat’l Lab., *Why Regional and Long-Haul Trucks Are Primed for Electrification Now* (2021), https://eta-publications.lbl.gov/sites/default/files/updated_5_final_ehdv_report_033121.pdf.

¹⁹ See Jessie Lund & Mike Roeth, RMI, *High Potential Regions for Electric Truck Deployments* 11 (2020), <https://rmi.org/insight/high-potential-regions-for-electric-truck-deployments/>.

foundational, market-enabling policy that will ultimately drive the bulk of the emissions reductions needed from the on-road transportation sector. And as was presented during the final Panel meeting earlier this month, there is simply no way to achieve sector-specific or economywide targets without California’s Advanced Clean Cars II (“ACC2”) rule, which would create a 100% ZEV sales mandate for passenger vehicles, and the Advanced Clean Trucks (“ACT”) rule, which would set ZEV sales mandates for different MHDV classes that increase over time.²⁰ This underscores the basic principle that direct emission reduction strategies like sales mandates and emission standards for vehicles do almost all the heavy lifting in terms of achieving progressing towards achievement of CLCPA mandates. These emission standards will be the foundation of any strategy to decarbonize the transportation sector, and the scoping plan should include a recommendation that the state move forward with the regulatory process to codify these rules as soon as possible.

Encouragingly, the New York State Department of Environmental Conservation (“DEC”) has begun efforts to adopt the ACT rule, along with other truck regulations that have been or will soon be finalized in California. We expect DEC to begin the formal rulemaking process while the CAC is finalizing the scoping plan. DEC’s regular rulemaking process need not be bound by the CAC scoping plan timeline. The ACT rule must be finalized before the end of 2021, and DEC should initiate the regulatory process to adopt the ACC2 and other emission standards as soon as they are finalized in California. The Panel should consider these timelines in its recommendations and the CAC should incorporate them into the scoping plan.

3. Recommendations for Supportive Policies Must Be Limited to Policies that Directly Facilitate Electrification

Creative policy mechanisms will be needed to support and encourage the transition to electric vehicles. Some of these have already been identified by the Panel, including investments in charging infrastructure and utility rate design reforms. These utility-level policies will play a large role in determining the pace at which the transportation sector electrifies. Rate design is of particular importance for MHDV fleets, as fleet managers are likely to be highly responsive to the relative cost savings between fueling with electricity and conventional fuels in making investment decisions. Utilities must be directed to remove barriers to MHDV fleet electrification—primarily, demand charges—as part of any effort to promote widespread electrification of on-road vehicles. Utilities and the state also have a sizeable role in subsidizing charging infrastructure installation at depots and wherever fleet vehicles are fueled, and in providing technical expertise to fleets as they transition to ZEVs. It is critical that the Panel finalize these recommendations and that the CAC incorporate them into the scoping plan.

Utility programs will need to be complemented by a series of permanent incentives to encourage early retirement of the existing fleet of ICE vehicles, especially those that are based near or operate in environmental justice communities. Incentive programs can build off existing programs like the New York State Energy Research and Development Authority’s Truck

²⁰ See Transp. Advisory Panel, CAC, *Meeting 13* (Apr. 9, 2021).

Voucher Incentive Program and the New York City Clean Trucks Program. But unlike the current programs, to be consistent with CLCPA mandates, state support must be limited to zero-emission vehicles. The scoping plan should include provisions requiring that these programs be expanded permanently, that funds be targeted to fleets impacting environmental justice communities, and that support be limited to vehicles that can affirmatively demonstrate they have zero tailpipe emissions. A revolving loan program or similar policy may be needed to provide financing and to defray the upfront cost differential for small- and medium-sized fleets that have less access to capital and have smaller margins. The state should use all available federal funds to capitalize these programs.

II. NEW YORK MUST PRIORITIZE REDUCING EMISSIONS FROM TRUCKS AND BUSES

In particular, the CAC must support the state in developing specific strategies to electrify MHDVs at the scale required by the CLCPA. While emissions from light-duty vehicles are projected to decline significantly even without additional policy support, emissions from other vehicle segments will continue to grow unless policymakers prioritize electrification in the MHDV and non-road vehicle segments.²¹ The latest data show that total vehicle miles traveled (“VMT”) from diesel-powered heavy-duty vehicles nearly doubled from 1990 to 2007, with most of that increase seen in the period since 2002.²² Through 2050, freight trucks’ total VMT is projected to increase by 54%, which would result in a net increase in total emissions even assuming improvements in fuel efficiency, unless mitigated by targeted policies to accelerate MHDV ZEV adoption.²³ Provisional findings presented to the CAC show that, under a “business as usual” scenario, ZEVs will account for barely more than one quarter of all new MHDV sales by midcentury, roughly 80% of the trucks and buses on the road in 2050 would still be burning fossil fuels, and CLCPA goals would be unattainable.²⁴ The scoping plan must keep the twin priorities of beneficial electrification and reduction of co-pollutants in disadvantaged communities at its core in order to fully implement the CLCPA. Prioritizing the electrification of MHDV fleets will enable decarbonization of the transportation sector in a manner that is consistent with the CLCPA’s important equity provisions.

1. The CLCPA Requires the CAC to Prioritize Eliminating Co-Pollutant Emissions from MHDVs

The CLCPA mandates that the scoping plan identify policies that will “maximize reductions of both [GHGs] and co-pollutants in disadvantaged communities.” ECL § 75-0103(14)(d). It also states that emissions reduction strategies “should prioritize the safety and health of

²¹ *Risman, supra* note 11.

²² NYSERDA GHG Inventory at 17 tbl. 10.

²³ See 21st Century Truck Partnership, *Research Blueprint* at 3 (2019), https://www.energy.gov/sites/prod/files/2019/02/f59/21CTPResearchBlueprint2019_FINAL.pdf.

²⁴ See CAC, *Meeting 8* at slide 17 (Feb. 26, 2021), <https://climate.ny.gov/-/media/CLCPA/Files/2021-01-26-CAC-Meeting-presentation.pdf>.

disadvantaged communities” and that public investments should be preferentially allocated in these communities. CLCPA § 1(7). For the transportation sector, this requires a strategy that explicitly prioritizes electrification of MHDV fleets.

Vehicle tailpipe emissions contribute heavily to air pollution that disproportionately affects communities of color within the state.²⁵ Emissions from MHDVs, while only comprising 10% of transportation sector, are responsible for an outsized share of health-harming co-pollutant emissions: about 45% of on-road nitrogen oxide (“NOx”) emissions and 57% of on-road fine particulate matter (“PM2.5”) emissions nationwide, and an even larger share in some heavily polluted communities.²⁶ These co-pollutants significantly impact public health, especially in communities near roadways and near facilities that attract significant volumes of truck traffic.

NOx harms human health directly by causing breathing problems and leading to reduced lung function. It is also the most significant contributor to the Northeast’s high ozone levels, which also cause respiratory problems. NOx has been identified as a “major and growing contributor” of persistent exceedances of the federal ozone air quality standard in New York and throughout the region.²⁷ PM2.5 causes premature death and is associated with adverse cardiovascular and respiratory health effects—with children being particularly vulnerable.

The health toll is substantial. Nearly 11,000 New Yorkers die prematurely each year due to exposure to PM2.5, even though the state is currently in compliance with the federal air quality standard.²⁸ In New York City alone, exposure to ozone and PM2.5 leads to almost 12,000 asthma emergency department visits per year, more than one-third of which are for children.²⁹ A health burden assessment analyzed PM2.5 emissions from on-road vehicles in the New York

²⁵ Pinto de Moura et al., *supra* note 4.

²⁶ Jimmy O’Dea, Union of Concerned Scientists, *Ready for Work: Now is the Time for Heavy-Duty Electric Vehicles 2* (2019), <https://www.ucsusa.org/sites/default/files/2019-12/ReadyforWorkFullReport.pdf>.

²⁷ Press Release, Ozone Transp. Comm’n, Statement of the Ozone Transport Commission Regarding the Need to Accelerate Electrification of Medium- and Heavy-Duty Vehicles (June 2, 2020),

https://otcair.org/upload/Documents/Formal%20Actions/OTC%20Statement%20on%20MHD%20ZEVs_20200602.pdf; Tad Aburn, Ozone Transp. Comm’n, *OTC/MANE-VU Stakeholder Webinar* at slide 4 (Mar. 30, 2020),

https://otcair.org/upload/Documents/Meeting%20Materials/OTC-MANEVU%20MSC_Stakeholder_Presentation%20Final%2020200330.pdf;

²⁸ Benjamin Bowe et al., *Burden of Cause-Specific Mortality Associated with PM2.5 Air Pollution in the United States*, 2 JAMA Network Open 1, at Suppl. Table 5 (2019), <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2755672>.

²⁹ NYC Dep’t of Health & Mental Hygiene, *Air Pollution and the Health of New Yorkers: The Impact of Fine Particulates and Ozone* 3–4, tbls.1 & 2 (n.d.), <https://www1.nyc.gov/assets/doh/downloads/pdf/eode/eode-air-quality-impact.pdf>.

City region and found that they contribute 320 annual deaths within New York City.³⁰ Truck and bus emissions account for a majority of that impact, causing 170 premature deaths in New York City each year (over 50% of the impact from all on-road vehicles) despite accounting for just 6% of vehicle miles traveled. Acute exposure to PM2.5 emissions from trucks and buses caused an additional 460 hospitalizations and emergency room visits each year, far exceeding the contribution from cars. Moreover, these impacts are not evenly distributed throughout the City, with more of the burden falling on residents in low-income neighborhoods.³¹

Any proposal that fails to target and prioritize the source of the emissions that lead to health outcomes like these is contrary to the CLCPA. There is increasing agreement that the best way to achieve emissions reductions from vehicles in a way that is consistent with the CLCPA is to prioritize MHDV electrification. For example, a new study from Texas A&M University found that electrifying 40% of the Houston region’s diesel-emitting MHDVs—a total of roughly 60,000 vehicles in all and 1% of the regional vehicle population—could reduce NOx emissions by more than 25% and would have the same air quality impact as electrifying 3.8 million passenger vehicles.³²

A similar strategy would pay huge dividends for New Yorkers. The New York City area experiences elevated NOx emissions and has the highest ozone levels in the country outside of California. Recognizing the “bang for the buck” impact of MHDV electrification, the regional body formed under the Clean Air Act to address ozone pollution in the Northeast issued a formal statement in support of “accelerat[ing] widespread of adoption of zero emission [MHDVs] as a regional air quality strategy.”³³

2. Additional Vehicle Emission Standards Are Needed to Meet Transportation-Sector Specific Emission Reduction Targets

Even with EV sales mandates in place, New York is still projected to fall well short of EV sales and emission reduction targets. The Pathways Analysis projects that New York will exceed the transportation sector’s emissions reduction target even with the ACC2 and ACT rules in place.³⁴ Modeling also shows that other strategies, such as transportation demand management or increasing reliance on liquid fuels, have limited additional emissions reduction benefit. Closing this gap is going to require creative and focused policy attention. It is critical that the Panel focus

³⁰ Iyad Kheirbeck et al., *The Contribution of Motor Vehicle Emissions to Ambient Fine Particulate Matter Public Health Impacts in New York City: A Health Burden Assessment*, 15 *Env’t Health* 1, 5–8 (2016), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5002106/pdf/12940_2016_Article_172.pdf.

³¹ *Id.*

³² David Farnsworth et al., *Cleaner by the Mile: Electric Trucks Can Have Outsized Environmental and Health Benefits*, *Utility Dive* (Apr. 14, 2021), <https://www.utilitydive.com/news/cleaner-by-the-mile-electric-trucks-can-have-outsized-environmental-and-he/598369/>.

³³ Press Release, Ozone Transp. Comm’n, *supra* note 27.

³⁴ Transp. Advisory Panel, CAC, *Meeting 13* (Apr. 9, 2021) (slides 16, 18, 29).

its recommendations squarely on those policies that can achieve direct, measurable emissions reductions commensurate with the scope of the CLCPA’s ambition.

While sales mandates will comprise the bulk of direct transportation sector emissions reductions, there are other emission standards promulgated or proposed in California that New York State can, and should, adopt. None of these rules have been proposed by the various Transportation Advisory Panel subgroups as potential mitigation strategies to recommend to the CAC. The Panel should add to its recommendations these complementary rules to create ZEV targets for a broader range of vehicles, which will significantly accelerate the replacement of ICE vehicles with ZEVs and make attainment of midcentury emission limits more likely while delivering substantially greater public health benefits.

a. California’s Advanced Clean Fleets Rule

Perhaps most influential is the Advanced Clean Fleets (“ACF”) rule, which is still in development but when enacted will serve as a complement to the ACT rule and will progress towards the goal of achieving “a full transition to zero-emission vehicles . . . as soon as possible.”³⁵ The ACF rule covers MHDVs and off-road yard tractors, and would phase in increasingly stringent ZEV purchase requirements for public fleets and “high priority” private fleets.³⁶ It also includes requirements to transition all class 7 and 8 drayage trucks that operate at seaports or railyards to zero-emissions by 2035.³⁷ The California Air Resources Board estimates that the ACF rule has significant emission reduction benefits above and beyond the ACT rule. It would result in greater MHDV ZEV deployment than the ACT rule through 2035 and would eliminate NOx emissions from high-priority private fleets and drayage trucks.³⁸

b. Other Vehicle Emission Standards in Effect or Being Developed in California

Other emission standards already in place or being developed in California would further accelerate ZEV deployment and provide sizeable GHG emission reduction and public health benefits. The Heavy-Duty Low NOx Omnibus (“HDO”) regulation, for example, would sharply reduce co-pollutant emissions from the share of new ICE trucks that will be marketed and sold even with the ACT and ACF rules in place. It is a necessary complement to any ZEV sales mandates as it would deliver significant public health benefits during the transition to a fully zero-emission MHDV fleet. DEC is actively considering a proposal to adopt the HDO rule alongside the ACT rule, and the Panel should recommend that DEC move forward with the rulemaking process as expeditiously as possible.

³⁵ *Advanced Clean Fleets – About*, CARB, <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/about> (last visited May 4, 2021).

³⁶ CARB, *Advanced Clean Fleets Regulation Workshop* (Mar. 2, 2021), https://ww2.arb.ca.gov/sites/default/files/2021-02/210302acfpres_ADA.pdf.

³⁷ *Id.*

³⁸ CARB, *Advanced Clean Fleets Preliminary Inventory Analysis* 8, 11, 14 (Mar. 2, 2021), https://ww2.arb.ca.gov/sites/default/files/2021-03/210302emissions_ADA.pdf.

Other on-road and off-road vehicle sectors with effective or anticipated zero-emission or cleaner combustion requirements in California include:

- Airport shuttle buses,
- Transit buses,
- Transport refrigeration units,
- Ocean-going vessels at berth,
- Forklifts,
- Locomotives,
- Commercial harbor craft, and
- Seaport and railyard cargo handling equipment.³⁹

These regulations provide an outside air quality benefit for communities adjacent to ports, warehouses, and other facilities where vehicles congregate while furthering progress towards ZEV deployment targets and GHG emission reduction mandates. Moreover, they require no new legal authority and little policy development. For these reasons, it is imperative that the Panel recommend them to the CAC for incorporation into the scoping plan.

c. New York State’s Diesel Emissions Reduction Act

The scoping plan should also leverage existing state programs to maximize electrification, especially MHDV fleets that operate in New York State. One opportunity is with respect to DEC’s implementation of the state’s Diesel Emissions Reduction Act (“DERA”), which applies to MHDV fleets that are owned, operated by, operated on behalf of, or leased by any state agency or public authority. It is imperative that the state lead by example in accelerating the transition to a zero-emissions transportation sector. The scoping plan should urge DEC to revisit the implementing regulations to require ZEVs as the preferred means of compliance under DERA, with ICE vehicles allowed only where zero-emission technology for a given market segment is not yet viable.

d. State and Local Fleets

In line with the proposed Panel recommendation to promote electrification of state fleets, the scoping plan should include a mandatory phase-in schedule to convert the state’s fleet to ZEVs as soon as possible. The scoping plan should also promote electrification of city and local fleets, such as refuse trucks, that would offer important air quality benefits while furthering deployment of EVs in important market segments. Currently pending legislation would address some of these fleets, including transit buses and state-operated fleets, and the CAC should support those efforts.

3. Targeted Policies Aimed at Reducing Diesel Exposures in Areas with Significant Truck Volumes

³⁹ CARB, *Advanced Clean Fleets Regulation Workshop 8* (Mar. 2, 2021), https://ww2.arb.ca.gov/sites/default/files/2021-02/210302acfpres_ADA.pdf.

It is critical that the scoping plan reflect the disproportionate burden and localized impact of transportation emissions on disadvantaged communities. Numerous studies confirm that co-pollutant emissions are most elevated within a few hundred feet of a roadway and impact communities within a mile of a polluting facility. In Albany, Department of Health data confirms a substantial discrepancy in asthma hospitalization rates between the South End neighborhood, which experiences “heavy truck and other diesel vehicle traffic, train traffic and activities at the Port of Albany,” and similar neighborhoods further from the Port.⁴⁰ In Buffalo, asthma rates are four times the national average in neighborhoods adjacent to the Peace Bridge and the huge volumes of traffic that traverse it.⁴¹

A study across the river from New York, in the heavily polluted ports of Newark and Elizabeth in New Jersey, found that areas with the highest exposures are more likely to be “close to or downwind from port facilities, railyards, and high-density truck and bus routes.”⁴² MHDVs and non-road sources at ports and railyards emit the greatest share of health-harming co-pollutants in these communities.⁴³ Even modest increases in electrification of MHDV and other vehicle sectors targeted these locations can lead to “meaningful improvement in health outcomes” for residents and workers.⁴⁴

While the state is constrained in terms of the emission standards it can adopt under the Clean Air Act beyond those identified above, there are viable strategies that would incentivize electrification while delivering localized emission reduction benefits to environmental justice communities. The Panel’s Electrification and Fuels subgroup has identified “green zone strategies” as a potential recommendation. It is critical that the Panel finalize this recommendation to facilitate state and local action aimed at minimizing localized impacts of truck and bus pollution and to incentivize turnover of diesel fleets to ZEVs.

One potential model for a “green zone” strategy could be adapted from the Port of Long Angeles and Port of Long Beach Clean Air Action Plan. That plan includes a program that would set a fee on trucks entering the ports, with exemptions for ZEVs.⁴⁵ Implementing a similar plan at facilities in New York State with significant truck volumes could drive investment into zero-

⁴⁰ New York State Dep’t of Health, *Information Sheet: Albany South End Community Health Outcome Review* (2019), https://health.ny.gov/environmental/investigations/albany_south_end/southend_fact_sheet.pdf.

⁴¹ Dan Telvock, *Asthma Plagues Peace Bridge Neighborhood*, Investigative Post, May 25, 2013, <https://www.investigativepost.org/2013/05/25/asthma-epidemic-near-peace-bridge/>.

⁴² Paul Allen et al., M.J. Bradley & Assocs., *Newark Community Impacts of Mobile Source Emissions* 8 (2020), http://www.njeja.org/wp-content/uploads/2020/11/NewarkCommunityImpacts_FINAL-2.pdf.

⁴³ *Id.* at 11, fig. 10.

⁴⁴ *Id.* at 13.

⁴⁵ San Pedro Bay Ports Clean Air Action Plan, *Clean Trucks Program: Overview of New Registration Requirements and FAQ* (2018), <https://cleanairactionplan.org/documents/clean-trucks-program-tariff-change-fact-sheet-sept-2018.pdf>.

emission freight transportation alternatives but requires setting the fee at an appropriate level. The Panel should recommend that the state identify facilities that attract significant truck volumes adjacent to communities (such as ports, depots, warehouses, distribution centers, etc.) and propose a program to incentivize fleet owners to transition away from diesel.

Other potential strategies include municipal-level policies to mitigate the impact of increased truck traffic in urban areas. The Panel should recommend that the state support policies based on Santa Monica’s zero-emissions delivery zone, which addresses the impact of last-mile delivery and drayage truck traffic in heavily populated areas.⁴⁶ New York State previously studied the viability of “green loading zones” for New York City, which receives over 100,000 freight deliveries per day.⁴⁷ That study was finalized in 2014, and given the pace of development in MHDV ZEV technology since then, the Panel should recommend an update to the study and implementation of any policies that come out of the project. Moreover, the Panel should recommend that the state appropriately funnel federal Department of Transportation funds to support these types of policies.

Finally, the Panel should recommend that New York State exercise its authority under the Clean Air Act to implement Indirect Source Rules (ISRs) as part of its planning to come into compliance with federal air quality standards. ISRs would allow the state to require implementation of emission control measures at new and modified warehouses, distribution centers, and other facilities that attract vehicle traffic. An ISR is currently being developed in California’s South Coast Air Quality Management District and provides an example of how the policy could be applied.

III. ADDITIONAL POLICY RECOMMENDATIONS ARE NECESSARY TO REDUCE VEHICLE MILES TRAVELED

The Pathways Analysis reached the conclusion that meeting CLCPA goals will also require “substantial reductions in vehicle miles traveled”⁴⁸ This is also the conclusion of the National Academies Committee on Accelerating Decarbonization. We support the Panel’s proposal to recommend bold targets to meaningfully expand access to public transit, increase affordability, and improve first-mile and last-mile connectivity. Incorporating transit considerations and disincentivizing reliance on vehicles in land use planning will also boost efforts to reduce VMT. In addition to these policies, the scoping plan should include recommendations for freight demand management to mitigate the impact of increased freight truck traffic expected through 2050.

⁴⁶ *Santa Monica Launches Zero-Emissions Delivery Zone*, SmartCitiesWorld (Mar. 5, 2021), <https://www.smartcitiesworld.net/news/news/santa-monica-launches-zero-emissions-delivery-zone-6162>.

⁴⁷ NYSERDA Rep. 14-22 / NYS DOT Task C-13-52, *New York City Green Loading Zones Study: Final Report* (2014), https://www.dot.ny.gov/divisions/engineering/technical-services/trans-r-and-d-repository/C-13-52%20Final%20Report_7-2014.pdf.

⁴⁸ Pathways Analysis at 22.

IV. THE SCOPING PLAN SHOULD NOT RELY ON MARKET-BASED MECHANISMS OR “BRIDGE FUELS”

Given the need for New York to move as quickly as practicable away from fossil fuels and combustion engines in all vehicles, the Panel recommendation and scoping plan should not support the use of incremental, market-based mechanisms or policies that subsidize or facilitate the widespread use of “bridge fuels” such as biodiesel or “renewable natural gas” (RNG) in vehicles that can be electrified. These measures fail to eliminate disproportionate co-pollutant emissions in disadvantaged communities, fail to reduce GHG emissions quickly enough to reach CLCPA benchmarks, prolong the use of combustion engines, postpone the transition to electrified transportation, and fail to ensure efficient or equitable targeting of revenue streams. The CLCPA requires that the scoping plan be designed to “ensure attainment” of mandatory emission limits and these policies do not provide sufficient assurance that we will attain the necessary reductions. At the very least, any recommendations supporting low-carbon fuels should be tailored to specific uses and before policy adoption, the state must evaluate: (i) the actual emissions reduction potential of each alternative fuel, (ii) potential costs and local impacts including tailpipe emissions and localized pollution from combustion as well as impacts of expanding production, and (iii) whether expanded use of the fuel is compatible with decarbonization by midcentury.

1. Market-Based Policies Do Not Sufficiently Ensure Emissions Reductions or Equitable Implementation and Investment

a. Transportation and Climate Initiative

In December 2020, New York declined to sign on to the TCI-P (for “program”) memorandum of understanding, along with many of the Northeast and Mid-Atlantic states that had participated in the Transportation and Climate Initiative over the past decade. With the array of other proposals from the Panel to cut transportation emissions, TCI-P would likely have minimal effect on overall emissions and is not an essential revenue-generating mechanism.

First, TCI-P would not guarantee the level of emissions reductions needed to meet CLCPA benchmarks. The Memorandum of Understanding sets a cap on emissions that would begin in 2023 and decline each year to achieve a 30 percent reduction by 2032. Under the CLCPA, however, New York must achieve a 40 percent reduction in overall emissions from 1990 levels by 2030. The state will therefore have to rely on other mandatory transportation emissions reduction policies that would achieve the same or greater emissions reductions without TCI-P. Further, while states in the TCI-P will auction allowances up to a designated cap each year, those reductions are not guaranteed, since the program allows for unlimited banking of CO₂ allowances for future compliance years as well as some use of offsets.

Second, TCI-P does not satisfy CLCPA equity mandates because it fails to prioritize GHG and co-pollutant reductions in overburdened communities. Because TCI-P does not target diesel truck emissions or areas with high traffic congestion, the program would not eliminate the

disproportionate burden of air pollution faced by many communities of color in the state, which would likely “still face higher overall air pollution exposures.”⁴⁹

New revenue directed to public transit, fleet electrification and charging infrastructure is an appealing prospect, and the state should continue to explore ways to generate broader revenue on an economy-wide basis as well as targeted revenue for transportation, as it has done with New York City’s congestion pricing plan. While the CAC is charged with evaluating overall costs and benefits of the scoping plan, however, it is not obligated to determine revenue generation mechanisms or budget for all programs included in the plan, and it need not urge the state to sign on to a flawed program simply because of the desire for revenue.

b. Low Carbon Fuel Standard

A Low-Carbon Fuel Standard (LCFS) has similar flaws to TCI-P, with two additional problems: first, it is likely to grant credits to liquid fuels that have fewer GHG emissions than petroleum-based fuels but still produce GHG and tailpipe emissions; and second, there is no public accountability for use of funds by the private companies that receive credits.

As a “technology-neutral” policy, a LCFS will likely subsidize the expanded use of liquid fuels that prolong the use of combustion engines while still producing GHG and tailpipe emissions. Because these fuels have lower GHG emissions than petroleum-based fuels, their manufacturers would receive credit, thereby subsidizing their use and encouraging their expansion. Ultimately, however, New York will need to fully electrify all vehicles to the extent possible, so it is unwise to expand current investment in fuels that will have to be phased out in 30 years in all but the most limited cases (such as aviation, shipping and some off-road vehicles).

Finally, and perhaps most problematic, the revenue raised through a LCFS will go directly to private companies rather than be collected by the government. As a completely private market, there would be no transparency or accountability regarding the use of revenue generated through an LCFS, and funds would likely be used to expand industries in a way that is not the most efficient or equitable investment toward a zero-emissions transportation sector in New York. For example, some companies would use revenue to expand the use of RNG infrastructure or biofuels, even though these fuels have no pathway to zero emissions. Investment of revenue generated under a LCFS would also bypass the CLCPA’s 35% investment mandate for disadvantaged communities. It is highly unlikely that revenue generated through a LCFS would be invested where it is most needed to expand public transit access, make EVs more accessible and affordable, or target co-pollutant emissions in overburdened areas.

2. “Bridge” Fuels Prolong Use of Internal Combustion Engines and Should Not Be Promoted for Widespread Use

⁴⁹ TRECH Project, *TRECH Project Research Update, Preliminary Results 2* (Oct. 6, 2020), <https://cdn1.sph.harvard.edu/wpcontent/uploads/sites/2343/2020/10/TRECHResearchUpdate10.20.pdf>.

The CAC should avoid incorporating any policies in the scoping plan that subsidize or promote the widespread use of low-carbon fuels in the transportation sector. New York must be cautious not to chase short-term emissions reductions that could jeopardize or complicate efforts to meet our aggressive longer-term goals. Policies that incentivize cleaner forms of drop-in fuels could prolong our reliance on ICE vehicles, which can thwart attainment of the ambitious goals codified in New York and elsewhere:

[M]oderate transportation sector reduction can be achieved by blending conventional biofuels with petroleum-based transportation fuels. However, there is strong agreement in the literature that decarbonizing transportation entails the phase-out of [ICE] vehicles and replacement with electric drivetrains Policies that produce incremental reductions in emissions without facilitating transformation can lead to technology lock-in and emissions cul-de-sacs that make deep decarbonization by midcentury unattainable.⁵⁰

The limited short-term emissions reduction benefit achieved by low-carbon fuels are likely to come at the expense of long-term electrification, which also carries the promise of eliminating adverse health impacts from co-pollutant emissions. Alternative fuels including RNG, hydrogen, and biofuels/biodiesel are unlikely to be scalable or sufficiently carbon-free to be compatible with a zero-emissions transportation sector by midcentury and should be supported only in limited cases where electrification is not expected to be fully viable. Under the CLCPA, advisory panel recommendations must prioritize actions that will “ensure attainment” of statewide emissions limits, while “maximiz[ing] reductions of both [GHGs] and co-pollutants in disadvantaged communities.” See ECL §§ 75-0101(6), 75-0103(13), (14)(d). Expanded use of these fuels does neither.

Because most low-carbon fuels can be used with existing combustion engines, they may seem like an appealing interim option but most have no pathway to zero emissions by midcentury. For example, supply of renewable natural gas (RNG), also known as “biogas” or “biomethane,” is necessarily limited to existing sources: it is captured from waste or biological matter such as landfills, wastewater treatment plants, and animal waste from large farming operations. Existing sources amount to what experts estimate is a “drop in the bucket” compared to demand for fuels, particularly in transportation.⁵¹ Industry estimates that even fully harnessing all sources, RNG could only replace about 6–13% of existing fossil gas use.⁵²

Other options, such as hydrogen produced exclusively from renewable energy, are expensive and inefficient, and should be reserved for uses where electrification is not viable. To produce 100% renewable hydrogen, an electrolyzer must have access to *3 to 3.5 times* its installed

⁵⁰ *Id.*

⁵¹ Arlene Karidis, *Scaling RNG for Transportation Fuel: Barriers and Opportunities*, Waste360 (Nov. 24, 2020), <https://www.waste360.com/waste-energy/scaling-rng-transportation-fuel-barriers-and-opportunities>.

⁵² See Sasan Saadat et al., Earthjustice, *Rhetoric vs. Reality: The Myth of “Renewable” Natural Gas” for Building Decarbonization* 11 (2020), https://earthjustice.org/sites/default/files/feature/2020/report-decarb/Report_Building-Decarbonization-2020.pdf.

capacity of solar or wind generation.⁵³ Because of this inherent inefficiency, hydrogen will *always* be considerably more expensive than directly using electricity wherever it is possible to do so. Compressing and transporting hydrogen to fueling stations, and then using fuel cells to convert it back into electricity all result in additional energy loss that makes hydrogen cars about one-third as efficient as battery-electric cars.

In addition, because some forms of low-carbon fuel still produce harmful tailpipe emissions and their production can have other adverse, disproportionate impacts on disadvantaged communities, policies that support their use should be disfavored under the CLCPA's equity provisions. While their use may comparatively reduce GHG emissions, they will continue to cause air pollution, particularly in disadvantaged communities. Evidence indicates that biodiesel may even have *higher* NOx emissions than petroleum diesel.⁵⁴ A new, comprehensive study using current vehicle technologies demonstrates that, under modern conditions, biodiesel increases emissions of NOx by 4%, hydrocarbon by 7%, and carbon monoxide by 10%—a “striking contrast” to the conventional wisdom related to air quality impacts of alternative drop-in fuels that requires a reevaluation of policy strategies.⁵⁵ Recent modeling shows that replacing conventional fossil fuels with biofuels would increase NOx emissions at urban scales.⁵⁶ New research also indicates that exhaust from RNG combustion may be *more toxic* than fossil gas, with exposures leading to higher mutagenicity and causing more DNA damage.⁵⁷

Finally, production of certain low-carbon fuels can also have other adverse, disproportionate impacts on disadvantaged communities. Large dairy and hog farm operations are located disproportionately in environmental justice communities, and incentives to scale up production at these operations to supply RNG, as well as the need to build pipelines and infrastructure to transport RNG from these locations, could have negative impacts on local communities.⁵⁸ The

⁵³ John Eichman & Francisco-Flores Espino, *California Power-to-Gas and Power-to-Hydrogen Near-Term Business Case Evaluation*, at 37, National Renewable Energy Laboratory (Dec. 2016), <https://www.nrel.gov/docs/fy17osti/67384.pdf>.

⁵⁴ Nora Traviss, *Breathing Easier? The Known Impacts of Biodiesel on Air Quality*, 3 *Biofuels* 285 (2012), <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3622266/>.

⁵⁵ Jane O'Malley & Stephanie Searle, Int'l Council on Clean Transp., *Air Quality Impacts of Biodiesel in the United States* (2021), <https://theicct.org/publications/us-biodiesel-impacts-mar2021>.

⁵⁶ Daniela Dias et al., *Modelling of Emissions and Energy Use from Biofuel Fuelled Vehicles at Urban Scale*, 11 *Sustainability* 2902 (2019), <https://www.mdpi.com/2071-1050/11/10/2902/pdf>.

⁵⁷ Michael J. Kleeman et al., UC Davis, *Air Quality Implications of Using Biogas to Replace Natural Gas in California* iii (2020), <https://ww2.energy.ca.gov/2020publications/CEC-500-2020-034/CEC-500-2020-034.pdf>.

⁵⁸ *See Concerns with Directed Biogas Projects in North Carolina* (2021), <https://www.ncconservationnetwork.org/wp-content/uploads/2021/03/biogaspositionpaperNC33021.pdf>.

CLCPA explicitly prohibits the state from taking actions or promulgating regulations under the statute that would have disproportionate adverse impacts on disadvantaged communities.

For these reasons, the CAC should not confuse the potential for low-carbon fuels to help in decarbonizing the very limited portions of the transportation sector such as shipping and aviation, where electrification may remain out of reach for the foreseeable future, with a promise for their widespread use in passenger vehicles and MHDVs. The CAC should be very careful about diverting much-needed resources down a dead-end path that does not lead to a non-polluting zero-emissions transportation sector and should limit its support of low-carbon fuels for transportation.

CONCLUSION

Earthjustice appreciates the opportunity to provide comments at this important stage as the Transportation Advisory Panel finalizes its recommendations to the CAC. It is critical that the scoping plan shape a transportation sector policy that prioritizes electrification of fleets and zero tailpipe emissions in disadvantaged communities, in line with the CLCPA's mandate. We look forward to continued engagement with the CAC as it shapes the scoping plan over the coming months.

Sincerely,

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