



ELECTRIFY CA: A HIGH ROAD TO CLEAN TRANSPORTATION

EXECUTIVE SUMMARY

This proposed set of policies establishes a framework for achieving California's 2030 Climate Action Plan goals. We aim to rapidly and equitably transition California toward net zero energy light duty vehicles and residential buildings by:

- *Accelerating California's clean vehicle goals so that 100% of light-duty vehicles sold in the state will be zero- and low-emission by 2027;*
- *Offsetting resulting increases in energy demand by establishing zero-emission vehicle (ZEV) efficiency standards, reducing vehicle miles traveled, and building new renewable energy capacity;*
- *Expanding and transforming clean vehicle financial incentives to be point of purchase so they meet the needs of low- and moderate-income families;*
- *Setting price and income caps on state vehicle rebates to prevent state dollars from being spent on luxury vehicles and to ensure rebate money is going to those who need it;*
- *Upgrading infrastructure in multi-unit, affordable, and aging housing stock to improve reliability and put frontline communities at the forefront of the clean energy transition;*
- *Significantly increasing public charging infrastructure to get ahead of future demand;*
- *Supporting strong labor standards which ensure that new infrastructure is built by a skilled and trained workforce earning family-supporting wages;*
- *Making California a leader in the emerging battery processing and recycling industry;*
- *Enshrining the principles of reduce, reuse, and recycle in the transportation sector to minimize strain on mineral supplies, eliminate unnecessary waste, and further lower lifecycle emissions.*

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INTRODUCTION

The transportation sector is the state's single largest source of GHG emissions, accounting for more than half of California's carbon pollution when fueling is taken into account. Roughly 70 percent of these GHG emissions are from light duty passenger vehicles — cars, motorcycles, SUVs, and pickup trucks — meaning that addressing emissions from this sector will require most or all of the miles driven by these vehicles to be powered by clean sources of energy. Market trends indicate that most of these vehicles will predominantly be battery electric, but we believe it's important to maintain flexibility by supporting other low- and zero-carbon liquid and gaseous fuels as well as plug-in hybrid vehicles with sufficient battery-only range.

The [California Air Resources Board's \(CARB\) 2017 Scoping Plan](#) addresses the requirements of SB 32 to cut total GHG emissions by 40 percent from 1990 levels by 2030, with most of those recommended reductions coming from the transportation sector. While California legislators and regulators have already taken some steps to decarbonize this key emission sector, recent assessments have made it clear significant additional efforts are needed to overcome economic and social barriers to clean transportation options.

Nonpartisan nonprofit Next10's annual [California Green Innovation Index](#) has shown that the state will need to reduce emissions at a rate *nearly three times faster* than current efforts in order to meet its 2030 emissions target. Furthermore, a [February 2021 State Auditor report](#) revealed CARB has been inadequately monitoring and reporting GHG emissions, casting serious doubt over the progress California has actually made in addressing the existential threat of the climate crisis.

Given that the majority of state GHG emissions are from transportation, getting the state back on track will require a comprehensive re-envisioning of how California moves people and goods that also addresses longstanding problems in the sector, including air pollution, health impacts, traffic congestion, urban sprawl, economic burdens, social inequity, and accessibility — especially for people with low-incomes or disabilities. One major difficulty that has yet to be solved is the deep connection between state transportation needs and the location, density, and energy efficiency of building stock, a link that grows increasingly important as vehicle repowering shifts from gas stations to home, business, and public chargers. Rerouting transportation fuels from foreign fossil supply lines to in-state clean energy has many environmental and security advantages, but must be done with care and consideration to avoid erasing the world-leading progress California has made in decarbonizing its electricity resources.

Nearly all of California's GHG reductions since the state's first climate plan in 2008 have come from the electricity sector, which by 2019 had already reduced its GHG emissions by half. This was accomplished through a portfolio of measures, including a power plant GHG emission standard phasing out coal, energy efficiency targets, rooftop solar, and our nation-leading Renewable Portfolio Standard (RPS) requirements. *The combination of controlling both electricity supply and demand* was key to decarbonizing California's electric power. These reductions are threatened if we pursue a single-minded “electrify everything” strategy that imposes significant increases in demand for electricity outpacing the rate of new RPS resources coming online. Huge growth in electricity demand could also undermine the benefits of electrification of transportation and buildings, putting the state's entire climate targets at risk.

INTRODUCTION

This challenge can best be met through a multi-pronged approach centered on a net zero energy goal for new vehicles and buildings: no new demand on the state electricity grid. A net zero energy approach must be built on a foundation of reducing overall energy demand through a combination of conservation and efficiency. Prioritizing efficiency, distributed energy storage capacity, and self-generation from renewables will result in the lowest possible impact on the existing grid while ensuring Californians can power their homes, businesses, and vehicles safely, affordably, and reliably.

In the transportation sector that means reducing VMT as well as increasing the efficiency of electric vehicles. Reducing driving of single occupancy vehicles is already the policy of the state; however, the current transportation plan slow-walks this policy by targeting significant VMT reduction goals by 2050. The state needs to pick up the pace to have meaningful VMT reduction by 2030 through accelerated deployment of improved transit, bicycle, pedestrian, distributed work, and other proven options for reducing driving of single occupancy vehicles. Similarly, improving efficiency of vehicles is also an existing policy; however, it only applies to improving MPG for gasoline vehicles. State efforts to improve efficiency standards need to be expanded to all clean vehicles, including electric, plug-in hybrid, hydrogen, fuel cells, and any other potential future ZEV technology.

Transitioning the large majority of California's projected 2030 fleet of 33 million light duty vehicles to electric power will mean that tens of millions of large, complex, and potentially dangerous batteries must be processed and recycled over the coming decades. The high road approach this framework proposes will establish the Golden State as a national leader in high-capacity battery reuse and recycling, ensuring communities and the environment are not burdened by new sources of pollution while creating a new industrial sector with many high-skill, permanent jobs. This will also turn California into a supplier of valuable battery minerals and allow for the most efficient, humane use of these precious resources.

California already has a nation-leading suite of programs and regulations that have the potential to create net zero energy transportation and building sectors. This framework builds on these existing programs to lift up California's vulnerable communities while building a strong, skilled workforce. The following proposal uses recent agency reports, recommendations, and draft rulings to chart a coordinated path forward to achieve the state's climate and social goals.

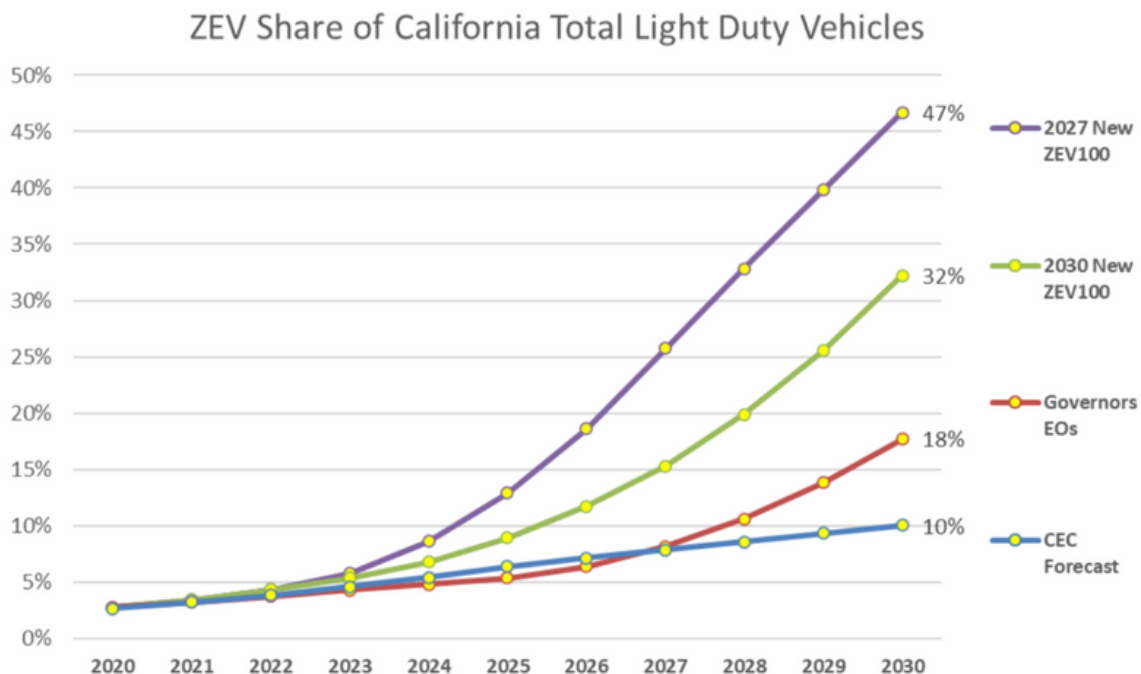
CHAPTER 1 ACCELERATING CLEAN LIGHT DUTY VEHICLE ADOPTION

Summary

This framework proposes that California aim for *all new light duty vehicles (LDVs) to use low or zero carbon energy sources and technology by 2027*, 90 percent of which will be battery electric (BEV) and plug-in hybrid (PHEV) with the remaining 10 percent powered by other low- or zero-carbon fuels, such as fuel cells or hybrids running on hydrogen and other renewable fuels. To improve access for all Californians, current vehicle rebate programs will need to be transformed to use point-of-sale incentives and be more efficiently sized to levelize market prices between clean and traditional fossil-powered LDVs.

Clean Vehicle Market Transformation

Despite more than 200,000 Zero Emission Vehicles (ZEVs) being sold in-state in 2021, the Governor's executive order for 5 million ZEV's by 2030 will still only comprise about 18 percent of the state's projected fleet of 33 million light duty vehicles. While auto manufacturers like Tesla, Toyota, and Chevrolet have been slowly growing their domestic sales of ZEVs, state legislators and regulators must help accelerate this transition beyond the current targets of reaching 1.5 million ZEVs by 2025, 5 million ZEVs by 2030, and 100 percent of new vehicles by 2035. Current efforts would only reduce transportation emissions by about 17 million tons, far short of the approximately 60 million ton reduction target set in the state's 2030 climate plan. Accelerating these timelines to reach 100 percent clean vehicle sales by 2027 would put California on track to see nearly half of in-state LDVs be zero or low emission by 2030, getting the state far closer to reaching its goals.



As previous state policies supporting energy efficiency, renewable energy, and air pollution have demonstrated, establishing bold objectives supported by well-designed programs can radically accelerate market development of desired technologies. Governor Newsom took the first major step toward a zero-emission LDV fleet through his 2020 executive order calling for all new car sales to be of zero emission vehicles by 2035, but the need to reach the 2030 GHG reduction targets for the state as a whole, and for transportation in particular, combined with recent increases to the affordability and availability of clean passenger vehicle models, provide both an urgent needs and an opportunity for California to equitably accelerate this transition.



We propose adjusting the Governor's order to bring the target year forward to 2027, and to support that objective by building on California's existing passenger vehicle rebate programs to use taxpayer dollars more efficiently while increasing clean vehicle adoption, particularly among low-income households. Rapidly falling zero- and low-emission car and truck sticker prices, in combination with the ongoing federal tax credit, allows state vehicle rebates to be used to cover the final gaps in clean vehicle affordability for low- and moderate-income residents. Priority should also be given to taking gross pollution sources off the road across the state, beginning in low-income and disadvantaged communities where the majority of these heavy emitters are located.

State decision-makers can support this accelerated target by revising and integrating the existing Clean Vehicle Rebate Program, Clean Cars 4 All Program, and Charge Ahead California Initiative to align with the goal of 100 percent new LDV sales being zero- and low-carbon options by 2027, matching rebate sizes to participant income and current

equivalent ICEV prices, offering point-of-sale rebates, offering additional funds to low-income households, and prioritizing removing gross polluters from the road. These measures will allow the state to quickly and cost-effectively tip the scales in favor of clean transportation options while supporting market innovation and development. Additionally, prioritizing PHEVs in the immediate term will minimize battery resource use and new electric power demand, and, combined with accelerated efforts to decarbonize liquid fuels through the state's existing Low Carbon Fuel Standard, will result in significant near-term transportation emission reductions.

Regulatory Recommendations

- Establish that it is a goal of the State to achieve 100% zero- and low-carbon vehicle replacement for new light-duty vehicles (LDV) by 2027, with 90% being battery electric (BEV) and Plug-in Hybrid (PHEV) with the remaining 10% powered by other low or zero carbon fuels, such as fuel cells or hybrids running on hydrogen and other renewable fuels;
- Revise the Clean Cars 4 All Program (established under AB 630 - 2018) to:
 - Solely replace internal combustion engine vehicles (ICEV) with zero emission vehicles (ZEVs), zero emission motorcycles, plug-in hybrid electric vehicles (PHEVs), credits for other zero-emission mobility options like electric bikes and scooters, and/or public transit fee waivers that are sized based on participant income and current LDV market prices such that they create cost parity with equivalent ICEVs;
 - Prioritize removing gross polluters from active use;

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 - Offer additional funds to low-income participants to offset 50% of the cost of an eligible vehicle;
 - Extend the program range to all California air districts.
- Revise the Clean Vehicle Rebate Program (CVRP, established as part of AB 118 - 2007) to:
 - Solely replace ICEV with ZEVs, zero emission motorcycles, PHEVs, credits for other zero-emission mobility options like electric bikes and scooters, and/or public transit fee waivers through rebates that are sized based on participant income and current LDV market prices such that they create cost parity with equivalent ICEVs;
 - Allow income-qualifying participants to qualify for point-of-sale rebates, and consider extending point-of-sale rebates to all CVRP participants;
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 - Revise the Charge Ahead California Initiative (SB 1275 - 2014) to:
 - Target a 100% ICEV-to-clean vehicle replacement rate by 2027;
 - Offer point-of-sale rebates to eligible participants.
 - Revise the Low Carbon Fuel Standard (LCFS) to:
 - Include a “Very Low Carbon” credit.

Budget Recommendations

- Allocate additional funding to CARB for decarbonization activities from the General Fund, in addition to the current funding through the Greenhouse Gas Reduction Fund.

CHAPTER 2

NET ZERO ENERGY INFRASTRUCTURE

Summary

Unmanaged growth in electricity demand from vehicle electrification has the potential to undermine California's progress in reducing emissions, which has primarily come through reductions in the electricity sector. We must accelerate reduction in transportation sector emissions while at the same time protecting and advancing gains in the electricity sector. A multi-pronged approach to achieve net zero electric demand from new vehicles is needed to address potential load growth from the transition from fossil fueled vehicles to ZEVs. This approach will offset potential increases in demand through the doubling of energy efficiency required by SB 350 and the scaled up deployment of distributed clean energy and battery storage.

Residential

The EV revolution, for the first time since the horse was a primary mode of transportation, is bringing personal vehicle fueling back to the home. This rerouting of energy flows from rapid liquid refueling at a network of gas refueling stations to slower electric charging distributed across homes and businesses necessitates a reframing of passenger vehicles as personal appliances, and calls for strategic actions limiting increases in building energy demands to avoid cascading, system-wide grid upgrades and increased electricity sector emissions by outpacing new renewable energy resource installations.

California has demonstrated the power of energy efficiency as a means to bolster the economy while decreasing per capita

emissions by strengthening new building and appliance standards. However, achieving net zero new energy demand requires retrofitting the existing residential building stock. The dual challenges of ensuring home charging capabilities in the existing residential building stock and reducing overall building energy use can be addressed in tandem by building on past and current state building retrofit programs such as the Low-Income Weatherization Program, the Multifamily Affordable Housing Solar Roofs Program, and the Advanced Energy Community and other EPIC Program projects. These initiatives demonstrate the feasibility of streamlined home and community energy efficiency retrofits, and provide clear guidance for improving and expanding future efforts.

In order to manage potential load growth and provide energy resilience in residential and multifamily homes, this proposal calls for adapting existing state programs to create a Residential Resilience & Efficiency Program (RREP) for low- and moderate-income California residents. RREP would provide technical and financial support for home vehicle charging, energy efficiency, and self-generation retrofits; similar programs could also be created for in-state commercial and industrial entities.

Specifically, we propose a Residential Resilience & Efficiency Program for low- and moderate-income residents that:

- Bundles together projects — such as electric panel planning, high-efficiency electric home heating and cooling equipment, building shell improvements, rooftop solar and battery storage, home vehicle chargers, water-saving appliances and greywater systems, and lead service pipe replacements — into streamlined Qualified Efficiency Projects (QEPs) that decrease residential energy demand, provide home charging and energy

resilience capabilities, and increase overall building sector energy efficiency and safety;

- Provides need-based, point-of-sale grants to qualified households for QEPs, with additional incentives for working with labor providers who support a trained and skilled workforce, including by participating in apprenticeship programs, offering prevailing wages, or operating under a community workforce or project labor agreement;
- Works with local and regional electric service providers to set up on-bill financing for income-qualifying customers to further lower the up-front costs of QEPs;
- Proactively reaches out to low-income and multifamily households, including renters, to overcome systemic barriers in onboarding them into the program and ensuring the highest-quality experience for those that have historically been left behind in other societal transformations.

In addition, we propose establishing a target of one million energy-secure homes by 2030, capable of keeping lights and critical loads on when the electrical grid goes down.

Commercial & Public Infrastructure

For commercial and public charging, a 2024 to 2030 Investment Plan for the Clean Transportation Program should be developed consistent with the goals established by this proposed legislation. These charging infrastructure investments should prioritize electric chargers powered by on-site solar and battery storage so as to minimize or eliminate new demand on the state electric grid. To minimize commercial building energy use, a business-centered analogue to RREP could be established that provides funding and assistance for commercial QEPs.

Regulatory Recommendations

- Establish a 2030 state target of reaching one million power outage-proof homes, capable of keeping lights and critical infrastructure on when the electrical grid is down;
- Revise the Multifamily Affordable Housing Solar Roofs Program (AB 693 - 2015) and the Low-Income Weatherization Program (AB 1232 - 2020) to create the Low- and Moderate-Income Household Infrastructure & Efficiency Incentive Program to provide lump point-of-sale grants to participating low-income single- and multifamily households for energy efficiency, vehicle charging, and solar with storage through bundled Qualified Efficiency Projects (QEPs);
 - QEPs may include the installation of all-electric and high-efficiency appliances and infrastructure such as low-global warming potential heat pump HVAC systems and water heaters (including geothermal and solar), electric stoves, electric clothes dryers, EV-ready breaker boxes and electric panels, EV chargers, home battery storage/vehicle-grid interfaces, rooftop solar, building envelope air seals, Title 24 compliant windows, recirculation pump demand controls, cool roofs, attic insulation, smart thermostats, efficient lighting, Energy Star refrigerators, duct repairs and sealing, and exterior rigid wall insulation;
 - Low to Moderate Income (LMI) households in areas identified to contain lead service lines as part of the Lead Service Line Replacement Inventory (SB 1398 - 2016) can opt in to a supplementary, low-cost lead pipe inspection and replacement as part of a QEP;

- Participating households will be eligible for additional funds if their QEPs are done by union labor/under a union apprenticeship program;
- Owners of rental properties that undertake QEPs are prohibited from raising rents or otherwise engaging in activities that result in the eviction or removal of current tenants;
- Direct electric utilities to create on-bill funding programs for QEPs, including through Pay as You Save (PAYS) models based on tariff-on-bill financing.
- Establish the Commercial Resilience & Efficiency Program to provide technical and financial assistance to eligible commercial entities for the purchase for energy efficiency, vehicle charging, and solar with storage through bundled Qualified Efficiency Projects (QEPs);
- Requires CARB, CEC, and other relevant agencies to provide the Legislature with a report on steps to enable vehicle-to-grid capabilities across California;
- Require that CEC, CARB, and other relevant agencies estimate required ZEV charging needs and ensure that adequate public charging infrastructure is built, including through expanding the California Electric Vehicle Infrastructure Project, to meet the goal of 100% clean LDV replacement by 2027;
 - Direct the CEC to develop a 2024 to 2030 Investment Plan for the Clean Transportation Program consistent with the goal established by this legislation;
 - Charging stations that do not add new electric demand to the existing grid shall be prioritized.

Budget Recommendations

- Establish a permanent funding source for QEP grant programs.

CHAPTER 3 BATTERY RESOURCE REDUCTION, REUSE, & RECYCLING

Summary

This legislation proposes measures to reduce demand for transportation energy by improving average clean vehicle fleet efficiency, promoting reuse by creating new and expanded incentives for second-life battery projects, and enabling economical battery recycling through regulations and market incentives.

Transitioning the large majority of the projected 34 million light duty vehicles on California roads in 2030 to electric power will mean that tens of millions of complex and potentially dangerous electric vehicle batteries must be processed and recycled over the coming decades. However, long-life (million-mile) batteries create the possibility for batteries to outlive their vehicles, significantly reducing waste and creating opportunities for reuse in secondary markets such as stationary storage. The high road approach this legislation proposes will establish the Golden State as a national leader in long-life battery reuse and recycling, ensuring communities and the environment are not burdened by new sources of pollution while encouraging innovation and a new industrial sector with many high-skill, permanent jobs. This will also turn California into a supplier of valuable battery minerals and allow for the most efficient, humane use of these precious resources.

Reduce, Reuse, Recycle

Reduce

Reducing the amount of energy and battery resources needed to power a vehicle is a crucial first step in sustainable clean transportation. Improvements in vehicle efficiency are already represented in policy; however, they currently only apply to improving miles per gallon (MPG) for gasoline vehicles. Ratcheting battery and vehicle efficiency standards need to be expanded to all clean vehicles, including electric, plug-in hybrid, fuel cells, and any other potential future zero- or low-carbon vehicles. Specifically, establishing specific targets for mi/kWh battery efficiency and battery longevity (charge/discharge cycles) will set the market on a path toward decreasing individual vehicle energy demands.

Reuse

Transitioning California's transportation sector to be powered predominately by high-capacity electric batteries creates an enormous opportunity for legislators and regulators to kick-start in-state battery reuse and recycling industries. By taking proactive steps to create a fair, navigable regulatory and economic environment for a new battery processing industry the state can minimize resource extraction, create new jobs, and center California as the national leader in responsible battery policies — or, if insufficient action is taken, a huge new source of environmental pollution and injustice. Even the state's one million battery-powered cars on the road right now pose major challenges for the inadequate reuse, recycling, and disposal services currently in place, and require urgent attention in order to avoid recycling supply chain breakdowns like those which took place following the implementation of China's Green Sword policy.

A straightforward pathway by which California can immediately enhance the EV battery aftermarket is to set a target for distributed energy storage capacity of 3 GW by 2030 and to include second-life battery projects as eligible activities for funding through the successful Self-Generation Incentive Program. This would stimulate private sector investments and innovations in economical energy storage, enhancing state grid stability and resiliency as well as unlocking the true potential of intermittent renewable resources like solar and wind.

Recycle

CalEPA's Lithium-ion Battery Recycling Advisory Group has already provided a number of recommendations the Legislature should act and build on in the immediate term to stay ahead of the wave of EV batteries that will need end-of-life (EOL) care. Foremost is the need to establish a clear set of regulations around the entities that will be held responsible for EV battery EOL reuse, refurbishment, recycling, and disposal in order to create a more stable, predictable market and regulatory environment. CalEPA's recommendation is to make EOL BEVs/PHEVs the responsibility of a licensed dismantler, or if not acquired by a dismantler, the vehicle manufacturer. For EV batteries removed before vehicle EOL, the entity removing the battery should be responsible for ensuring proper reuse, repurposement, refurbishment, or recycling.

The Legislature can support safe, economical, efficient battery reuse and recycling by directing CARB to enact its draft rulings around battery labeling and unit tracking requirements; additionally, the state should also study the feasibility of phasing in minimum recycled content standards for EV batteries and providing recommended

manufacturing and EOL care protocols. Facilitating partnerships between EV battery manufacturers, EOL care providers, and California's world-class research institutions will also create high-quality best practices and R&D pathways that can stimulate further market development.

We also recommend that the state take steps to support public and private battery recycling and dismantling facility development by instructing the Department of Toxic Substances Control to review and shorten, streamline, and standardize the permitting process for new battery processing facilities, and to investigate appropriate tax incentives for in-state hazardous waste processors that recycle or disassemble large lithium-ion batteries. CalRecycle can be directed to oversee the development of process standards for facilities where used lithium-ion batteries, production scrap, and derived materials are processed or recycled, and to partner with a third party facility-certification body similar to the existing PaintCare program.

Regulatory Recommendations

- Direct CARB to determine and implement feasible ratcheting mile/kWh and battery longevity standards on EV manufacturers for each vehicle class;
- Establish that it is a goal of the state to reach a cumulative distributed energy storage capacity of 3 GW by 2030;
- Improve the safety and economics of EV battery recycling, reuse, and disposal by implementing the following recommendations from CalEPA's Lithium-ion Car Battery Recycling Advisory Group:

- Establish that for BEVs still in service, if a battery pack, module, or cell is replaced before the vehicle reaches EOL, a core exchange program as detailed by the EV battery supplier or manufacturer shall be used for the replacement battery (or any module or cell). The entity removing the battery shall be responsible for ensuring the used battery (or module or cell) is properly reused, repurposed, refurbished or recycled. The entity selling an EV battery shall use a core exchange program to track that the used battery has been properly disposed of. For EVs reaching EOL, a dismantler who takes ownership of an EOL vehicle is responsible for ensuring the battery is properly reused, repurposed, refurbished, or recycled. In circumstances where an EOL EV with an original equipment manufacturer (OEM) certified battery is not acquired by a licensed dismantler, the vehicle manufacturer shall be responsible for ensuring that the vehicle is properly dismantled and the lithium-ion battery is properly reused, refurbished, or recycled.
- Direct the CPUC to develop, through stakeholder engagement, and implement regulations, no later than Jan 1, 2024, revising the Self-Generation Incentive Program to include second-life battery projects as eligible projects for funding.
- Direct funding for the establishment of a program jointly administered by CARB and the UC system to train and educate workers in the battery/EV industry for no cost and develop publicly-accessible training materials to create high-quality industry standards.
- Instruct CARB to prioritize the establishment of additional physical and digital information requirements about each battery sold through the ongoing Advanced Clean Cars II regulatory proceeding to allow for accurate tracking as well as identification of the batteries' components. The resulting regulations should include, but not be limited to:
 - Inclusion of the full stoichiometry of the battery cathode in the battery description;
 - Inclusion of a digital identifier such as a barcode or QR code on each battery that directs to an online database established and maintained by CARB that includes, at minimum, the main cathode chemistry, the battery capacity, system voltage, instructions for disassembly, and OEM contact information to request safe disposal;
 - A prohibition on manufacturers from delegating labeling responsibility to dealers.
- Direct CARB to report on the feasibility of implementing universal diagnostic system requirements for EV batteries in addition to the standardized battery state of health (SOH) proposal being developed as part of the Advanced Clean Cars II regulation.
- Instruct the Department of Toxic Substances Control to shorten, streamline, and standardize the permitting process for in-state battery processing facilities.
- Direct CalRecycle to study and report back to the Legislature on minimum material recovery targets for lithium-ion batteries.

- Direct CalRecycle to oversee a collaborative research process to provide publicly-accessible battery design recommendations to reduce reuse and recycling costs;
- Direct CalRecycle to develop a process standard for facilities where used lithium-ion batteries, production scrap, and derived materials are processed or recycled, and to partner with a third party facility-certification body similar to the PaintCare program.

Budget Recommendations

- Establish tax breaks for in-state hazardous waste processors that recycle or disassemble large lithium-ion batteries to incentivize local recycling capabilities.
- Increase funding to the DMV's existing Vehicle Dismantling Industry Strike Team to support enforcement of unlicensed dismantling laws.

CHAPTER 4 TRANSPORTATION EFFICIENCY & SAFETY

Summary

A critical component to equitably achieving net zero new energy demand from transportation is to directly reduce vehicle miles travelled (VMT) in single passenger vehicles by helping people get out of their cars and onto public transit, bikes, scooters, and other multimodal forms of transportation. While the state already has VMT reduction goals, planning agencies are slow-walking implementation by delaying achievement of any significant progress until 2050. The state needs to pick up the pace to have meaningful VMT reduction by 2030, which can be accomplished through accelerated deployment of improved transit, bicycle, pedestrian, distributed work, and other proven options for reducing the use of single occupancy vehicles.

Record-breaking allocations of state and federal funding for transportation projects has created a short window of opportunity for California to rebuild and revitalize our public transit services and provide incentives for responsible ridesharing services and zero-emission personal transportation options. The state can use a portion of these funds to immediately invest in expanding clean public bus and rail services, requiring highway widening appropriations to be used to add new bus, rail, or bike lanes in lieu of new car lanes, and to finance agency reports on the pathways, costs, and benefits to achieving fast, reliable, high-quality public transit services and VMT reduction goals.

Setting specific targets for statewide VMT and travel time reductions, such as have been proposed by both state agencies and concerned stakeholders in the past, will

guide future state actions like those that have been proposed in CalTrans' California Transportation Plan 2050 and provide metrics for the implementation and enforcement crucial for driving compliance from multiple actors across complex regulatory and political landscapes.

Public Transit

The adverse effects from the many problems with our current transportation system extend far beyond climate, and include air pollution, traffic congestion, urban sprawl, economic burdens, health impacts, and social isolation—especially for people with low income or disabilities. Poor transportation system design also can have direct and indirect effects on GHG emissions and amplify negative climate burdens. For example, if transit is not convenient and affordable, GHG emissions increase.

A crucial area of action is improving the quality of public transportation; this includes service, safety, and both environmental and public health. Standards need to be established for access, ridership, and transit times, for all modes of public transportation. This means dramatically reducing traffic congestion, and ensuring on-time service, so people can get around their communities conveniently and efficiently. Transit should be safe, clean, and appealing to riders.

Smart Growth & Transportation Planning

This proposal highlights several complementary policies that can equitably and effectively reduce the number and duration of passenger vehicles on state roads, including eliminating rider fees for state-funded public transit services, income-

based roadway use pricing schedules, streamlining traffic light timings, increasing high-occupancy vehicle lane minimum occupancy requirements, and offering tax credits to employers for the percentage of employee hours worked remotely.

Regulatory Recommendations

- Direct CalTrans to immediately invest in expanding bus services, to report to the Legislature on the costs of achieving fast, reliable, high-quality public transit services, and to amend the California Transportation Plan 2050 to achieve a 20% reduction in statewide LDV VMT by 2030;
- Increase ridership on public transportation and reduce vehicle miles traveled by implementing the following recommendations from CALSTA's California Transportation Plan 2050 along with other related transit-oriented policies by directing CALSTA to:
 - Report to the Legislature on the feasibility, costs, and benefits of eliminating rider fees for state-funded public transit services, feasible roadway use pricing schedules, and streamlining traffic light timings;
 - Issue no-cost public transit passes to students, commuters, and low-income residents;
 - Increase high-occupancy vehicle (HOV) lane minimum occupancy requirements by one passenger;
 - Create and fund a Municipal Rideshare Startup Program to provide technical and financial assistance to municipalities for launching union-based municipal ridesharing services as low-cost, socially responsible alternatives to traditional Transportation Network Companies;
 - Direct existing and incoming funds earmarked for road and highway widening to add bike, bus, and light rail lanes to roads instead of additional car lanes;
 - Coordinate with the State Treasurer and Controller to determine the feasibility of offering tax credits to employers for the percentage of employee hours worked remotely.

CHAPTER 5 ECONOMIC & ENVIRONMENTAL JUSTICE

Summary

While implementing the recommendations above, state decision-makers have the opportunity to empower working families and frontline communities so that they can lead in and benefit from our state's clean energy transition. These communities have been left behind in past economic shifts. Two principles are key to ensuring an equitable transition: first, we must expand and transform consumer incentives so that they serve all Californians, regardless of income. Second, we must use the state's investment in clean energy and transportation infrastructure to promote strong labor standards, such as prevailing wage for workers, community benefit agreements, and the growth of a skilled and trained workforce.

Labor Standards & Economic Equity

As California's workforce builds this new clean transportation infrastructure, we must support strong labor standards and center the needs of those communities most in need. When federal funds are spent alone or in tandem with state funds, a point system should be implemented to prioritize contractor bids that incorporate some or all of the following:

- Project Labor Agreements
- Community Benefit/Workforce Agreements
- Targeted Hire
- Prevailing Wages
- Skilled and Trained Workforce Programs

When state funds alone are used, use of project labor agreements should be required of successful bidders. High road labor practices like these will ensure that the

technical work required will be done by highly skilled California workers earning a family-supporting wage. Additionally, providing financial and technical assistance to EV battery second life and end-of-life care providers will stimulate the new development of a robust state aftermarket battery industry that will create skilled jobs and give California unprecedented battery resource security by establishing nation-leading battery processing and recycling capacity.

Social & Environmental Justice

California leaders have demonstrated their commitment to upholding the principles of justice across all matters of the state, and few sectors cause greater day-to-day injustice to Californians than transportation. From lack of access to viable transportation options, to health problems and early deaths caused from vehicle exhaust and hazardous infrastructure, to direct traffic fatalities, low-income and disadvantaged communities unfairly bear the costs of our current transportation system. This perpetuates historical injustice and further widens the income disparity gap that is threatening to destabilize our society. Any actions the state takes to transform this sector must be intentionally focused on righting these wrongs and creating a more just, equitable transportation system.

Decarbonizing transportation presents an enormous opportunity to positively benefit communities that currently shoulder the health and safety burdens resulting from fossil fuel use. The key is to ensure equitable access to clean technologies. For example, by switching current vehicle incentives to be point-of-sale so they are usable by residents with limited cash-on-hand, or by better matching incentive amounts to customer income levels to maximize the efficient use of limited state dollars.

Further, as more and more local jurisdictions adopt building reach codes that require all-electric construction, we need to ensure that low- to moderate-income communities are not left behind and do not bear additional cost from this transition. Instead, we can help the communities hardest hit by the climate crisis lead the transition to a cleaner future by improving the efficiency and safety of their homes and neighborhoods. Lowering barriers to low-income household efficiency and resilience upgrades will also accelerate the home efficiency technology market and bring down prices for all residents regardless of financial means. The Residential Resilience & Efficiency Program, introduced above, will make the homes of low- and moderate-income families safer, healthier, and more affordable places to live.

A [December 2021 Harvard research study](#) showed that federal efforts to cut vehicle emissions nationwide has saved \$270 billion in health and social costs and prevented 28,400 deaths per year since 2008. If California follows a similar trajectory and implements the actions recommended in this

proposal, more than \$4 billion could be saved and 400 deaths could be prevented every year by 2030. Prioritizing gross polluters responsible for the majority of harmful emissions could nearly double those benefits, with immediate action in air quality nonattainment districts and areas with the lowest CalEnviroScreen scores.

Next Steps

We were pleased to see that the Governor's 2022-2023 budget proposal includes many of the programs and policies outlined above. Nevertheless, the state still lacks a fully funded framework to achieve our legally-mandated emissions reduction goals. We invite you to join us in an effort to augment the Governor's budget proposal with additional policies that, when taken together, would firmly reestablish California's climate leadership role, ensure that we meet our state's 2030 climate goals on schedule, and secure a more sustainable, equitable future for all Californians.