



Final Report Out to MCCC GHG MWG – Accelerating Light-Duty Zero Emission Vehicle Adoption in Maryland – Phase 2 – Program Design

Assistance for the Greenhouse Gas Mitigation Working Group of the Maryland Commission on Climate Change

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- The Maryland Motor Vehicle Administration for provided used vehicle sales registration data
- Many other stakeholders who provided insights into various specific industries involved in the Zero Emission Vehicle (ZEV) value chain in Maryland

Project Team Members

- **Project sponsor** – The Nature Conservancy, Maryland/DC Chapter
- **Direct recipient of project results** – the Maryland Commission on Climate Change, Greenhouse Gas Mitigation Working Group
- **Consultant support team** – Energetics and VEIC

Executive Summary - Overview

Project Objective

- The Phase 2 work focuses on taking policy recommendations from the (now) Phase 1 project to the next level through program and implementation design with an equity lens when applicable.
- Topic Areas include: 1) ZEV-focused dealer engagement, 2) incentives/initiatives particularly targeting used car markets and low-income buyers, and 3) technical support for fleet conversion.

Technical Tasks

- State Agency and Mitigation Working Group Engagement
- ZEV-Focused Dealer Engagement Program Design
- Low-Income ZEV Purchase Program Design
- Fleet Electrification Technical Support Program Design

Executive Summary – ZEV-Focused Dealer Engagement Program Design

Why a dealership engagement program?

- Dealers are a critical link when it comes to vehicle purchase decisions and to “demystify” misconceptions about ZEVs. As key partners of any midstream program design, they are also instrumental in providing access to financing and incentives.
- A dealer program can engage new and used car dealerships interested in passing the benefit of ZEVs to their customers. A suite of program activities will provide information and resources needed to guide and support participating dealerships as they navigate transformational changes associated with the auto industry moving toward ZEVs.
- A successful program will feature a network of new and used car dealers empowered to sell and service ZEVs through accountability, recognition, customers lead, information and support

Keys for success

- Do not crowd-out dealers’ limited bandwidth – programs should complement existing programs and initiatives
- Build partnerships - The Maryland Auto Dealer Association, Maryland Independent Automobile Dealers – ensure program is designed, implemented, and evaluated in partnership with direct beneficiaries
- Design a comprehensive dealer engagement program and ensure consistency across ZEV related programming – program consolidated under one single initiative; like a concierge service. Customer-facing ZEV campaigns must also be coordinated with the dealership engagement materials

Executive Summary – ZEV-Focused Dealer Engagement Program Design

Proposed program overview

Main program components	Key details
Enrollment, recognition, and oversight	<ul style="list-style-type: none"> Participating dealerships are promoted via customer facing statewide campaign and are provided with customer leads Participating dealerships are committed to pass full benefit of customers' incentives directly to the end user
Training and educational resources for dealerships	<ul style="list-style-type: none"> A Maryland specific training complements existing offerings and includes a module catering to the specific needs of independent and used car dealerships. Additional support services ensure ease of enrollment and participation for dealerships; completion of training unlocks sales incentives for dealers A Dealers' Guidebook consolidates all dealers and salespeople need to know about ZEVs in one single up to date publication.
Customer facing material	<ul style="list-style-type: none"> Dealerships are provided with Maryland specific educational material to support the sales process.
Sales incentive	<ul style="list-style-type: none"> A \$200 incentive per used or new ZEV sale, with at least half of the incentive to benefit the salesperson directly. A cap on the number of incentives per dealership should be considered in Year 2. Enrollment in the dealer engagement program is mandatory.
Training incentive	<ul style="list-style-type: none"> A one-time \$200 training incentive is provided, with at least half of the incentive to benefit the salesperson directly. Enrollment in the dealer engagement program is required.
Readiness incentive for used car dealerships	<ul style="list-style-type: none"> Up to \$50,000 are provided to independent used car dealers for Electric Vehicle Supply Equipment investment. Enrollment in the dealer engagement program is required.

Estimated incentive budget – Between \$19.5M for a 3-year program with EV readiness incentive and \$17M for a 3-year program without an EV readiness incentive.

Executive Summary – Low-Income ZEV Purchase Program Design

Why an equity incentive program to encourage the adoption of ZEVs?

- An equity incentive program will provide Marylanders with limited financial resources greater access to clean and affordable vehicles. Direct benefits for beneficiaries include lower operating costs, reduced exposure to emissions and access to more reliable vehicles. In the long term the program will increase access to affordable and healthy mobility for car-dependent households and ensure a more equitable distribution of the benefits of ZEVs. A vehicle incentive program can and must work hand in hand with equitable investment in EV charging infrastructure.

Keys for success

- Stacking and financing – Combine financing, sales tax exemption, federal tax credit and sufficient state incentive(s) to address financial barriers and target affordability
- Build partnerships – Strengthen synergies across groups and work at the junction between climate and social objectives; develop implementation plan with the input of a large set of stakeholders
- Target outreach efforts and prioritize community-based approaches – Build a network of trusted messengers and ensure marketing is adapted to the audience; account for the diversity of any equity segment

Executive Summary – Low-Income ZEV Purchase Program Design

Proposed program overview

Main program components	Key details
Beneficiaries	<ul style="list-style-type: none">• For the program to complement rather than supplement other clean transportation policy initiatives, stakeholder engagement and outreach activities should be designed for Marylanders living in rural areas and households who are highly car dependent.• Households who earn less than 80% of the statewide area median income (AMI) are eligible. In 2023, this equates to an income of \$89,400 for a 4-person household.• Households who earn less than 60% of AMI qualify for a “low-income” adder and receive a higher incentive amount. In 2023, this equates to an income of \$70,500 for a 4-person household.
Income verification process	<ul style="list-style-type: none">• Self-certification with enforcement through spot checking audits.
Incentive delivery and program duration	<ul style="list-style-type: none">• Incentives provided at point-of-sale through participating car dealers; compatible with lease financing or sales• Provided in tandem with a sales tax exemption offered to used vehicles• Set to operate for at least 4 years. Budget should be sufficient and determined based on (a) expected demand for incentives and (b) incentive amount required to avoid “stop-and-go” effects
Eligible vehicles	<ul style="list-style-type: none">• Aligned with those in place for the federal tax credit• Used vehicles and plug-in hybrid vehicles are eligible

Executive Summary – Low-Income ZEV Purchase Program Design

Proposed program overview

Main program components	Key details		
State incentive amount	Incentives are designed so that transportation costs would not exceed 10% of a typical LMI household budget		
	Income level	New vehicle (EV or PHEV)	Used vehicle (EV or PHEV)
	Up to 80% AMI	\$7,000	\$3,000
	Up to 60% AMI	\$11,500	\$6,000
Opportunities for guaranteed or subsidized financing	<ul style="list-style-type: none"> To maximize the leverage effect of public funding, a dedicated financial product can reduce borrower costs and increase accessibility by underwriting the risk associated with a customer’s default on their loan or lease monthly payments, e.g., a loan-loss reserve Another approach would be a financial product intended to provide liquidity to mitigate the risk of late payments 		
Integration with other ZEV initiatives	<p>A successful program will be integrated/designed in conjunction with:</p> <ul style="list-style-type: none"> Dealer engagement, training and incentives targeting vehicle manufacturer franchise and independent used car dealers Equitable ZEV charging infrastructure investment, including for single family, multifamily, and public charging, and Investment in clean and accessible public transportation for non-car dependent households. 		

Estimated incentive budget – Approximately \$625 million over 4 years (average of \$155 M/year) for more than 100,000 incentives delivered to households with low to moderate income - sales volume consistent with the Phase 1 project’s Advanced Clean Cars II policy scenario

Executive Summary – Fleet Electrification Technical Support Program Design

Why a State-level fleet electrification technical support program?

- Many fleet vehicles have high usage and fuel use so are good targets to reduce GHG emissions
- Many fleets do not fully understand electric vehicles and charging infrastructure and so are not actively considering ZEVs and/or do not have the time or technical expertise to evaluate
- Utility programs are effective, but have limited impact, and may not be designed to meet the State's goals
- Small fleets (<200 vehicles) tend to not have a dedicated Fleet Manager/consultant to understand/evaluate the fleet to plan, finance, implement, and operate the ZEV transitioned fleet, so need outside support

Keys for success

- Leverage similar programs' structure and learnings – Use the many current utility and state programs' learnings to guide the development of a Maryland program
- Industry-specific marketing – Small fleets are not NAFA members, so program marketing must target organizations and locations where these fleets frequent. For example, plumbing/electrical/HVAC trade associations/unions, accounting groups, supply houses (Grainger, Home Depot, etc.), and potentially dealerships.
- Connect results to information and funding resources – Transition costs for vehicles and charging infrastructure are high and likely a major barrier to transitioning. The program must connect fleets with educational information and financial incentive information (vehicles, charging equipment, and utility programs) in study outputs to overcome barriers and ensure fleets continue to implement ZEVs post-program participation

Executive Summary – Fleet Electrification Technical Support Program Design

Proposed program overview

Main program components	Key details
Fleet size/types	<ul style="list-style-type: none"> Smaller fleets (10-199 vehicles) need the most support Including some larger fleets improves GHG reduction per funding
Awareness and enrollment	<ul style="list-style-type: none"> Broad marketing campaign email marketing to target fleets where they are likely to use/be during their normal business: direct outreach (cold calls), a coordinated marketing campaign including advertisements on radio, social media, billboards, and promotion at fleet and trade shows, typical target fleet-relevant trade associations/unions, accounting groups, supply houses, and dealerships
Incentive	<ul style="list-style-type: none"> Maximum of \$20k per fleet. Amount scaled based on fleet's size and complexity Modest referral incentive to encourage participating fleets to promote program to their peers
Outputs	<ul style="list-style-type: none"> Assessment of existing fleet vehicles, operations, facility, and organizational support for (and/or concerns regarding) fleet electrification Modeling results of financial and emissions savings of recommended ZEV replacements and charging infrastructure, including any eligible incentives (vehicle, charging) and/or savings opportunities (ex. cooperative purchasing) Provide specific vehicle and charging hardware guidance and considerations. Recommend specific ZEV and charging station make/model selections where appropriate
Program implementer	<ul style="list-style-type: none"> Maryland (likely Maryland Energy Administration) could manage centrally and contract with one or more 3rd party consultant(s) to execute Or contract with a 3rd party consultant team to manage and execute

Estimated budget – \$2,000,000, likely >100 fleets will be supported since not all studies will be large/complex