Zero Emission MAP

A new program helping states and cities meet their sustainable transportation goals

Research shows that zero emission vehicles are critical to achieve sustainable transportation in the future. A new initiative at the University of California, Davis offers 25 years of interdisciplinary expertise in sustainable transportation to cities and states interested in promoting zero emission transportation in their regions.

The Zero Emission Market Acceleration Partnerships (MAP) initiative brings together regional research and non-governmental institutions to collaborate and effectively integrate the experience of diverse stakeholders from the participating regions.

Who can participate?

Any city or state that is interested in supporting the market development of zero emission vehicles and needs technical assistance can participate.

What does it take to participate?

Participating states and cities agree to work with UC Davis and program partners to translate our technical assistance into tools and actions that meet their needs.

Want to learn more?

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Zero Emission MAP makes available technical assistance to states and cities to support the growth of zero emission mobility markets.
UC Davis brings 25 years of experience with ZEV markets, technology and policy.

Zero Emission MAP collaborates with agencies, non-governmental organizations, automakers and partner institutions in three areas:

• Provides leading-edge yet accessible analytical resources to help create and implement market development strategies;

• Provides science-based information about the technological and societal value of ZEVs;

• Assists all stakeholders in developing credible ZEV education and outreach strategies.

Zero emission vehicles (ZEVs) include plug-in electric vehicles (PEVs) and hydrogen fuel cell vehicles (FCVs). Several PEV models are already available and sales are steadily growing in some regions. FCVs are expected in the marketplace within a few years. Nationwide, however, ZEVs still represent a fraction of new vehicle sales.

What strategies should states and cities pursue in the next few years to motivate consumers and fleets in their regions to adopt ZEVs? How can they coordinate with automakers and other local and national stakeholders? How can they incorporate the best available research, knowledge and real-world experience into their plans and decisions to ensure that they achieve the energy and sustainability benefits of a healthy ZEV market?

Zero Emission MAP was created to help meet this challenge. A collaboration of the UC Davis Policy Institute for Energy, Environment and the Economy, Institute of Transportation Studies, and Plug-in Hybrid & Electric Vehicle Research Center (and partners), the initiative offers a broad spectrum of technical assistance to states and cities.
Policy design and analysis
Estimating the impact of given policies on relevant topics, such as ZEV sales, zero-emission miles traveled (zeVMT) and electricity demand from PEV charging.

Advanced data collection
Design and implementation of robust data collection processes, using advanced methods, such as a web-based with integrated interactive maps, vehicle instrumentation/GPS and secondary travel diaries.

Decision making support
Use of geographic information systems (GIS) models to assist planning and policy development at the metropolitan and state levels.

PEV charging infrastructure
Assessment of PEV charging infrastructure needs in terms of numbers, types (Level 1, 2 and DC Fast Charge) and geographical distribution (density, network efficiency, urban and regional scale), to impact PEV market demand in a given region.

Hydrogen refueling infrastructure
Assessment of the investments in and geographical distribution of hydrogen refueling stations needed to support the rollout of fuel cell vehicles in specific geographical area.

Societal impacts
For specific cities or regions, estimation of the impacts of ZEVs on air quality and greenhouse gas emissions inventories, and identification of strategies to maximize benefits on short and long time horizons.

Car sale mechanisms
Assessment of the influence of auto dealership structures on consumers’ purchase decisions.

PEV-electrical grid interactions
Assessment of the demand for energy and power for PEV charging will be distributed geographically over time.

Building-vehicle integration
Analysis of energy consumption, reliability and climate benefits of systems that integrate vehicle charging with the home or workplace.

ZEV cost of ownership
Advanced models to estimate the region-specific cost of ownership of specific ZEV models compared to other vehicle drivetrains.

Market sales data
Advanced methods of data collection on ZEV sales and inventory trends, for vehicle models sold in specific regions.

Sales price analysis
Advanced methods for the collection and analysis of data on current PEV sale prices for a specific region.

Communications
Advising on strategies to disseminate information to consumers and stakeholders. Disseminating information by subject experts (e.g. presentations, webinars, etc.) Developing high-impact information products (e.g. legislative briefings).

Market demand levers
Identification of the effective strategies to grow ZEV market demand in specific regions, and assessment of how these strategies would evolve over time to recognize the evolution of market penetration.

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