

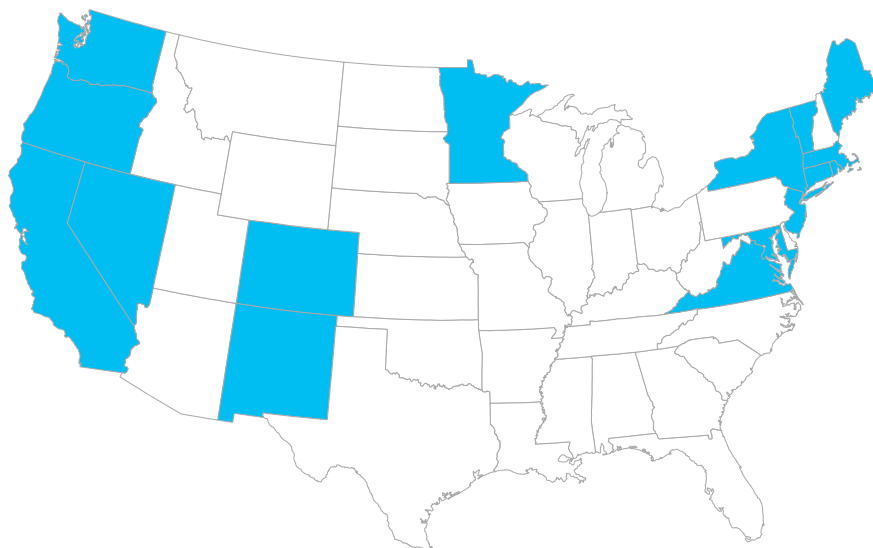


## BRG Policy Brief

### The Effect of Zero-Emission Vehicle Policies on Dedicated Highway Infrastructure Funding in Maine

In 2020, California Governor Gavin Newsom issued an executive order requiring all new passenger vehicles sold in the state to be zero-emission (ZEV) by 2035.<sup>1</sup> The order also sets the goal that new medium-and heavy-duty vehicles sold in California should be zero-emission by 2045. Seventeen states, including Maine, previously followed California's vehicle standards under Section 177 of the federal Clean Air Act. Thus, Maine and other states are likely to adopt (or have already adopted) ZEV policies similar to California's to phase out sales of internal combustion vehicles.

#### U.S. States That Have Adopted California's Vehicle Standards under Section 177 of the Federal Clean Air Act



**Source:** California Air Resources Board, "States that have Adopted California's Vehicle Standards under Section 177 of the Federal Clean Air Act" May 13, 2022. Delaware and Pennsylvania were not included as adopters of ZEV policies.

Construction and maintenance of transportation infrastructure in the United States is funded primarily with revenues derived from federal and state excise taxes on gasoline and diesel fuel. When zero emission vehicles replace vehicles with internal combustion engines, the demand for gasoline – and, hence, federal and state fuel tax revenues – goes away. Thus, the adoption of ZEV policies likely will have a profound impact on transportation infrastructure, jobs, and personal income. The impact will be more substantial for adopting states with high fuel excise tax rates (e.g., Washington, Illinois, Pennsylvania, and New Jersey) than for states with low fuel excise tax rates (e.g., New Mexico).

In this brief, we quantify the annual amount of fuel excise revenue lost in Maine resulting from the adoption of a ZEV policy. Assuming state and federal fuel excise tax rates remain at their current levels, the main driver of the estimate will be changes in fuel consumption. We constructed our estimates of future

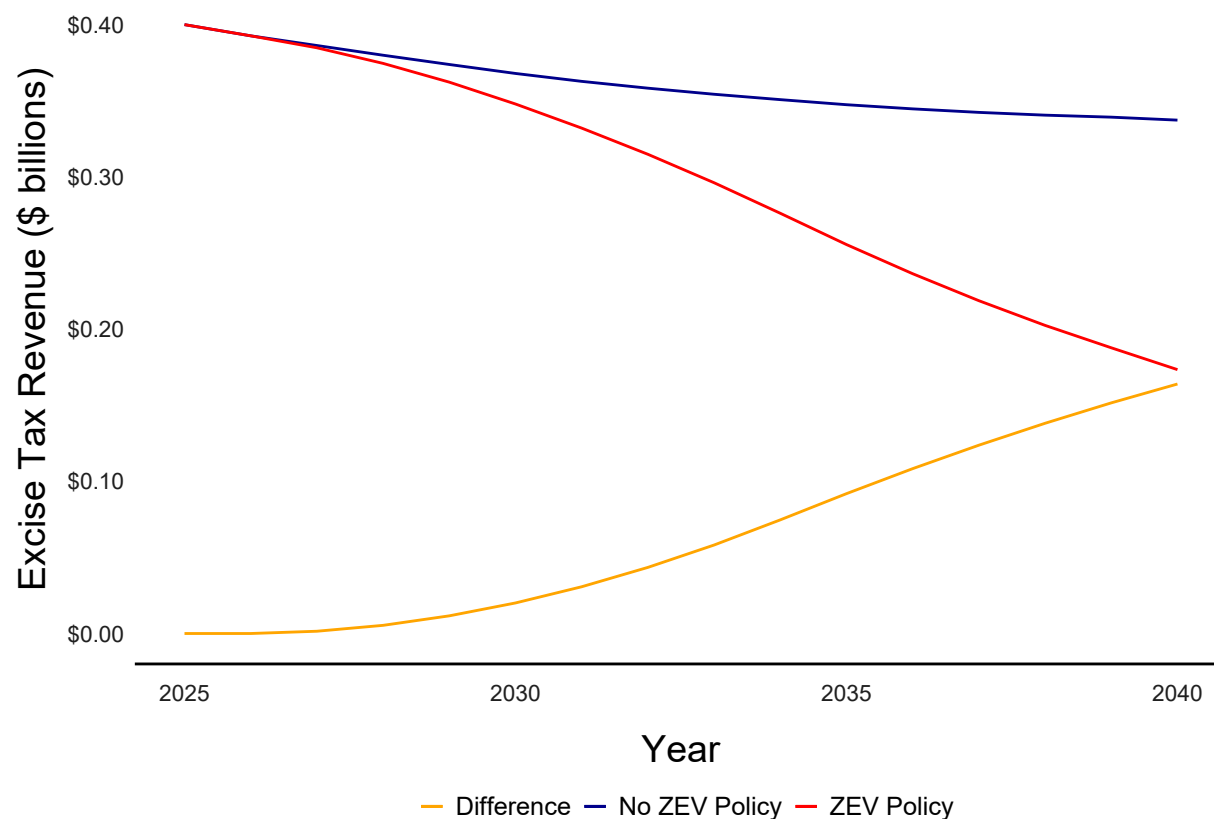
<sup>1</sup>Executive Department, State of California, "Executive Order N-79-20" (September 23, 2020). <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>

fuel consumption, with and without a ZEV policy, using California data and a model similar to the one constructed by the California Air Resources Board (CARB).<sup>2</sup> We then apply the predicted annual rates of change in fuel consumption in California to other states considering similar policies. The predicted level of fuel consumption in each state is multiplied by the most recent state and federal fuel excise tax rates. The sum of these two numbers yields the estimated annual reduction in fuel excise tax revenues caused by the adoption of a ZEV policy.<sup>3</sup>

Because fuel tax revenues are the primary source of funds for the construction and maintenance of transportation infrastructure, the initial impact of the policy will involve a dramatic reduction in funding dedicated to maintaining a state's transportation infrastructure. Moreover, because the statutory allocation of federal highway funds to states is influenced heavily by the ultimate source of federal fuel excise tax collections, the loss of state fuel tax revenues will be magnified by the loss of federal Highway Trust Fund allocations to Maine.

We estimate that fuel excise tax revenue in Maine will decline by \$ 1 billion as a result of a ZEV policy. The decline will be greatest in later years due to the gradual phase-out of internal combustion vehicles.

**Maine's Annual Decline in Fuel Excise Tax Revenue (Federal & State)**  
2025 – 2040 (\$ billions)



<sup>2</sup>The results and the methodology of the CARB model were described in CARB's Statement of Regulatory Impact.

<sup>3</sup>These estimates rely upon California data and experience. California may not always be a reasonable proxy for all other states adopting ZEV policies.

Of the states bordering Maine, none are likely to adopt a ZEV policy. Compared to its neighbors, Maine will experience the largest loss of fuel excise tax revenue.

**Total Decline in Fuel Excise Tax Revenue (Federal & State)**

*Maine and Neighboring States*

*2025 –2040 (\$ billions)*

	No ZEV Policy	ZEV Policy	Difference
Maine	\$5.78	\$4.75	\$1.02
New Hampshire	\$4.76	NA	NA
Total	\$10.54	\$4.75	\$1.02

## AUTHORS

### **Kevin W. Christensen, PhD | Director**

[kchristensen@thinkbrg.com](mailto:kchristensen@thinkbrg.com) | 202.480.2701

Dr. Kevin W. Christensen uses economics to provide insights and answers to public policy and business questions. On public policy matters, he has estimated the economic and tax revenue impact of proposed infrastructure investments, tax changes, and regulatory rules. He has advised clients in the oil and gas, pharmaceutical, biotechnology, medical device, banking, automobile finance, wholesale distribution, transportation, consumer packaged goods (CPG), agriculture, building materials, tourism, and gaming industries.

### **Andreas Groehn, PhD | Managing Director**

[AGroehn@thinkbrg.com](mailto:AGroehn@thinkbrg.com) | 202.304.1737

Dr. Andreas Groehn combines client data with public statistics and data collected through surveys to answer pressing business questions. He regularly conducts economic impact assessments to assess policies and investment projects. He has advised clients in North America, Europe, Africa, Australia, and the Middle East out of Brussels, Frankfurt, London, and Washington, DC.

### **Bill Hamm, PhD | Managing Director**

[BHamm@thinkbrg.com](mailto:BHamm@thinkbrg.com) | 510.285.3254

Dr. Bill Hamm is an economist with high-level experience in both business and government. An expert on banking and public finance, he was the executive vice-president/chief operating officer of a AAA-rated \$50 billion bank. He also ran a \$1.5-billion loan servicing business unit for an S&P 500 company. Before entering the private sector, Dr. Hamm headed the nonpartisan Legislative Analyst's Office in California, where he earned a nationwide reputation for objectivity, expertise, and credibility on public policy issues ranging from taxation to healthcare.

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the opinions, position, or policy of Berkeley Research Group, LLC or its other employees and affiliates.