Effectiveness of Transportation Investments in Reducing GHG Emissions

House Transportation Committee
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February 23, 2022

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- Outline
  - Modeling work performed in support of CAP process (and TCI)
  - Work to estimate the impact of Advanced Clean Cars II (ACCII) and Advanced Clean Trucks (ACT) rules being adopted by Vermont
  - Additional work needed to inform what most cost-beneficial actions are to further reduce emissions in the transportation sector, building on ACCII and ACT

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- ## Low Emissions Analysis Tool (LEAP)
  - Used for Comprehensive Energy Plan, Climate Action Plan
  - Scenario analysis tool
  - Calculates emissions from sectors based on technology adoption over time
  - Adoption rates are inputs

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- Vermont Pathways Report (February 2022)
  - Presents modeled mitigation scenario that achieves GWSA targets
  - In transportation sector, reduces number of EVs as compared to December 2021 presentation to committee

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Transportation Modeled Emissions Reductions (from Pathways Report February 2022)

	2021	2025	2030
Business as Usual			
- EV Stock	7,200 (model) 6,585 (actual)	13,000	22,000
- Emissions	3.26	3.01	2.73
Mitigation Scenario 1			
- EV Stock	7,360	27,000	126,000
- Emissions	3.24	2.78	2.04
MMT Reduction		0.23	0.69
Percent Reduction		-7.6%	-25.3%

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- Transportation and Climate Initiative Program Analysis
  - National Energy Modeling System (NEMS) modified to look at TCI states as a group
  - Investment Strategy Tool
  - REMI
  - Health Benefits Modeling (by T.H. Chan School)

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- Understanding effect of ACCII and ACT in Vermont
  - ANR is using various analyses to develop rulemaking record
  - Need to understand and document emissions reductions (GHG and other pollutants) and cost impacts
  - Co-benefit of rule analysis will be a better understanding of the amount of additional GHG reductions needed in the transportation sector
  - Immediate impact of ACCII and ACT is that more EVs will be delivered to Vermont – need companion policies to drive further EV demand and adoption

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ACCII Estimated ZEV Sales Figures for Compliance	MY2026	MY2031
Projected total US Sales	15,659,766	15,708,234
Proposed ZEV Stringency	30%	76%
Proposed ZEV Stringency after Historical and EJ Credits	24%	72%
ACCII Estimated ZEV Credits for Compliance in VT	11,275	28,652
ZEV	9,020	22,921
PHEV*	2,255	5,730

As proposed by the California Air Resources Board, 2021. Subject to change in Final Proposed Rule.

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