



Students for Democracy Policy Recommendation

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RESEARCH QUESTIONS

- What role does the auto industry play in carbon emissions in the state of Michigan?
- What role does the state of Michigan play in forming federal policy surrounding vehicle emissions and electric vehicle (EV) policy?



BACKGROUND

- Transportation sector accounts for $\frac{1}{5}$ GHS emissions, globally
- Transportation is responsible for 45% of U.S. nitrogen oxide emissions (EPA)
- Broad introduction of Electric Vehicles (EVs) – Inflation Reduction Act (2022)



BACKGROUND (CONT.)



Nitrous oxide and methane trap heat within the Earth's atmosphere, catalyze global warming

Urgency of the issue is rising and its impacts are becoming increasingly detrimental



Air pollution in downtown Los Angeles
Pesce, N. L. (2019, April 24)



Michigan's Unique Role in the Auto Industry



- Helps determine auto union/manufacturing policy nationally
- Influence of powerful automotive companies
- State accounts for $\frac{1}{3}$ of battery production and ranks 1st in EV production



A white pickup truck is shown on an assembly line in a factory. The truck is the central focus, with other vehicles visible in the background. The factory environment is filled with industrial equipment, overhead lights, and yellow fans. A black banner with white text is overlaid on the truck.

POLICY OPTIONS



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POLICY OPTIONS



Sustainable EV Production

EV Specific Tire Policy

Minimum EVs Produced

Clean-energy Charging
Grid



Sustainable Materials in EV Production

- **Proposal:** introduce automotive manufacturer preference for sustainable materials, i.e. sustainable steel, lithium batteries
- Leverage UAW to aide in using more domestically produced steel and batteries
- Insufficient demand, hindering production of sustainable steel
- Potential impacts of legislation
 - Increased demand for sustainable steel



Minimum EV Productions Requirements

- EVs make up just over 7% of sales
- Production costs increased by 140% from March 2020 to 2022
- Precedent for fleet requirements
 - Vehicles sold in the U.S. must average 49 mpg fleet-wide by 2026
- Encouraging low-cost EVs



EV Specific Tires

- Weight difference of EVs
- Tire pollution on roads
 - Car tires can emit more harmful pollutants than tailpipes
- Introduction of recyclable tires
- Michigan Scrap Tire Program



Use of Clean Energy for Charging

- EVs are designed to reduce carbon emissions
- Charging EVs may indirectly produce greenhouse gases
- Policy:
 - Requirement to have a form of clean energy to accompany EV charging.
 - More public charging infrastructure





CONCLUDING REMARKS



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Recap



- Research Question: What role does the auto industry play in carbon emissions in the state of Michigan?
- Policy options
 - Sustainable Materials Mandate
 - Minimum EV Production
 - Clean Energy for EVs
 - Recyclable EV tires
- Recommended Policy: Focus on Sustainable EV tires
 - Non-sustainable tires result in severe pollution and general health issues
 - Most feasible, less costly

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