

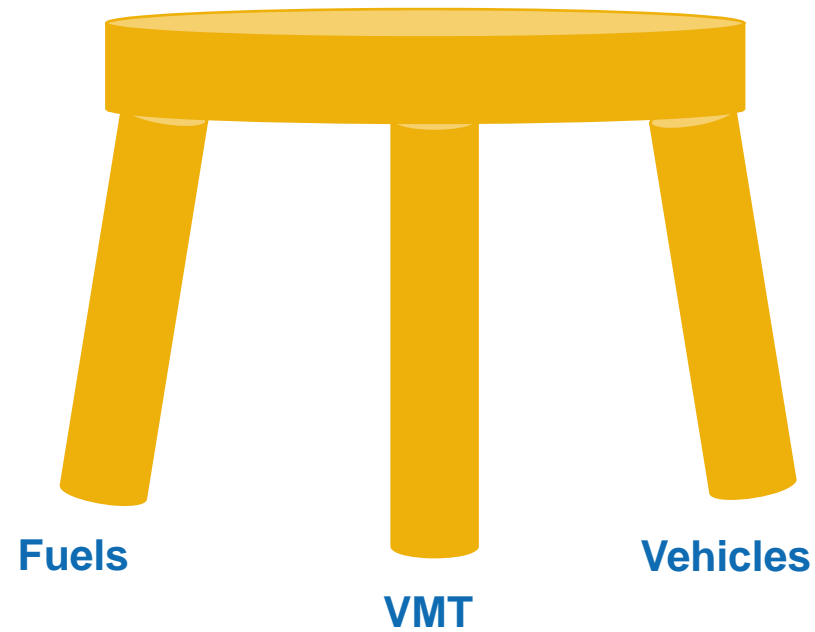


# Low-Carbon Transportation Policies and California's Low-Carbon Fuel Standard

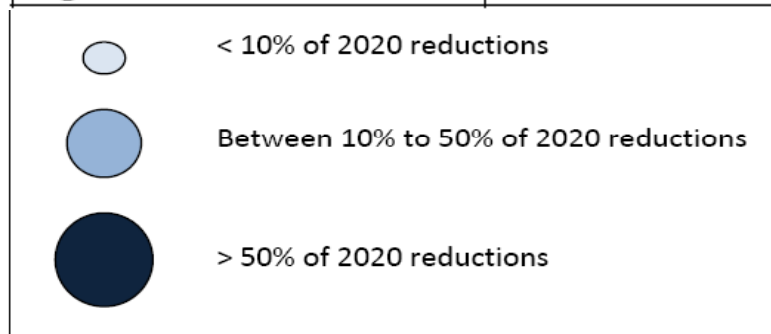
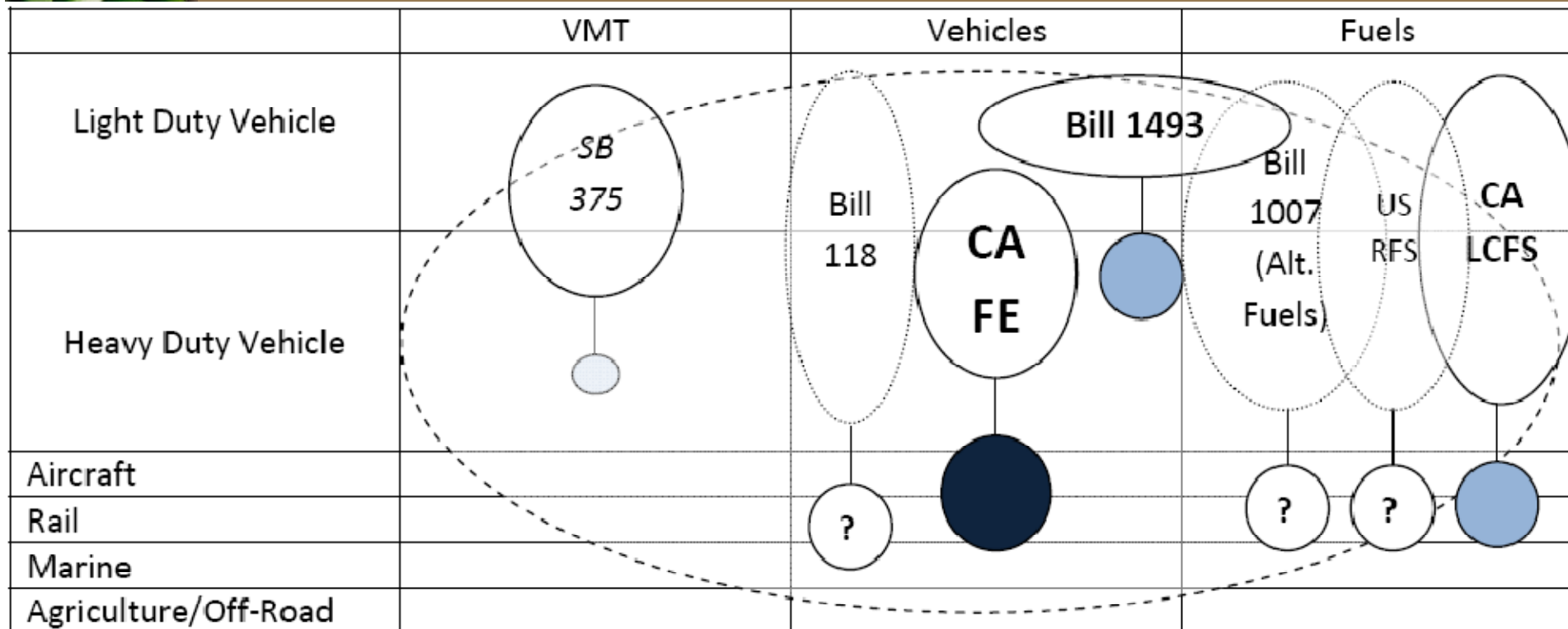
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# Broad Low-Carbon Transportation Policies

## Low-Carbon Transportation Policies



# California's Suite of Policies





# Objectives of California's Low-Carbon Fuel Standard

- Reduce GHG emissions from transportation by 16 million tonnes (10%) by 2020
- Reduce California's dependence on petroleum
- Create a lasting market for clean energy transportation
- Stimulate the production and use of alternative low-carbon fuels



# Positive and Negative Aspects

## Positive:

- Supports technology development
- Incorporates full carbon accounting
- Is technology neutral

## Negative:

- Achievability
- Data Availability
- Data Uncertainty
- Difficult to administer



# Necessary Factors for LCFS Success

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- Appropriate baseline
- Consistent application of life cycle thinking
- Flexible to new technologies
- Integrated with other policy options
- Transparent
- Scenario and contingency planning



# What are alternatives to an LCFS?

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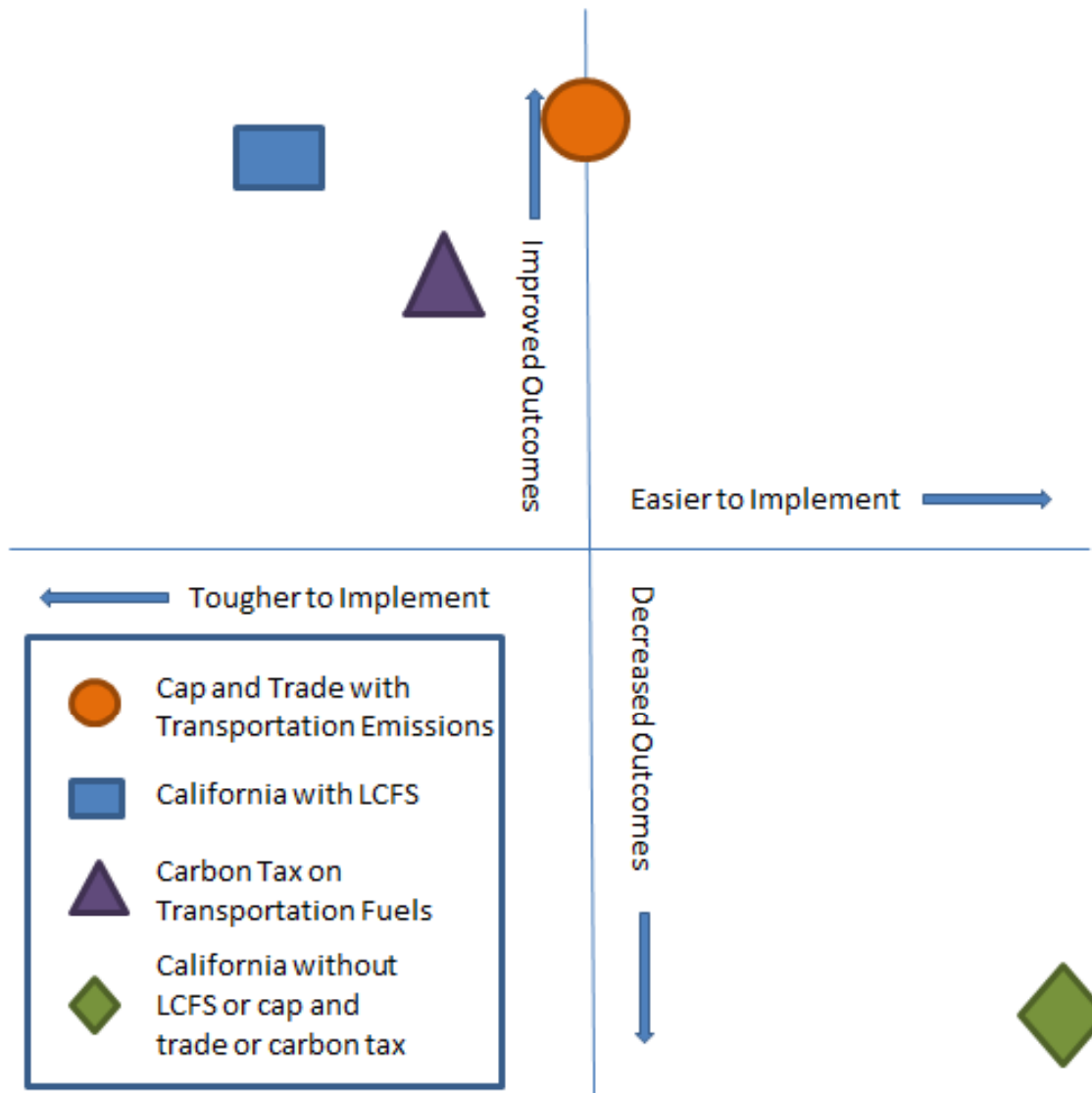
- Cap and trade with transportation emissions included
- Carbon tax on transportation fuels
- Other transportation policies?

# How do we evaluate policies?

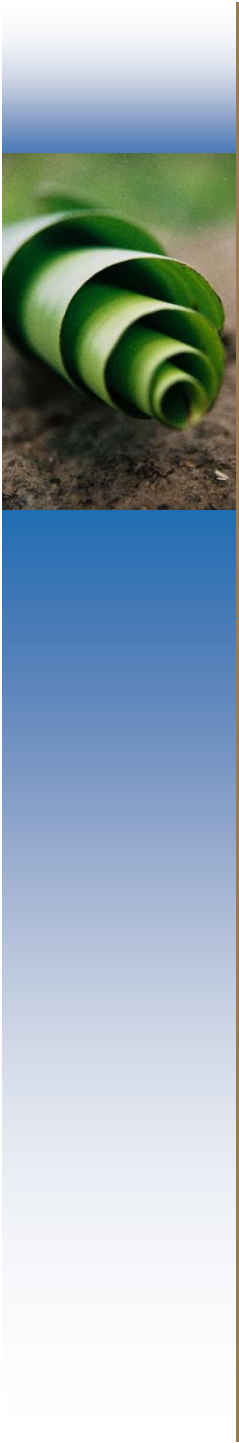
Implementation	Outcomes
Complementary	GHG reductions
Acceptability	Energy security
Administrative ease	Long-term goals
Flexibility	Economic/Social/Environmental Benefit
Achievability	Economic/Social/Environmental Cost



# How does the evaluation look?



\* The scale of the GHG reductions are based on the expected reductions from the LCFS component of AB 32 only.



# Further Considerations and Research Questions

- Many policy options available to reduce GHG emissions from transportation (Fuel, Vehicle and VMT) and all should be addressed
- California has not addressed freight and VMT to the same extent as other policies
- The LCFS is one policy option being considered with a potential to significantly reduce GHG emissions and incent technology change
- Other policy options could achieve the same objectives as an LCFS but with many of the same issues and aren't as developed



# Research Questions

- What is the optimal combination of policies?
- In what order should policies be implemented?
- How to integrate and manage overlap?



# Questions

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