



**Potential Design, Implementation,
and Benefits of a Feebate Program
for New Vehicles in California:
Research Contract Public Consultation Meeting**

Air Resources Board

November 5, 2008

Sacramento, CA

Overview

- Background and Meeting Objectives
- Project Timeline
- Research Team Introductions
- Contract Scope of Work
- Discussion and Q&A

AB 32 Background

- AB 32 HSC §38590:
“If the regulations adopted pursuant to § 43018.5 [AB 1493 Pavley, Motor Vehicle Greenhouse Gas Standard] do not remain in effect, the state board shall implement alternative regulations to control mobile sources of greenhouse gas emissions to achieve equivalent or greater reductions.”

Scoping Plan Background

- Proposed Scoping Plan:
“ARB is evaluating the use of feebates as a measure to achieve additional reductions from the mobile source sector, either as a backstop to the Pavley regulation if the regulation cannot be implemented, or as a supplement to Pavley if the waiver is approved and the regulation takes effect.”

Feebates Defined

- For the purposes of this project, a feebate program would combine:
 - Rebate for lower-emitting vehicles
 - Surcharge for higher-emitting vehicles
- Applies to new passenger vehicles only
 - Same vehicle classes as Pavley
- Revenue neutral and self-financing in long-run

Meeting Objectives

- Review research questions to be addressed by this study
 - Whether a Feebate program should be pursued is OUTSIDE the scope of this project
- Review proposed methodology to answer research questions
- Review project timeline

Project Timeline

- November 14 – Research Screening Committee Review of UC Proposal
- December 11 – Board Hearing to Approve Contract (tentative)
- Early 2009 – Contract Begins
- Ongoing – Additional Consultation Meetings
 - Subscribe to cc email list for announcements or check website for updates
- Fall 2009 – Final Report and Chair's Seminar Presentation of Results

How the Research Will be Used

- If NO Pavley waiver
 - Inform possible designs for a feebate program to achieve equivalent or greater emissions reductions
- If Pavley waiver granted
 - Inform whether a complementary feebate program should be pursued based on expected additional benefits and costs

The background features a stylized globe on the left side, showing continents and oceans. A horizontal blue bar with a slight gradient is positioned at the top. The overall color scheme is light blue and green.

Potential Design, Implementation, and Benefits of a Feebate Program for New Vehicles in California

University of California
Research Proposal

November 5, 2008
Sacramento, CA

Research Team Leaders

- **Dr. David Greene**, Project Lead
 - Visiting Researcher, UC Davis Institute of Transportation Studies and Corporate Fellow, Oak Ridge National Labs
- **Prof. David Bunch**, Co-Principal Investigator
 - UC Davis Graduate School of Management
- **Dr. Tim Lipman**, UC Berkeley Subaward Lead
 - Co-Director, Transportation Sustainability Research Center

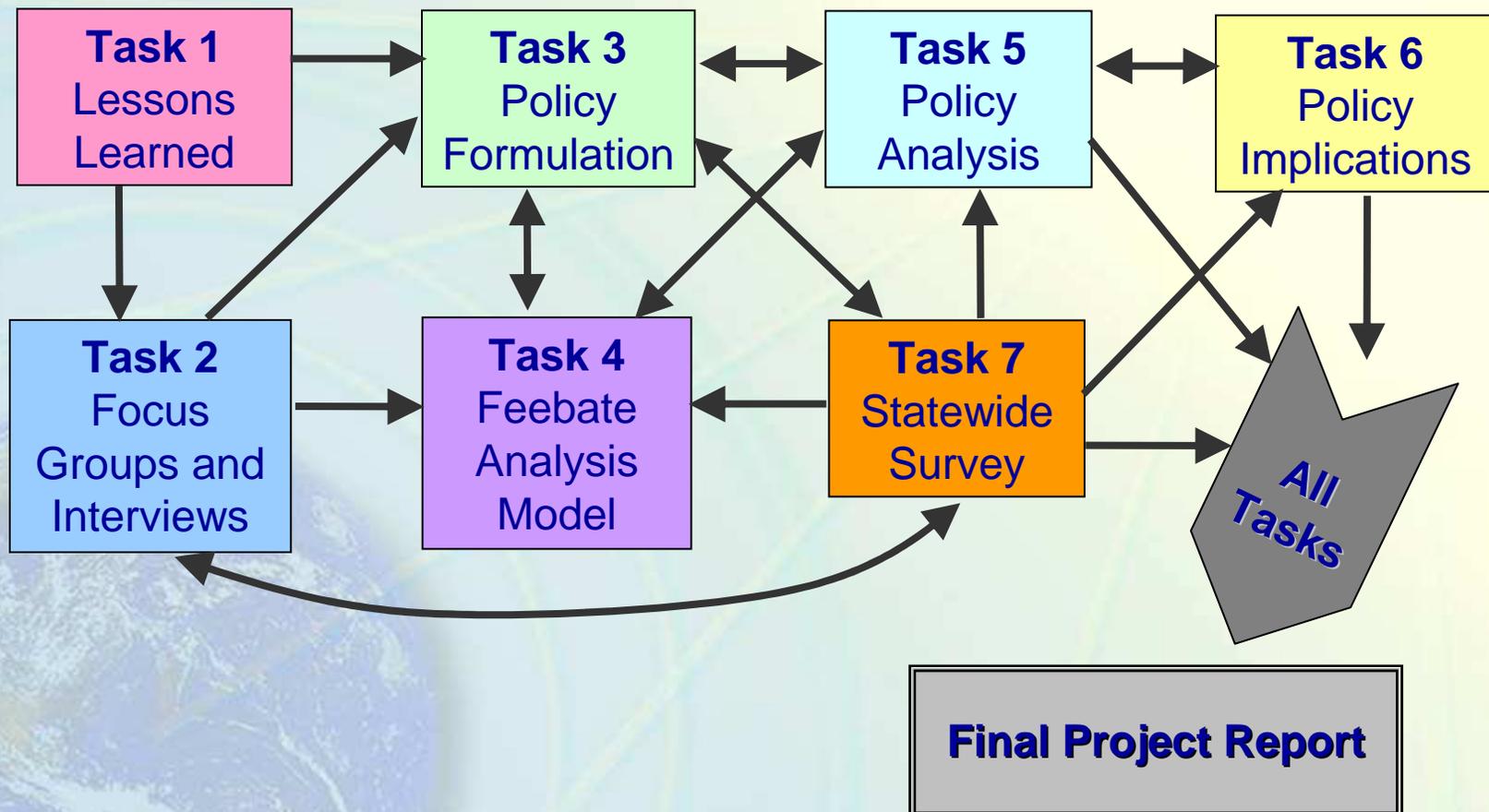
Other Research Team Members

- **Prof. Dan Kammen**, Director, UC Berkeley Transportation Sustainability Research Center and Faculty, Energy and Resources Group
- **Dr. Susan Shaheen**, Co-Director, UC Berkeley Transportation Sustainability Research Center
- **Prof. David Brownstone**, UC Irvine Department of Economics
- **Prof. Yueyue Fan**, UC Davis Department of Civil Engineering
- **Prof. Christopher Knittel**, UC Davis Department of Economics
- **Dr. Walter McManus**, UMich Transportation Research Institute
- **Dr. Caroline Rodier**, UC Berkeley Transportation Sustainability Research Center
- **Rachel Finson**, UC Berkeley Transportation Sustainability Research Center
- **KG Duleep**, Energy and Environmental Analysis, Inc.
- **Ewald & Wasserman Research Consultants, LLC**

Contract Scope of Work

- Overarching Research Questions:
 1. Lessons learned from other feebate programs
 2. Feebate program design options to achieve emissions reductions to replace Pavley standards
 3. Potential emissions reductions from feebates in addition to Pavley standards

Task Overview



Task 1: Lessons Learned

- Understand barriers to deployment, public reaction, implementation and administrative issues, effectiveness in achieving program objectives
- Expert interviews on current and prior feebate (or feebate-like) programs
 - ex. Ontario, Canada, France, Denmark
 - Past Proposed Programs in CA
 - Clean Car Discount (2008), Drive+ (1990)
- Review of published reports or assessments

Task 2: Focus Groups and Salesperson Interviews

- Assess consumer and dealer perceptions and response to potential feebate program designs
- Two rounds of focus groups (12 total) of consumers in urban, suburban, and rural areas of CA
- Expert interviews with new car dealers and salespersons

Task 3: Policy Formulation

- Define policy elements and scenarios for evaluation
 - e.g. specification of benchmark(s), magnitude and functional form of feebate rate, program coverage, point of regulation, implementation schedule, uncertainty/shocks
 - NOTE: Defining these policy design elements are for analytical purposes only, additional discussion will be required for any future rulemaking
- Define external “surprises” to incorporate

Task 4: Feebate Analysis Model Development

- **Manufacturer Decision Model**
 - Produce vehicle offerings by manufacturer, attributes and technology status for 2009-2020
 - Factor in design cycles, future product plans
 - New vehicle market regions: CA-only, CA + Pavley States, and Rest of US
- **Vehicle Market Simulation Model**
 - Incorporate new vehicle attributes with consumer preferences and used vehicle stock to project fleet composition for 2009-2020

Task 4: Feebate Analysis Model Expected Outputs

- New passenger vehicle GHG emission rates by vehicle class and manufacturer
- Annual and cumulative GHG emissions from all passenger vehicles
- Passenger vehicle sales by model year
- Manufacturer sales revenues by model year
- Impacts on used vehicle prices and transactions
- Fee and rebate flows, net State revenue

Task 5: Policy Analysis

- Utilize previously-defined policy scenarios in Feebate Analysis Model to estimate and compare impacts of feebate program
 - Annual and cumulative GHG emissions
 - Change in vehicle prices, sales and revenue by class and manufacturer
 - Consumer surplus and savings by income and demographic group
 - Gross and net State revenue flows

Task 6: Policy Implications

- Assess policy implications and social responses to feebate program
 - Consumer welfare shift analysis
 - Environmental justice/low-income household impacts
 - VMT interaction (e.g. rebound effect) and effects on trip-making behavior
 - Administration costs and secondary fiscal effects
 - Maintaining revenue neutrality
 - Interaction with other AB 32 measures and complementary emission reduction programs
 - Other unintended consequences, e.g. gaming, leakage

Task 7: Statewide Survey

- Assess consumer perception of feebates
- Assess consumer response to various policy scenario options and preference for point of regulation
- 15 minute telephone survey of 3,000 California households statewide
 - Stratified by location and demographics

Additional Information

- Website:
<http://www.arb.ca.gov/research/econprog/feebates/feebates.htm>
 - Subscribe to climate change email list for future announcements and updates
- Questions and comments, contact Fereidun Feizollahi, (916) 323-1509 or ffeizoll@arb.ca.gov

Public Discussion

- Webcast viewers may submit questions and comments to:
auditorium@calepa.ca.gov