



**UC Davis STEPS PROGRAM:  
Future of Fuels in Oil and Gas BREAKOUT DISCUSSION**

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**June 2, 2016**

# STEPS 2015-2018 (STEPS3): Understanding Critical Transition Dynamics for Sustainable Transportation

Key Research Themes developed with sponsors, invited experts, and team:

## 1. Initiating Transitions 2015-2030

*What is required for early alternative fuel/vehicle transitions to succeed?*

## 2. The Future of Fuels and the Oil and Gas Industry

*How will changing geopolitical landscapes and disruptive technology in the oil and gas and clean technology industries impact future business models and the competition of fuels?*

## 3. The Future of Global Urban Sustainable Transport (GUSTO)

*How will a rapidly urbanizing world affect transport and energy demand?*

## 4. Modeling Analysis, Verification, Regulatory and International Comparisons (MAVRIC)

*What do improved and cross-compared energy/economic/environmental/transportation models tell us about the future of transportation?*

# 2016 STEPS TRANSITION SCENARIO PROJECTS

- Peak oil demand project
  - Stranded Assets and Corporate Strategies in the Energy Industry
  - Climate Risk/Carbon Pricing in Investments in the Energy Transition
  - OPEC/Saudi Strategies in Reserve Depletion and Long Term Oil Markets
  - The Role of US Energy Exports in Global Energy Market Transition

Low Carbon Fuel Standard (LCFS) Status Review (biannual report)

Analysis of hydrogen energy storage via electrolysis from curtailed renewables: a California case study

Biofuel Innovation Tracker (BFIT)

Low-carbon technologies and fuels for rail and air travel

## EARLY RESULTS:

- Changing Oil Market Fundamentals and the Implications for OPEC Production Strategy.
  - *Scheitrum, Myers-Jaffe, and Fulton; Presentation at IAEE Annual Meeting in Bergen*
- Testing substitution between private and public storage in the U.S. oil market: A study on the U.S. Strategic Petroleum Reserve.
  - *Scheitrum, Carter, and Myers-Jaffe; Energy Economics. 2015.*
- War and the Oil Price Cycle
  - *Myers-Jaffe and Elass, Journal of International Affairs. 2015.*
- “Is Natural Gas a Bridge for Energy Transition?: The Potential of Natural Gas as a Pathway to Sustainable Transport”
  - Energy Policy Special Issue

# QUESTIONS FOR DISCUSSION

- Other demand-reducing scenarios we should investigate?
- Demand-increasing scenarios?
- What would you like to see in a model of vehicle adoption?
- Stranded Assets? What topics?
  - OPEC?
  - Corporate strategy?
  - Future of oil and gas downstream and refining?
- Post-Fort MacMurray: interest in energy facilities and severe weather risk and resilience study?