



Low Carbon Fuel Standard Supplemental Advisory Panel Meeting

November 17, 2011

Agenda

- Introductions**
- Recap of Panel Activities**
- Compliance Scenarios, Meeting the Targets**
- Economics**
- Summary and Next Steps**

Where we've been...

Staff developed workplan, included panelist comments

Staff/Panelists generate outline topic papers

Present to Panel for discussion and comments

Draft of paper for final report sent to Panel for initial review

Finalize paper, incorporate into report/present to Board

Panel/Public
Review
Period

Panel/Public
Review
Period

Panel/Public
Review
Period

Focus of Today's Meeting

- **Meeting the targets chapter**
 - **Updated and new compliance scenarios**
- **Economics chapter**
 - **Revised approach**

Illustrative Scenarios

- **2009 LCFS Staff Report**
 - Five gasoline scenarios
 - Three diesel scenarios
- **2011 LCFS review**
 - Eleven gasoline scenarios
 - Six diesel scenarios
- **Scenarios are not projections**
 - Possible pathways
 - Show range of options

Scenario Development

- **Must meet annual California vehicle fleet energy demand**
 - Miles traveled
 - Vehicle fuel economy
 - Total megajoules
- **Start with E10 and ULSD w/some biodiesel**
- **As standards become more challenging, introduce lower-CI fuels**

2011 Gasoline Scenarios

- **Common assumptions:**
 - Number of EVs and FCVs increase over time
 - CIs for corn and sugarcane ethanol decline over time
 - LCFS credits used for compliance
- **Key variables:**
 - Volumes of corn, sugarcane, and cellulosic ethanol
 - Drop-in fuels available for some scenarios
 - Fueling of FFVs (50% - 100% E85)
 - Some E15 in later years for some scenarios

2011 Diesel Scenarios

- **Common assumptions:**
 - CIs of alt diesel blendstocks constant over time
 - Exception is canola biodiesel for two scenarios
- **Key variables:**
 - Volumes of alternative diesel streams
 - Later years require more lower-CI alt diesel
 - Some drop-in diesel for a couple of scenarios

2009/2011 Scenario Differences

2009	2011
Excluded costs borne by RFS2	To use RFS2 as baseline case
Included biofuel tax subsidies	No tax subsidies
Used U.S EPA cellulosic fuel projections	Used EIA cellulosic fuel projections
Varied number of EVs and FCVs <i>among</i> scenarios	Held number of EVs and FCVs constant <i>among</i> scenarios
No LCFS credits used for compliance	LCFS credits used for compliance

2011 Economic Analysis

- **Update 2009 economic analysis**
 - **Feedstock costs**
 - **Crude costs**
 - **Production costs**
 - **Co-product credits**
 - **LCFS credits**
 - **Others?**
- **Cost-of-production basis**
 - **Consistent with NREL and U.S. EPA's RFS2 approach**
 - **Does not address CI-driven market signal**

Tasks before Board Hearing

- **Your comments requested by November 22, 2011, on meeting targets and economics**
- **Staff will work on incorporating edits into final review report**
- **Final report will be released at least 10 days before the December Board Hearing**

Tasks for Board Hearing

- **Panelists are strongly encouraged to attend the Board Hearing on December 16**
- **Staff will provide presentation of the Review Report**