

California's Low Carbon Fuel Standard

October 24, 2007

California Environmental Protection Agency



Air Resources Board

Agenda

- Introduction
- Issues discussed at working group 1 & 2 meetings
- Issues for working group 3
- Issues for working group 4
- Schedule

Working Group #1

Life Cycle Analysis

Specific Issues Discussed at 2nd LCA W.G. Meeting on October 23, 2007

- System boundary
- Co-product issues
- Land use impacts
- Other issues

WG1: System Boundary

- Presented generic system boundary for fossil fuel and biofuel
- Generated substantial discussion on specifics of system boundary
- Need to define and present pathway boundaries for fuels considered as the process continues
- Stakeholders requested to present suggestions on creating/modifying system boundaries, particularly when issues such as co-product, land use, etc. are not clearly established.

WG1: Co-product Credit

■ An overview of:

- Displacement/Substitution approach: where co-products from a pathway avoid the production of this from another source or replace the need for an equivalent product
- Allocation by attribute approach: products of the most value allocated the most burden in the pathway
 - Based on Mass, Economic Value or Energy Intensity

WG 1: Co-Product Methods (cont)

- Presented co-product credit handling methodologies from work done by the U. S. EPA, AB 1007, default GREET, CONCAWE, U. K. RTFO, and Cramer Commission
- Issues with various methods were discussed
- Prepare and distribute an overview of advantages and disadvantages of methods for discussion at the next working group meeting

WG1: Co-Product Credit (cont)

- Co-product treatment will be considered in a transparent and consistent manner and may be pathway dependent

WG1: Co-product Questions Raised by Stakeholders

- Is it better to define the pathway before attempting to discuss co-product?
- General questions on displacement or allocation method for co-product credit: would it be better to make choices based on pathway
- Would co-product credit need to be discounted?

WG1: Land Use Issues

- Presented an overview of issues related to land use and sustainability impacts
- Lack of time led to this issue being moved to the next working group meeting.

WG1: Other Issues

- Presented an overview of GREET changes for the CEC 1007 analysis
- ARB to schedule training for WG1 participants on GREET
- Need to list of assumptions used in GREET with documentation for comments

WG1: Overview of Action Items Before Next Meeting

- Provide a co-product method overview. In addition, provide some examples of co-products in pathways with their 'sample' value
- Update LCFS website with links to a few LC reports that focus on co-product treatment
- Provide a list of assumptions embedded in the National GREET and AB1007
- Schedule GREET training

Working Group #2

Compliance and Enforcement

Specific Issues Discussed and the WG2 Meeting (Oct. 23)

- Tracking and reporting system

WG2: Tracking and Reporting System

■ RINs issues

- How RIN works?
- Can RINs be used in LCFS?
- Advantages and disadvantages using RIN

■ Point of regulation

■ How to track the trading

- Document all the transactions
- Chain of custody

■ Inspection

- Include Inspection in LCFS?
- Technical approaches

WG2: Discussion on Tracking-Reporting

- Detailed discussion on RIN
 - Applicability to CA, fungibility, ability to accommodate non-liquid fuels, enforcement, flexibility
 - Questions on USEPA approach re. RIN
- Point of regulation
 - Concerns re. terminal enforcement
 - Point of enforcement for electricity, gaseous fuels
- ARB will provide information on RIN, examples, etc.

WG2: Discussion on Tracking-Reporting

- The discussion on tracking the trading and Inspection was referred to the next working group meeting

Working Group #3

Policy and Regulatory Development

First Meeting

**When: Friday, November 16
9AM – 12 PM PST**

**Where: California Energy Commission
1516 9th Street
Sacramento
Conference Room “A”**

WG3: Objectives

- For subsequent WG3 meetings, goal is to address the 22 UC recommendations in the UC Report Part II, Policy Analysis
- Based on working group input, issues will be prioritized and discussed
- Additional policy issues not addressed in UC report can be submitted in writing and discussed further in the following meeting(s)

WG3: Discussion Starting Points

■ Scope of standard

- Fuels included and excluded

■ Lifecycle analysis:

- Default values
- Uncertainty

■ Trading scheme:

- LCFS credit system

■ Interaction with other policies

- AB1493
- AB32

Working Group #4

Economic & Environmental Impacts

WG4: Objectives

- **Cost and Cost Effectiveness**
- **Economic Impact**
- **Environmental Impact**

WG4: Discussion Starting Points

- **Costs and Economic impact analysis by**

- CEC for AB 1007
- USEPA (in progress)
- UK, others

- **Methods of analysis**

- **Fuels and Fuel Pathways**

- **Environmental Impact**

- Emission Impact
 - GHG
 - Criteria Pollutants
- Other Environmental Media

- **Cost Effectiveness**

WG4: Discussion Starting points

■ Economic Impact Analysis

- Approaches used by UC, CEC for AB 1007, USEPA (in progress), EU, others
- Use of EDRAM (Environmental-Dynamic Revenue Analysis Model) to determine policy impacts on CA economy.
- Costs (fuel prices, increases in vehicle costs, capital costs, etc)
- Benefits

WG4:Environmental Impact

■ Emissions Impact

- What inventory yr. to be used for the baseline?
- GHG & criteria pollutants
- GREET, Vision

■ Other Environmental Media

- Water
- Soil

Upcoming Schedule

When: Friday, November 16

■ **WG #3 (Policy Group)**

9AM – 12 PM PST

■ **WG #1 (LCA Group)**

1PM – 4 PM PST