

Low Carbon Fuel Standard Proposal for an Expert Workgroup

I. Background

On April 23, 2009, the California Air Resources Board (ARB/Board) approved the Low Carbon Fuel Standard (LCFS) regulation. As part of the Board Hearing, the Board approved Resolution 09-31 (Resolution). The Resolution includes a number of provisions related to ongoing work on the LCFS. One such provision relates to land use and indirect effect analysis of transportation fuels.

The Board-approved resolution reads: “BE IT FURTHER RESOLVED that the Board directs the Executive Officer to convene an expert workgroup to assist the Board in refining and improving the land use and indirect effect analysis of transportation fuels and return to the Board no later than January 1, 2011 with regulatory amendments or recommendations, if appropriate, on approaches to address issues identified. This workgroup should evaluate key factors that might impact the land use values for biofuels including agricultural yield improvements, co-product credits, land emission factors, food price elasticity, and other relevant factors. The Executive Officer shall coordinate this effort with similar efforts by the U.S. Environmental Protection Agency (U.S. EPA), European Union, and other agencies pursuing a low carbon fuel standard.”

This proposal outlines ARB staff's recommendations for the structure of the workgroup, the proposed member criteria and selection process, and potential topics for discussion.

II. Proposal for Expert Workgroup

1. Overall Structure

- The expert workgroup is expected to include 15-20 members. The specified criteria and process for selection of expert members is presented in section III of this proposal.
- Working subgroups with invited technical advisors will focus on specifics. These subgroups will report back to the core group.
- ARB staff will lead the workgroup but plans on using a professional facilitator. The facilitator, with input from staff lead, will prepare meeting agendas, run the meetings, prepare minutes and assist with preparation of reports.
- Goal is to develop, by late 2010, recommendations on refining and improving land use and other analysis for biofuels and other fuels with indirect effects.

2. Meeting Frequency

- The expert workgroup will meet at least every 2 months.
- Summaries of the meetings will be published for public view.
- All meetings will be public.
- The meetings will be webcast whenever possible.

3. Deliverable(s)

- Format - Report of findings, with recommendations and plan for implementation.
- With assistance from the facilitator, ARB staff will prepare the draft report with input from workgroup participants.
- The draft report will be released for public review and comment.

III. Proposed Member Selection Criteria and Process

1. Skill Sets

- The expert workgroup will be comprised of individuals who have the skills and experience necessary to conduct objective, technical-level analyses that can help policy development.
- Highly desirable skill sets and knowledge areas include: global economics, agricultural economics and modeling, energy market economics and modeling, transportation fuel lifecycle analysis modeling, greenhouse gas emission factors and atmospheric time accounting, global land use, agricultural production, livestock feed market, and motor vehicle fuels both conventional and alternatives.
- Individuals with relevant experience and education as demonstrated by peer-reviewed publications in the above mentioned areas or other evidence may qualify as experts.

2. Selection Process

- ARB staff will release a solicitation for participation and may independently seek qualified participants.
- From the pool, ARB staff will invite about 20 experts to participate in the expert workgroup. A balanced representation of technical expertise to tackle major issues of concern will be key in the selection process.
- Potential conflicts of interest that could arise as a result of a candidate's selection will be evaluated in the selection process.

IV. Potential Topics for Evaluation

Below is a list of topics specifically mentioned in the Resolution as well as other topics that may be included in the scope of the expert workgroup's evaluation. This is a preliminary list of potential topics for evaluation; additional topics may be identified and addressed based upon input from the workgroup or stakeholders.

Potential Topics for Evaluation

Topic	Comments
GTAP Model:	
<ul style="list-style-type: none"> Elasticity values 	Input values used for land use modeling for different fuels.
<ul style="list-style-type: none"> Yield changes/ intensification of farming 	Impacts of yield changes including intensification of farming activities.
<ul style="list-style-type: none"> Land resolution 	Types of land available for conversion and effects on land use change estimates.
<ul style="list-style-type: none"> Co-products 	The credit allotted to co-products benefits.
<ul style="list-style-type: none"> Impacts on food consumption 	The impacts of large scale use of crop based biofuels on food price and consumption.
GREET Model:	
<ul style="list-style-type: none"> Farming Practices 	Evaluate effects of changes in farming practices.
<ul style="list-style-type: none"> Fertilizer use 	GHG emissions resulting from fertilizer application.
<ul style="list-style-type: none"> Water use 	GHG emissions resulting from irrigation practices.
<ul style="list-style-type: none"> Co-products 	The credit allotted to co-products benefits.
<ul style="list-style-type: none"> Assumptions in GREET 	Other GREET inputs.
Other Land Use Change Topics:	
<ul style="list-style-type: none"> Yield changes over time 	Evaluate the yield change effects.
<ul style="list-style-type: none"> Time accounting 	Review of time accounting methods.
<ul style="list-style-type: none"> Emission factors 	Review of emission factors used for converting a land use change value to equivalent GHG emissions.
Other Effects:	
<ul style="list-style-type: none"> Land use effects 	Identification and quantification of direct and indirect land use effects of other fuels.
<ul style="list-style-type: none"> Other indirect effects 	Including secondary effects in the energy market.
Comparative Modeling Approaches:	
<ul style="list-style-type: none"> FAPRI-FASOM 	Compare FAPRI-FASOM models (used by U.S. EPA) to GTAP.
<ul style="list-style-type: none"> Other Approaches 	Other approaches that can be used in place of land use change modeling for quantifying indirect emissions for biofuels, such as the concept of "opportunity cost" suggested by Searchinger et al. (2008) ¹ .

¹ Timothy Searchinger *et al.*, *Science*, **319**, 1238 (2008)

V. Proposed Timeline

Item	Timeframe
• First meeting of the expert workgroup.	Early December 2009
• Additional meetings (approximately monthly basis)	January through September 2010
• Meeting minutes	Released within 10 days after meeting
• Draft report	Mid-October 2010
• Report to Board	December 2010