

## TITLE 17. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE CARBON INTENSITY LOOKUP TABLES IN THE LOW CARBON FUEL STANDARD REGULATION

The Executive Officer of the California Air Resources Board (Board or ARB) will conduct a public hearing at the time and place noted below to consider amendments to the Carbon Intensity (CI) Lookup Tables in the Low Carbon Fuel Standard (LCFS) regulation.

DATE: February 24, 2011

TIME: 2:00 p.m.

PLACE: California Environmental Protection Agency  
Air Resources Board  
Byron Sher Auditorium, Second Floor  
1001 I Street  
Sacramento, California 95814

This item will be considered at a hearing on February 24, 2011, commencing in the afternoon around 2:00 p.m. The hearing will be conducted by the Executive Officer or an individual designated by him or her pursuant to the authority set forth in sections 39515 and 39516 of the Health and Safety Code. Please consult the agenda for the hearing, which will be available at least 10 days before February 24, 2011, for scheduling details on this item.

#### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

**Sections Affected:** Proposed amendments to California Code of Regulations (CCR), title 17, section 95486. The following documents would be incorporated in the regulation by reference: (1) Archer Daniels Midland Company Method 2B Application, November 5, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/adm-col-rpt-ncbi-121410.pdf>), (2) POET Method 2A Application, December 16, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/poet-rpt-ncbi-121410.pdf>), (3) Trinidad Bulk Traders LTD Method 2B Application, November 23, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/tbtl-rpt-ncbi-121410.pdf>), (4) Green Plains, Lakota Plant Method 2A Application, November 3, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/gp-lak-rpt-ncbi-121410.pdf>), (5) Green Plains, Central City Plant Method 2A Application, October 20, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/gp-cct-rpt-ncbi-121410.pdf>),

(6) LouisDreyfus Commodities Method 2A Application, December 1, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/apps/ld-nor-rpt-ncbi-121410.pdf>), (7) ARB CA-GREET Model Pathway for Biodiesel Produced in the Midwest from Used Cooking Oil, December 14, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/121410lcfs-ucobd.pdf>), (8) ARB CA-GREET Pathway for Conversion of North American Canola to Biodiesel - Fatty Acid Methyl Esters-FAME, December 14, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/121410lcfs-canola-bd.pdf>), (9) ARB CA-GREET Pathway for the Production of Biodiesel from Corn Oil at Dry Mill Ethanol Plants, December 14, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/121410lcfs-cornoil-bd.pdf>), and (10) California-Modified GREET Pathway for Sorghum Ethanol, December 28, 2010, (<http://www.arb.ca.gov/fuels/lcfs/2a2b/internal/121410lcfs-sorghum-etoh.pdf>).

**Background:** At its April 23, 2009, public hearing, the Board in Resolution 09-31 approved the adoption of the LCFS regulation, which went into effect in January 2010.<sup>1</sup> The LCFS regulation is described in detail in the LCFS Staff Report released to the public on March 5, 2009, along with other rulemaking materials which can be viewed at <http://www.arb.ca.gov/regact/2009/lcfs09/lcfs09.htm>.

The LCFS regulation is expected to reduce greenhouse gas (GHG) emissions of the transportation sector in California by about 16 million metric tons in 2020. These reductions account for almost 10 percent of the total GHG emission reductions needed to achieve the State's mandate of reducing GHG emissions to 1990 levels by 2020.<sup>2</sup> The LCFS incorporates the use of "lifecycle analysis" to reduce each fuel's GHG emissions.<sup>3</sup> The lifecycle analysis accounts for the GHG emissions associated with the production, transportation, and use in California of regulated transportation fuels in motor vehicles (also called the fuel's "carbon intensity").

The LCFS regulation specifies three methods by which a regulated party can arrive at a carbon intensity determination for each fuel pathway (see CCR, title 17, § 95486 for more information). All three methods use the same analytical tools (CA-GREET<sup>4</sup> and GTAP<sup>5</sup>) for establishing the direct and indirect effects that contribute to a fuel's lifecycle carbon intensity. Method 1 refers to the ARB-initiated regulatory adoption or amendment of carbon intensity values in the Lookup Tables<sup>6</sup> in section 95486. The remaining two methods, called Method 2A and 2B, refer to the regulatory process by which regulated parties obtain a customization to an existing pathway in the Lookup

---

<sup>1</sup> Codified at title 17, California Code of Regulations, sections 95840-95490. Additional provisions went into effect in April 2010.

<sup>2</sup> Pursuant to Assembly Bill 32 (Stats. 2006, ch. 488), which is codified at Health and Safety Code section 38500 et seq.

<sup>3</sup> For petroleum-based fuels, the lifecycle analysis is also referred to as "well-to-wheels; for fuels produced from crops, the lifecycle analysis is sometimes referred to "seed-to-wheels."

<sup>4</sup> Staff used the California Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation (CA-GREET) model to assess the direct GHG emissions.

<sup>5</sup> Staff used the Global Trade Analysis Project (GTAP) model to estimate indirect GHG emissions from land use change.

<sup>6</sup> "Lookup Tables" refers to tables 6 and 7 in section 95486.

Tables (Method 2A) or request a brand new pathway for incorporation into the Lookup Tables (Method 2B). For both Method 2A and 2B, there is a threshold requirement that the proposed pathways meet the specified provisions for “scientific defensibility<sup>7</sup>,” and Method 2A has an additional “substantiality<sup>7</sup>” requirement. This is because ARB reviews of new or modified requirements are intended to help focus ARB’s resources on consideration of fuel pathways that represent real and significant innovations in the production of biofuels and alternative fuels.

As noted, the addition of fuel pathways to the Lookup Tables is subject to public review. In other words, the Executive Officer may not approve a carbon intensity value proposed pursuant to Method 2A or 2B unless the proposed method and associated information submitted in support of that method has been disclosed to the public and available for public review for the prescribed time period, in accordance with rulemaking requirements in the Administrative Procedure Act. Trade secrets submitted to ARB, as defined under State law, are treated in accordance with established ARB regulations and procedures (CCR, title 17, §§ 91000-91022) and the Public Records Act (Government Code § 6250 et seq.).

Once a fuel’s or blendstock’s CI value is approved, the CI value may be used by the appropriate regulated party in calculating the overall carbon intensity for its fuel pool and the credits/debits generated by the fuels in its fuel pool. Fuels and blendstocks that have a CI that is lower than the standard (specified in CCR, title 17, §§ 95482 and 95483) for a given year generate credits in that year, while those with a CI that is higher than that year’s standard generate debits (see section 95484 (b) for more information on the credit balance calculations). Under the LCFS regulation, all regulated parties are required to show compliance with the carbon intensity reduction and credit balancing requirement on an annual basis. Thus, the addition of modified or new fuel pathways in the Lookup Tables will provide regulated parties with additional options from which to choose an appropriate mix of fuels and blendstocks to comply with the LCFS’ annual CI standards.

### **Description of the Proposed Regulatory Action:**

Staff is proposing amendments to the Lookup Tables of carbon intensity values contained in section 95486, title 17, CCR, as well as the list of incorporated supporting pathway documents. As noted, section 95486 sets forth the methodology for determination of carbon intensity values of various fuel pathways.

As noted, there are three types of proposed CI amendments: (1) ARB initiated pathways, (2) Method 2A submittals, and (3) Method 2B submittals. Staff has developed carbon intensities for six additional fuel pathways – Used Cooking Oil Biodiesel (with and without cooking), Canola Biodiesel<sup>8</sup>, Corn Oil Biodiesel, and

---

<sup>7</sup> Refer to section 95486 for more details on these requirements.

<sup>8</sup> For canola and sorghum, the Executive Officer will consider only the direct emissions associated with these fuel pathways. To allow regulated parties to use carbon intensities for these fuel pathways, staff has estimated the indirect emissions for these pathways (i.e., the land use change effects). The Board

Sorghum Ethanol (Dry and Wet DGS)<sup>7</sup>. In addition, staff has evaluated a number of Method 2A/2B customized CI pathway applications submitted by regulated parties or entities on behalf of regulated parties. The customized CI pathways under consideration include: corn ethanol, mixed feedstock ethanol (e.g., corn-sorghum), sugarcane ethanol processed pursuant to the Caribbean Basin Initiative, and liquefied natural gas. The various corn and mixed-feedstock ethanol pathways differ by process energy input, energy efficiency, production process technology, and co-product mix. Staff will be presenting these new and modified fuel pathways for Executive Officer approval and incorporation into the Lookup Tables.

Staff also proposes several non-substantive changes to the Lookup Tables, as follows:

- (1) identification of the fuels used for two corn ethanol pathways, which were inadvertently omitted in the original Lookup Tables but specified in their respective pathway supporting documents in section 95486(b)(1); and
- (2) addition of an alphanumeric, sequential "Pathway Identifier" column to both Lookup Tables to assist regulated parties and ARB staff in cross-referencing a particular fuel pathway with its specific pathway supporting document identified in section 95486(b)(1).

Finally, ARB staff recently posted on its website preliminary CI values for sorghum ethanol (see <http://www.arb.ca.gov/fuels/lcfs/2a2b/2a-2b-apps.htm>). Subsequent to that posting, staff discovered a calculation error. Under the proposed regulatory action, staff proposes for adoption corrected CI values for sorghum ethanol. Pursuant to LCFS Regulatory Advisory 10-04 (<http://www.arb.ca.gov/fuels/lcfs/122310lcfs-rep-adv.pdf>), it is ARB's policy at this time to allow regulated parties to use a posted CI value before it is approved through the rulemaking process. However, if the adopted CI value is different from the posted preliminary CI value, or if the proposed CI value is disapproved under the rulemaking, regulated parties would not be allowed to use the posted preliminary CI value beyond six months after the effective date of the adoption or disapproval.

## **COMPARABLE FEDERAL REGULATIONS**

There are no current federal regulations that are comparable to the LCFS regulation. The U.S. Environmental Protection Agency (U.S. EPA) has adopted its Renewable Fuel Standard (RFS2) regulation—Code of Federal Regulations (CFR), title 40, part 80, section 1100 et seq.—that mandates the blending of specific volumes of renewable fuels into gasoline and diesel sold in the U.S. to achieve a specified ratio for each year (i.e., the renewable fuel standard). As defined, "renewable fuels" under the RFS2

---

did not delegate to the Executive Officer in Resolution 09-31 the authority to approve land use change effects for fuel pathways; therefore, the Board will consider these values at a later public hearing.

superficially resembles the list of transportation fuels subject to the LCFS.<sup>9</sup> However, there are a number of reasons why the RFS2 is complementary, but not comparable, to the LCFS.

Congress adopted a renewable fuels standard in 2005 and strengthened it in December 2007 as part of the Energy Independence and Security Act (EISA). The RFS2 requires that 36 billion gallons of biofuels be sold annually by 2022, of which 21 billion gallons must be “advanced” biofuels and the other 15 billion gallons can be corn ethanol. The advanced biofuels are required to achieve at least 50 percent reduction from baseline lifecycle GHG emissions, with a subcategory required to meet a 60 percent reduction target. These reduction targets are based on lifecycle emissions, including emissions from land use changes.

Although the RFS2 is a step in the right direction, the RFS2 volumetric mandate alone will not achieve the objectives of the LCFS. The RFS2 targets only biofuels and not other alternatives; therefore, the potential value of electricity, hydrogen, and natural gas are not considered in an overall program to reduce the carbon intensity of transportation fuels. In addition, the targets of 50 percent and 60 percent GHG reductions only establish the minimum requirements for biofuels. It forces biofuels into a small number of fixed categories and thereby stifles innovation. Finally, it exempts existing and planned corn ethanol production plants from the GHG requirements, thus providing no incentive for reducing the carbon intensity from these fuels.

By contrast, the LCFS regulates all transportation fuels, including biofuels and non-biofuels, with a few narrow and specific exceptions. Thus, non-biofuels such as compressed natural gas, electricity, and hydrogen play important roles in the LCFS program. In addition, the LCFS encourages much greater innovation than the federal program by providing important incentives to continuously improve the carbon intensity of biofuels and to deploy other fuels with very low carbon intensities.

If California were to rely solely on the RFS2 (i.e., the “No LCFS” alternative), the State would not achieve the GHG emission reductions called for in Assembly Bill 32 and Executive Order S-01-07. RFS2, by itself, achieves only approximately 30 percent of the GHG reductions projected under the LCFS program. Because of these differences, the federal RFS regulation is complementary but not comparable to the LCFS.

---

<sup>9</sup> 40 CFR §80.1101(d)(1) and (2) provides: (1) Renewable fuel is any motor vehicle fuel that is used to replace or reduce the quantity of fossil fuel present in a fuel mixture used to fuel a motor vehicle, and is produced from any of the following: (i) Grain; (ii) Starch; (iii) Oilseeds; (iv) Vegetable, animal, or fish materials including fats, greases, and oils; (v) Sugarcane; (vi) Sugar beets; (vii) Sugar components; (viii) Tobacco; (ix) Potatoes; (x) Other biomass; (xi) Natural gas produced from a biogas source, including a landfill, sewage waste treatment plant, feedlot, or other place where there is decaying organic material.

(2) The term “Renewable fuel” includes cellulosic biomass ethanol, waste derived ethanol, biodiesel (mono-alkyl ester), non-ester renewable diesel, and blending components derived from renewable fuel.

## **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

ARB staff has prepared a Staff Report: Initial Statement of Reasons (Staff Report or ISOR) for the proposed regulatory action, which includes a summary of the potential environmental and economic impacts of the proposal. The ISOR is entitled, "Staff Report: Initial Statement of Reasons for the Proposed Amendments to the Carbon Intensity Lookup Tables in the Low Carbon Fuel Standard Regulation."

Copies of the Staff Report with the full text of the proposed regulatory language, in underline and strikethrough format to allow for comparison with the existing regulations, may be accessed on the ARB's website listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing on February 24, 2011.

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the ARB's website listed below.

Inquiries concerning the substance of the proposed regulations may be directed to the designated agency contact persons: John Courtis, Manager of the Alternative Fuels Section, at (916) 323-2661, or Wes Ingram, Air Resources Engineer, at (916) 327-2965.

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Lori Andreoni, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-4011, or Amy Whiting, Regulations Coordinator, (916) 322-6533. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

This notice, the ISOR, and all subsequent regulatory documents, including the FSOR, when completed, are available on ARB's website for this rulemaking at <http://www.arb.ca.gov/regact/2011/lcfs11/lcfs11.htm>.

## **COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

The proposed regulatory action will provide regulated parties additional options to comply with the LCFS regulation. Costs incurred as a result of the proposed regulatory action are not expected to exceed the costs estimated for the LCFS regulation in the April 2009 rulemaking.

Pursuant to Government Code sections 11346.5(a)(5) and 11346.5(a)(6), the Executive Officer has determined that the proposed regulatory action would not create costs or savings to any State agency or in federal funding to the State, costs or mandate to any local agency or school district, whether or not reimbursable by the State pursuant to Government Code, title 2, division 4, part 7 (commencing with section 17500), or other nondiscretionary cost or savings to State or local agencies.

In developing this regulatory proposal, ARB staff evaluated the potential economic impacts on representative private persons or businesses. The ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action.

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to California Code of Regulations, title 1, section 4, that the proposed regulatory action would not affect small businesses because ARB is not aware of any small businesses that are impacted by the proposed action.

Before taking final action on the proposed regulatory action, the Executive Officer must determine that no reasonable alternative considered by the ARB staff, or that has otherwise been identified and brought to the attention of the ARB staff, would be more effective in carrying out the purpose for which the action is proposed, or would be as effective and less burdensome to affected private persons than the proposed action.

## **SUBMITTAL OF COMMENTS**

Interested members of the public may also present comments orally or in writing at the meeting, and comments may be submitted by postal mail or by electronic submittal before the meeting. The public comment period for this regulatory action will begin on **January 10, 2011**. To be considered by the Board, written comments, not physically submitted at the meeting, must be submitted on or after **January 10, 2011** and received **no later than 12:00 noon on February 23, 2011**, and must be addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board  
1001 I Street, Sacramento, California 95814

Electronic submittal: <http://www.arb.ca.gov/lispub/comm/bclist.php>

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and oral comments, attachments, and associated contact information (e.g., you address, phone, email, etc.) become part of the public record and can be released to the public upon request. Additionally, this information may become available via Google, Yahoo, and other search engines.

The Board requests but does not require 30 copies of any written submission. The Board also requests that all written statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The ARB encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

## **STATUTORY AUTHORITY AND REFERENCES**

This regulatory action is proposed under the authority granted to ARB in sections 38510, 38560, 38560.5, 38571, 38580, 39600, 39601, 41510, 41511, 43013, and 43018, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975). This regulatory action is proposed to implement, interpret, or make specific sections 38501, 38510, 38560, 38560.5, 38571, 38580, 39000, 39001, 39002, 39003, 39515, 39516, 41510, 41511, 43013, and 43018, Health and Safety Code; and *Western Oil and Gas Ass'n v. Orange County Air Pollution Control District*, 14 Cal.3rd 411, 121 Cal.Rptr. 249 (1975).

## **HEARING PROCEDURES**

The public hearing will be conducted in accordance with the California Administrative Procedure Act, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340) of the Government Code.

The public hearing will be conducted by the Executive Officer of ARB or a designee of the Executive Officer, in accordance with the California Administrative Procedure Act, Title 2, Division 3, Part 1, Chapter 3.5 (commencing with section 11340) of the Government Code. Following the public hearing, the Executive Officer may adopt the regulatory language as originally proposed or with non-substantial or grammatical modifications. The Executive Officer (or designee) may also adopt the proposed regulatory language with other modifications if the modifications are sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990.

## **SPECIAL ACCOMMODATION REQUEST**

Special accommodation or language needs can be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format (i.e., Braille, large print, etc.) or another language;
- A disability-related reasonable accommodation.

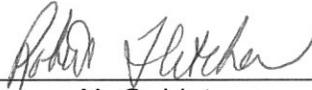
To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Comodidad especial o necesidad de otro idioma puede ser proveído para alguna de las siguientes:

- Un intérprete que esté disponible en la audiencia.
- Documentos disponibles en un formato alternativo (por decir, sistema Braille, o en impresión grande) u otro idioma.
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

CALIFORNIA AIR RESOURCES BOARD



---

James N. Goldstene  
Executive Officer

Date: December 28, 2010

*The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at [www.arb.ca.gov](http://www.arb.ca.gov).*