

Nov 3rd **Agenda Item A**
Revised Meeting Notes

Oregon Low Carbon Fuel Advisory Committee
Advisory Committee Meeting 1
November 3, 2009



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Attendance

Advisory committee members and alternates

Mark Reeve, Chair - Reeve Kearns, PC
Emily Ackland - Association of Oregon Counties
Kyle L. Davis - PacifiCorp
Marie Dodds - AAA
Katie Fast - Farm Bureau
Robert Grott - Northwest Environmental Business Council
Sam Hartsfield - Port of Portland
Marion Haynes - Oregon Business Association
Ian Hill - SeSequential Biofuels
Frank Holmes - Western States Petroleum Association
Brock Howell - Environment Oregon
Randy James - Portland and Western Railroad
Michael A. Johns - Lane County Department of Public Works
Christine Kelly - Oregon State University
Mark Kendall - Oregon Environmental Council
Dan Kirschner - Northwest Gas Association
Geoff McPherson - Citizen
Matt Michel - Canby Utility
David N. Patterson - Mitsubishi Motors R&D of America
Harrison Pettit - Pacific Ethanol
Andrew Plambeck - Citizen
Sam Pounds - Tidewater Barge Lines
Joshua Proudfoot - Good Company
Marcy Putman - Labor Union - IBEW
John Rakowitz - Associated General Contractors
Danelle Romain - Oregon Petroleum Association
Bob Russell - Oregon Trucking Association

Member alternates/additional representation

Brian Doherty - Western States Petroleum Assn.
Paul Romain - Oregon Petroleum Association
Sallie Schullinger-Krause - Oregon Env. Council

Others in attendance

Mike Abendhoff - BP
Mark Brady - Business Oregon
David Collier - ODEQ
Clark Cooney - Oregon Dept. of Agriculture
Bill Drumheller - Oregon Department of Energy
Nick Economides - Chevron
Sandy Flicker - ORECA
Andy Ginsburg - ODEQ
Gina Grey - Western States Petroleum Assn.
Merlyn Hough - LRAPA
Sue Langston - ODEQ
Margi Lifsey - ODOT
Brendan McCarthy - Portland General Electric
Marvin Nafziger - Moreland Oil Co.
Dave Nordberg - ODEQ
Stephanie Page - Oregon Dept. of Agriculture
Uri Papish - ODEQ
Michael Pohlod - TransCanada
Vijay Satyal - Oregon Department of Energy
Ralph Saperstein - CFM/Assn. of OR Loggers
Dean Simeroth - California Air Resources Board
Dwight Stevenson - Tesoro Corporation
Jeffrey Stocum - ODEQ
Rick Wallace - Oregon Department of Energy

Opening Remarks

Unable to attend the meeting in person, Department of Environmental Quality (DEQ) Director Dick Pedersen welcomed committee members by conference call and thanked them for their willingness to

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participate. Mr. Pedersen described the legislative development of the low carbon fuel standard (LCFS) and indicated this committee process is part of DEQ's commitment to gathering wide input as it develops programs and regulations.

Operating Principles

Committee Chair Mark Reeve led the group in introductions and asked members to describe their aspirations for the committee's work and to relate an example of a mistaken belief they had held in the past.

Mark Reeve reviewed the suggested operating principles, which request broad participation from advisory committee members and that individual members avoid dominating discussion, giving everyone a chance to be heard. He explained that DEQ plans to propose LCFS regulations to the Environmental Quality Commission (EQC), which will ultimately make the decision on whether to adopt the regulations. He urged the advisory committee to focus on how an LCFS program should be designed if rules are ultimately adopted. The advisory committee will strive for consensus whenever possible but members should recognize that consensus is probably not possible on some issues. The committee will not be taking formal votes, and all opinions will be reported.

Mark Reeve added that information brought forward by committee members would be posted on DEQ's LCFS website and asked that any concerns about the committee process be discussed with him directly.

Background on House Bill 2186

Andy Ginsburg, Air Quality Administrator at DEQ, gave a presentation on the context for and provisions of House Bill 2186, which authorized the LCFS. Oregon has been active on climate change at the state level for over a decade. A governor's task force report issued in 2004 has provided the basis for much of Oregon's recent action on climate change, including a recommendation for aspirational state greenhouse gas reduction goals that was adopted by the 2007 Legislature. The 2007 and 2009 Legislatures adopted several significant measures intended to reduce greenhouse gas emissions in the state, one of which was House Bill 2186. Reducing the carbon content of fuels is one leg of the "three-legged stool," signifying the main approaches to reducing transportation emissions, which comprise one-third of Oregon's total emissions. Andy summarized efforts also underway in other states and regions of the country to consider or adopt a LCFS.

Andy then stepped through the main provisions in statute that determine or provide guidance on what Oregon's LCFS must look like. The statute calls for:

- A schedule to phase in implementation of the standards in a manner that reduces the average amount of greenhouse gas emissions per unit of fuel energy of the fuels by 10 percent below 2010 levels by the year 2020;
- Deferrals to ensure adequate fuel supply;
- Exemptions and deferrals to ensure that the prices of gasoline and diesel in Oregon remain competitive with prices in neighboring states;
- Exemptions for liquefied petroleum gas and low-volume fuels;
- Quality standards for low carbon fuels;

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- Evaluations of cost effectiveness, as well as implementation schedules and technical and economic studies in other states;
- Evaluation of environmental and public health impacts;
- A program sunset in December 31, 2015, and evaluation of the effect of the sunset on the availability of low carbon fuels and the development of electric vehicle infrastructure; and
- Reports to the Legislature.

Andy responded to questions by advisory committee members. Josh Proudfoot of Good Company asked whether the legislation considered black carbon or soot. Andy replied that the legislation does not cover black carbon, but that it is an important area of research. Bob Russell of the Oregon Trucking Association added that the 2005 Clean Diesel bill had the beneficial side effect of reducing black carbon.

Bob Russell asked for a more detailed breakdown of transportation sector emissions to reflect the relative contributions of trucking fleets, cars, shipping, railroads, etc. Margi Lifsey of Oregon Department of Transportation replied that such a breakdown is difficult to do at the state level, while other attendees mentioned that related data on carbon intensity and fuel consumption by vehicle type is available. DEQ staff promised to look into the questions and share the information it finds with the advisory committee.

Bob Russell asked whether the cost safety net in the statute refers to retail or wholesale fuel prices. Andy replied that the statute did not specify which prices to consider, and that the advisory committee will discuss this issue.

Rulemaking Process

Sue Langston gave a brief overview of the process for adopting administrative rules. House Bill 2186 authorizes the EQC to adopt LCFS regulations subject to specified conditions and constraints. The EQC consists of five volunteers, appointed by the Governor, with authority to adopt regulations having the force of law. LCFS regulations, like all regulations considered by the EQC, must be consistent with the authorizing statute and guided by the legislative discussions that led to passage of the law. Elements of LCFS regulations that are not addressed by statute or legislative deliberations are subject to the judgment of the EQC. In forming its judgment, the EQC relies upon recommendations from DEQ staff, diverse advisory committees, and an open public comment process.

In developing a potential LCFS program, DEQ is coordinating with other Oregon State agencies including the Department of Energy, Department of Transportation, Department of Land Conservation and Development, Department of Agriculture and Business Oregon. DEQ is also collaborating with Washington State's Department of Ecology in studying the life cycle carbon intensity of fuels used in the Pacific Northwest and the likely economic effects of LCFS programs. As directed by HB 2186, the commission will consider the standards of other states, including but not limited to Washington, for the purpose of determining schedules and goals for the reduction of the average amount of greenhouse gas emissions per unit of fuel energy and the default values for these reductions for applicable fuels.

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Sue described the intended schedule for developing and possibly adopting LCFS rules. The LCFS Advisory Committee will meet from November 2009 until June 2010. Proposed rules are tentatively scheduled to be published for public comment in July and August and offered for EQC adoption in December 2010. By statute, rules cannot take effect before July 2011.

California's LCFS

Dean Simeroth, Criteria Pollutants Branch Chief of California's Air Resources Board presented an overview of his state's LCFS. His presentation included the following points:

- Large greenhouse gas emission reductions are needed to meet the requirements of Assembly Bill 32, which calls for 2050 greenhouse gas emissions to be 80% lower than 1990 levels.
- The LCFS program is based on a 2007 study by the University of California.
- Regulations were adopted in April 2009 and will be finalized in December 2009.
- The program focuses on the life cycle carbon intensity of transportation fuels considering total emissions from a fuel's production, transportation and use.
- The program will reduce fuel carbon intensity by 10% between 2010 and 2020 with the greatest reductions coming near the end of that period.
- 2010 will be a reporting year only.
- Further LCFS reductions will be pursued after the initial 2020 target with 2050 being the ultimate goal.
- The LCFS is expected to increase the use of electricity, compressed natural gas and low-carbon biofuels, while decreasing the use of petroleum-based fuels and high-carbon biofuels.
- Biofuels will play a large role in meeting greenhouse gas reductions, particularly in early years.
- The use of electricity as a transportation fuel is currently restricted by vehicle availability.
- The use of compressed natural gas is currently restricted by cost.
- Regulated parties under California's LCFS are the providers of petroleum and biofuels such as ethanol and biodiesel.
- Transportation fuels having an inherently low carbon intensity may opt in to the LCFS program to generate emission reduction credits. These fuels include electricity, hydrogen and natural gas from North American sources.
- Electric vehicles are up to three times more efficient than conventional vehicles. The carbon intensity of fuels used in vehicles with electric drive trains (battery-electrics and fuel cells) is adjusted accordingly.
- The carbon intensity of biofuels is adjusted to account for greenhouse gas emissions from indirect land use changes that can occur when increased demand for a fuel crop causes new land to be brought into agricultural production, releasing carbon that would otherwise be stored in plants and soils.
- California will review the LCFS program every three years beginning in 2011.

In discussion, Kyle Davis of PacifiCorp asked why all fuel providers are not regulated by California's LCFS. Dean Simeroth answered that the LCFS was designed this way because petroleum fuels contribute 90% of transportation greenhouse gas emissions.

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Dave Patterson of Mitsubishi inquired about the accuracy of California's projections of greenhouse gas emissions reductions to be achieved by the LCFS program. Dean Simeroth said their estimates are thought to be within 10 to 20 percent.

Randy James of the Portland and Western Railroad wondered if California's rules consider the effects of new biofuels on legacy vehicles such as construction equipment and locomotives. Mr. Simeroth indicated that staff plans to bring up issues related to higher biodiesel content (greater than five percent) with the Air Resources Board in May, 2010.

Bob Russell asked Mr. Simeroth whether CARB has assessed the funding and resources used to develop California's LCFS and to give incentives for alternative fuels. Mr. Simeroth replied that developing California's LCFS took about 30 FTE per year in staff time plus five managers for two years, in addition to \$500,000 per year for contracting with various universities. California's legislature also dedicated \$25 million to an incentive fund in 2006, and in 2008 allocated \$250 million per year for seven years to incentivize new fuels. John Rakowitz of Associated General Contractors asked as a followup question whether Oregon's aggressive timeline for adopting the program is feasible given that Oregon does not have 30 staff and five managers for this project, and what aspect of the process is likely to suffer due to lack of resources. Mr. Simeroth replied that California needed more resources because it was doing everything for the first time, while Oregon and the Northeastern states can save resources by using California's work as appropriate.

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Mark Reeve asked whether California considered including deferrals in its statute to cope with fuel supply shortfalls. Mr. Simeroth replied that California did not include deferrals because providers have opportunities to buy credits, and because compliance is on an annual basis, which provides an opportunity to catch up. In the event it is needed, the state can pursue an emergency rulemaking to defer the program.

Andy Ginsburg asked about CARB's decision to set separate standards for gasoline and diesel. Mr. Simeroth replied that CARB decided there were not many potential gains from giving incentives for fuel switching from gasoline to diesel by light-duty vehicles because auto manufacturers assure them that gas engines will soon be as efficient as diesel ones.

Public Comment

Dwight Stevenson of Tesoro expressed concern about the complexity of a LCFS program. He also noted the potential for unintended consequences, citing the example of California's reformulated gasoline requirement that initially led to the use of methyl tertiary butyl ether or MTBE. MTBE was later found to cause water contamination when leaked from underground tanks. In the third phase of the reformulated gasoline program, the reformulation caused increased permeation [i.e., more fuel evaporating through fuel lines and contributing to smog].

ASTM Fuel Standards

Clark Cooney, Assistant Administrator for the Measurement Standards Division of the Department of Agriculture, described the requirements for fuel quality. Fuels sold to the public must meet strict

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specifications established by the American Society for Testing and Materials (ASTM) and are subject to his agency's Motor Fuel Quality program. Fuels must also be dispensed by measuring devices licensed and inspected annually by the Measurement Standards Division. Inspections are also conducted in response to complaints. Mr. Cooney reported that regulated parties have a very high level of compliance—well over 99%.

In discussion, Mr. Cooney noted that ethanol is a natural solvent that tends to absorb water, producing both good and bad effects when used as a fuel additive. He indicated there has not yet been any adverse reaction to Oregon's recent requirement to use 2% biodiesel (B2) and noted that both B2 and B5 are required to meet the same fuel specification as conventional diesel fuel.

Paul Romain observed that the [Legislature](#) did not anticipate the effects of gasoline with 10% ethanol (E10) in airplanes, where it can cause vapor lock. [He expressed the view that Oregon should take its time and study the potential effects when adopting a standard that could have major consequences.](#) Dean Simeroth noted that automotive fuel is allowed only in experimental aircraft.

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Other points raised during discussion of fuel quality were:

- Fuel for vehicles not used on highways is not subject to fuel tax. Non-road fuel is dyed red to distinguish it from the on-road product.
- Non-road fuel is not as available as many farmers would like. Some have to drive 30 miles to buy it.
- Most gas stations have two underground tanks, one for premium, and one for regular. Mid-grade gasoline is produced by blending the two. Some stations have a third tank for diesel.
- The approval process for new tanks is said to be longer than two years.
- Railroads are said to use the same fuel as trucks as both come from the same supply.

Overview of Oregon's Fuel Mix

Rick Wallace of Oregon Department of Energy gave a presentation on the current volumes and sources of Oregon's transportation fuels. Oregonians consumed about 1.5 billion gallons of gasoline in 2008, nearly all for on-road transportation, and about 773 million gallons of distillate, which includes both diesel fuels and fuel oils. Diesel fuels are further broken down into uses, with on-road transportation comprising about 560 million gallons. All of Oregon's petroleum fuels are imported from outside the state, with 90 percent coming from four Washington state refineries. Historically, 80 – 90 percent of the Washington refineries' crude supplies have come from the Alaska North Slope area. However, yields from the Alaska North Slope oil fields are declining and an increasing percentage of Washington's crude imports come from Canada, including the Alberta's oilsands.

Petroleum fuel supplies from Washington refineries arrive at terminals in Portland via both pipeline and barge. A much smaller volume of fuel arrives in Portland from other destinations, including California and east Asia. From Portland, fuel is transported to Eugene by pipeline and to other parts of Oregon and Washington by barge and truck. Some fuel also arrives in southern Oregon from Bay Area refineries via Nevada, and eastern Oregon from Salt Lake City refineries via Idaho.

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Oregon now requires all regular and mid-grade gasoline to be blended with 10 percent ethanol. Hence, Oregonians consume about 151 million gallons of ethanol per year. The state also requires diesel to be blended with two percent biodiesel, which amounts to about 11.7 million gallons per year. The state does not track blends higher than the minimum percentages for either gasoline or diesel.

A small number of fleets in the state currently use compressed natural gas or liquefied petroleum gas, while none are using liquefied natural gas or hydrogen. Over 400 electric cars are currently registered in the state, but the state does not have any data on how much electricity those vehicles are using. Under a recent grant, the state is due to receive 2,200 charging stations in the next few years, so numbers of electric cars are expected to grow.

A discussion ensued about the carbon intensity of fuels from Alberta oil sands. Andy Ginsburg asked whether the high carbon intensity was due to extraction or processing. Rick Wallace answered that both aspects of production contribute to the higher carbon intensity of oil sands fuels. Frank Holmes of the Western States Petroleum Association pointed out that some studies have shown that the carbon intensity values of several conventional crudes are higher than Alberta oil sands, specifically in areas where natural gas is flared rather than captured. Rick Wallace agreed that oil sands crudes do not have the highest carbon intensity values of all crudes, but that they are generally 10-15 percent higher in carbon intensity than conventional crudes. He mentioned that Utah crude oil is very thick and takes extra refining, for example.

Discussion of Policy Issues and Upcoming Meetings

Sue Langston led a discussion about policy issues to be considered by the advisory committee, pointing out that the agenda for the December meeting will likely cover issues one through five on the committee's issues list (handout). She asked advisory committee members to comment on whether there are additional issues the committee should discuss, or whether DEQ staff have not characterized an issue correctly.

The following comments and concerns were raised:

- [Why isn't Oregon looking to Washington rather than California as it designs its LCFS, since 90 percent of our fuel comes from Washington, and whatever Washington decides to do with its LCFS will affect Oregon;](#)
- [The committee would like to hear presentations by Washington state staff on that state's plans;](#)
- Will the advisory committee discuss the timing of Oregon's program, and whether there should be delay in implementation to see how California's program is working;
- Hope was expressed that the process will be data-driven;
- Committee needs DEQ to sort through data by relevancy because there is a large volume of information;
- Some committee members have information they would like to share with the whole committee (it was agreed that DEQ would create a process for posting such information on the internet, with the request that committee members identify the issues addressed by any information submitted for the ease and convenience of their fellow committee members);
- Committee must consider impacts of new policies on jobs and the existing electric grid;
- Committee must consider costs of the program, and of emissions reductions in general;

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- Concern that the committee consider its obligation to look farther into the future, considering the impact of avoiding hard questions now;
- A lot of opportunities for wealth creation will accompany the switch to lower carbon fuels;
- The committee should look for opportunities, especially for rural Oregon;
- Implementation issues need attention, e.g. giving markets time to respond, keeping current economic conditions in mind, consider micro-economic impacts along with macro-economic impacts.

The meeting adjourned at approximately 4:30 pm.

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